STRUCTURES

082-0004 - POPLAR ST. BRIDGE - ORTHOTROPIC - 5 SPAN
LIMITS - RIVER PIER #1 TO RIVER PIER #6

082-0005 - 82-3 VB - 6 SPAN CONTINUOUS, MULTI BEAM, PLATE GIRDER
LIMITS - RIVER PIER #6 TO PIERS A1, BC1, AND D1

Start 2-GIRDER "POPLAR STREET COMPLEX"

082-0141 - RDWY "A" 45 SPAN 13TH ST. NORTH TO (C.D. WB)
LIMITS - PIER A-1 ----- ABUT. A-46

082-0252 - RDWY "B" 28 SPAN MAINLINE WEST BOUND
LIMITS - PIER B-1 ----- ABUT. B-29

082-0251 - RDWY "C" 28 SPAN MAINLINE EAST BOUND
LIMITS - PIER C-1 ----- ABUT. C-29

082-0144 - RDWY "D" 45 SPAN ST. LOUIS TO 13TH ST. (C.D. EB)
LIMITS - PIER D-1 ----- ABUT. D-46

082-0205 - RDWY "E" 10 SPAN TO ILL.-3 SB
LIMITS - PIER O-17. O-18. E-1 ----- ABUT. E-9

082-0204 - RDWY "F" 12 SPAN FROM ILL.-3 NB TO RAMP "P" EAST
LIMITS ABUT. F-1 ----- F-12 TO PIER P-1

082-0254 - RDWY "G" 13 SPAN (C.D. WB)
LIMITS - ABUT. G-14 ----- PIER G-1

082-0256 - RDWY "H" 4 SPAN (C.D. EB)
LIMITS - PIER H-1 ----- ABUT. H-5

082-0145 - RAMP "M" 15 SPAN ILL.-3 TO W.B. CD
LIMITS - PIER P-1 TO ABUT. M-1 ----- PIER M-14 TO A-5

082-0202 - RAMP "N" 8 SPAN EB CD TO ILL-3 SOUTH
LIMITS - PIER D-11 TO N-1 ----- N-7 T0 0-17

082-0201 - RAMP "O1" 10 SPAN WB CD TO ILL.-3 SOUTH
LIMITS - PIER G-1 TO O-1 ----- ABUT. 0-10

082-0143 - RAMP "O2" 6 SPAN WB CD TO ILL.-3 SOUTH
LIMITS - ABUT. O-11 ----- PIER O-17

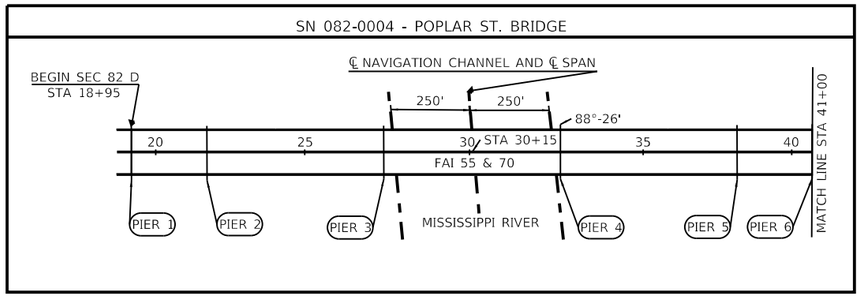
082-0203 - RAMP "P" 15 SPAN RTE. ILL.-3 TO EB CD
LIMITS - PIER P-1 ----- P-15 TO H-1

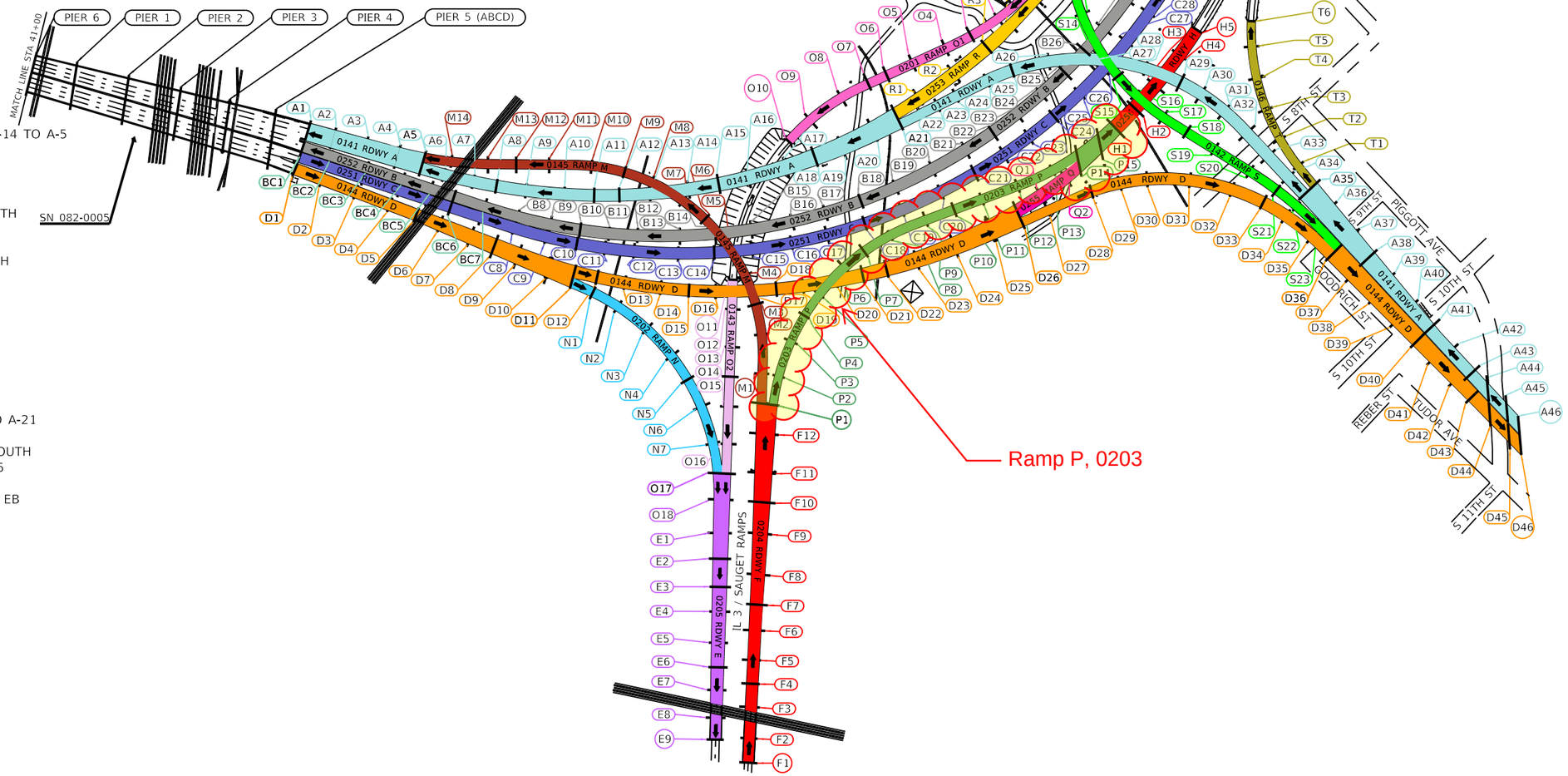
082-0255 - RAMP "Q" 3 SPAN EB CD
LIMITS - PIER D-26 TO Q-1 TO Q-2 TO P-14

082-0253 - RAMP "R" 6 SPAN WB CD
Limits - PIER G-1 TO O-1 TO R-4 ----- R-1 TO A-21

082-0142 - RAMP "S" 24 SPAN WB CD TO 13TH ST. SOUTH
LIMITS - PIER G-12 TO S-1 ----- S-23 TO D-36

082-0146 - RAMP "T" 6 SPAN 13TH ST. NORTH TO CD EB
LIMITS - PIER A-35 TO T-1 ----- ABUT. T-6





LEGEND

- ABUTMENT
- DIRECTION OF TRAFFIC
- PIER

MODEL: $MODELNAME$
FILE NAME: $FILEL$

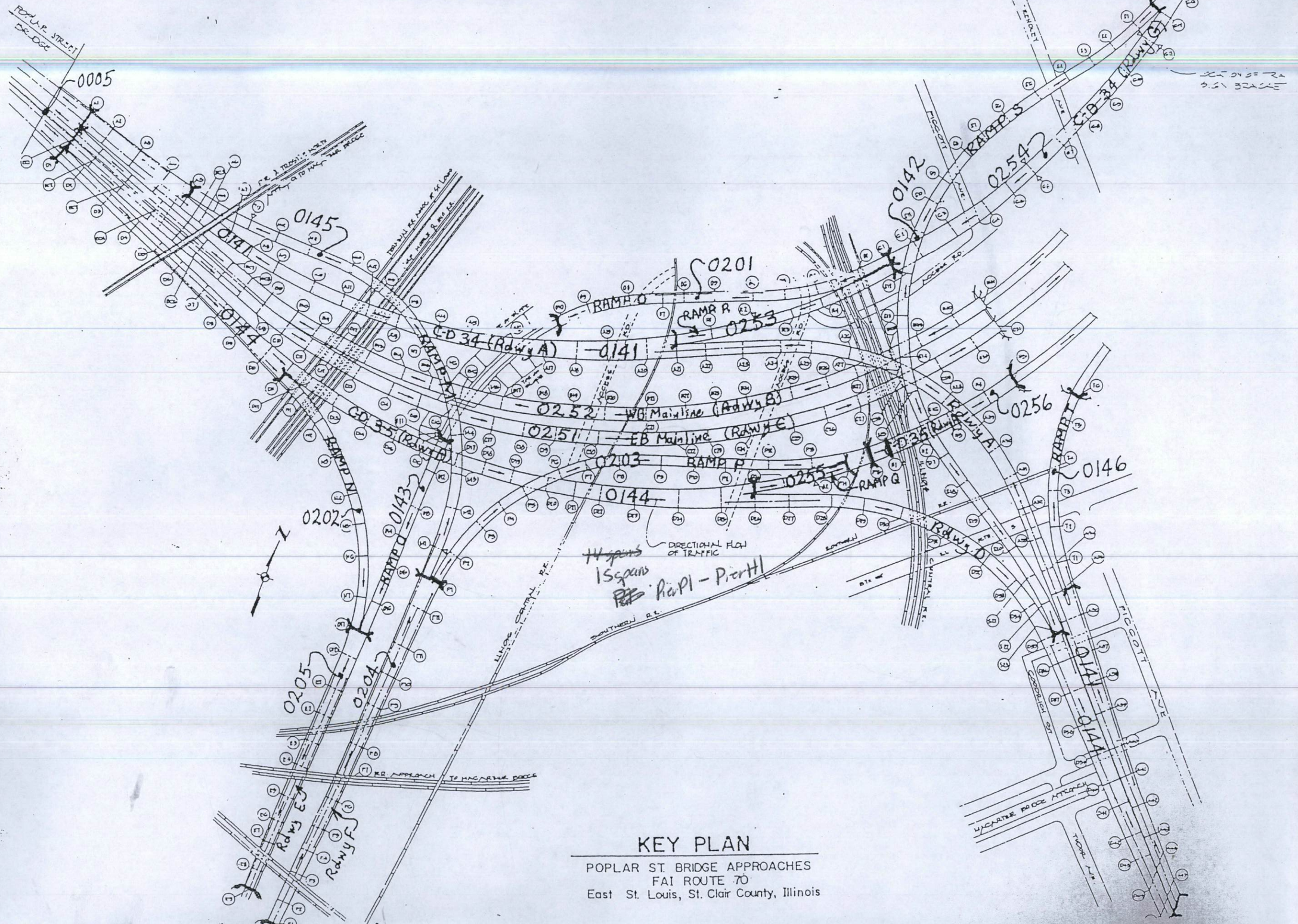
USER NAME = HEPPJD	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = $SCALE$	CHECKED -	REVISED -	
PLOT DATE = 11/14/2018	DATE -	REVISED -	

POPLAR STREET COMPLEX

SCALE: NTS | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		ST CLAIR	1	1
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

082-0203



KEY PLAN

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

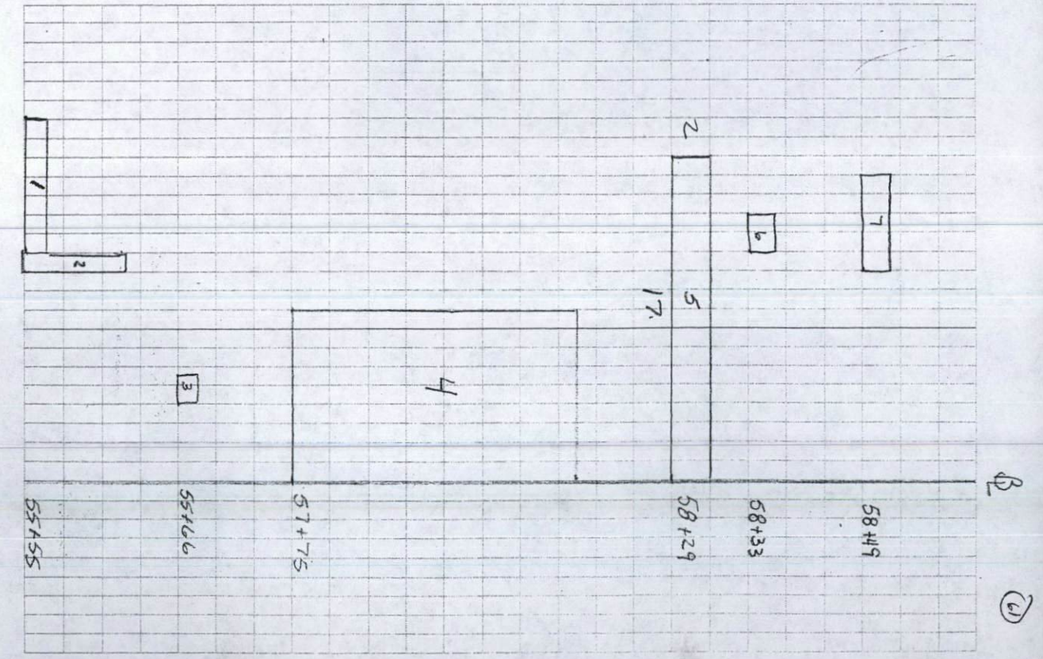
082-0203

Ramp P Post Scarification

Patch	Sta.	Loc.	Dia.		Part./Full
1	55+55	13'L ℄	7 1x7.0x.12 =	.84	P
2	55+55	12'L ℄	5.0 1x5.0x.12 =	.60	P
3	55+66	4'L ℄	3.0 1.8x1.7x.2 =	.61	P
4	57+75	ØL ℄	13.5 9x15x.10 =	1.5 13.50	P
5	58+29	ØL ℄	3.4 2x17x.15 =	5.1	P
6	58+33	12'L ℄	4.32 2.7x1.6x.2 =	.86	P
7	58+49	11'L ℄	9 5.x1.8x.1 =	.9	P
				22.41 OK	DW
				22.41 Ft³	
				TOTAL	

197.38 Ft² / 9 = 21.93 yd²

TOTAL: 22.41/27 = 0.83 C.Y.



	INITIAL(S)	DATE
MEASURED BY	GMM/DRS	9/21/04
CALCULATED BY	GMM	9/21/04
CHECKED BY	[illegible]	9-24-04

Illinois Department of Transportation

Report of Bridge Deck Patching Quantities

County St Clair

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

Route FAI 70

District 8
Contract No. 76210
Job No. C-98-088-01

Project ACIM-ACBHI-1/178/1

Structure Number Ø82-Ø2Ø3 (Ramp P)

Plan Quantity: Partial Depth 4Ø.1 sy Full Depth Ø.3 sy

Final Quantity: Partial Depth 427.2 sy Full Depth Ø.1 sy

Date Patching Completed 9-23-Ø4

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

Resident [signature]

CC: Bureau of Bridges & Structures
District Bridge Maintenance Engineer

Printed 1/9/2007

BC 2544 (6/02)

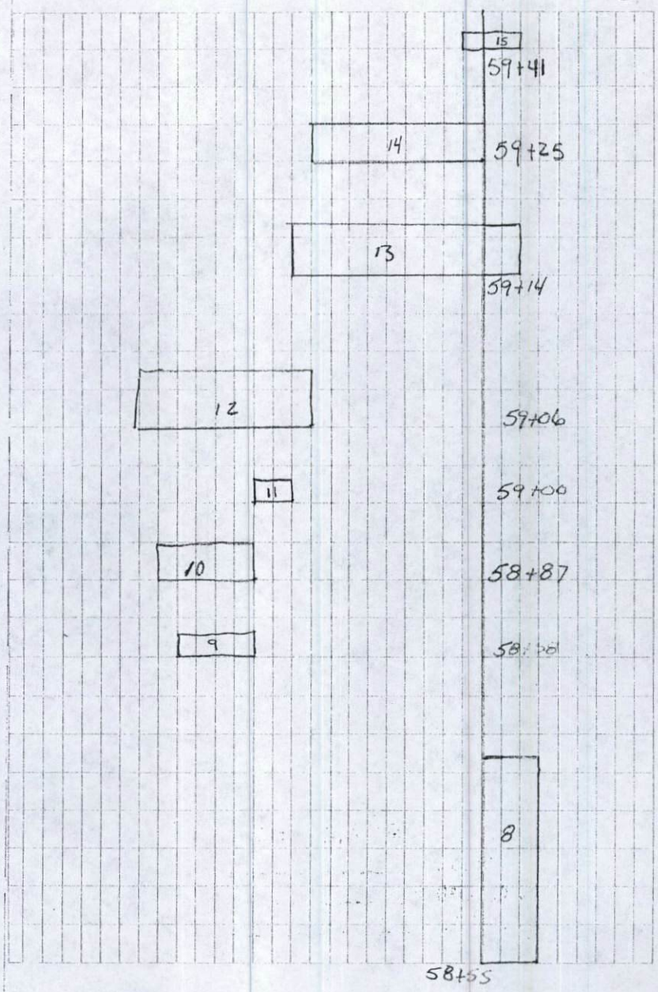
Ramp P Post Scarification

Patch #	Sta.	Loc.	Dia.		Part / Full
8	58+55	ØR ℄	3.0 x 11.0 x .10	= 3.3	P
9	58+58	12'L ℄	1 x 4 x .10	= .4	P
10	58+87	12'L ℄	5. x 18 x .15	= 1.35	P
11	59+00	10'L ℄	2. x 1.5 x .18	= .54	P
12	59+06	9'L ℄	9 x 3 x .15	= 4.1	P
13	59+14	2'R/10'L ℄	12 x 3 x .10	= 3.6	P
14	59+25	ØL ℄	2 x 9 x .10	= 1.8	P
15	59+41	1'L/2'R ℄	1 x 3 x .10	= .3	P
				15.39 Ft³	

133 Ft² / 9 = 14.78 yd²

TOTAL: 15.39 / 27 = 0.57 C.Y.

	INITIAL(S)	DATE
MEASURED BY	GMM/DMS	9.21.04
CALCULATED BY	GMM	9.21.04
CHECKED BY	DMS	9.21.04



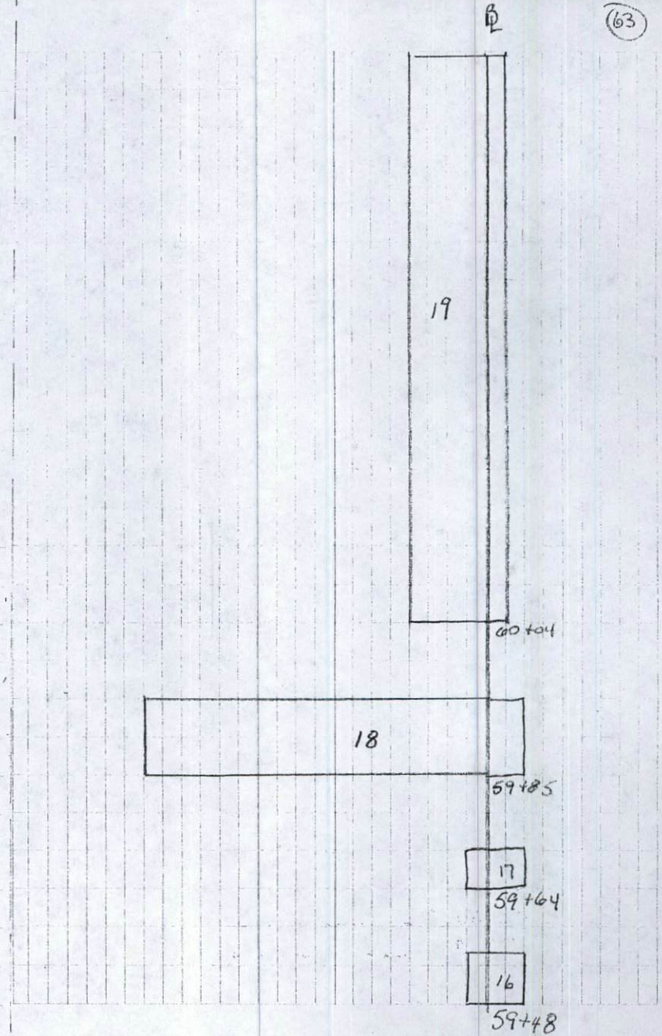
Ramp P Post Scarification

Patch #	Sta.	Loc.	Dia.		P/F
16	59+48	1'L/2'R ℄	3 x 3 x .10	= .9	P
17	59+64	1'L/2'R ℄	3 x 2 x .10	= .6	P
18	59+85	18'L/2.R ℄	20 x 4 x .15	= 12	P
19	60+04	4'L/1'R ℄	33 x 5 x .10	= 16.5	P
				30 Ft³	

260 Ft² / 9 = 28.89 yd²

TOTAL: 30/27 = 1.11 C.Y.

	INITIAL(S)	DATE
MEASURED BY	GMM/DMS	9/21/04
CALCULATED BY	GMM	9/21/04
CHECKED BY	DMS	9.21.04



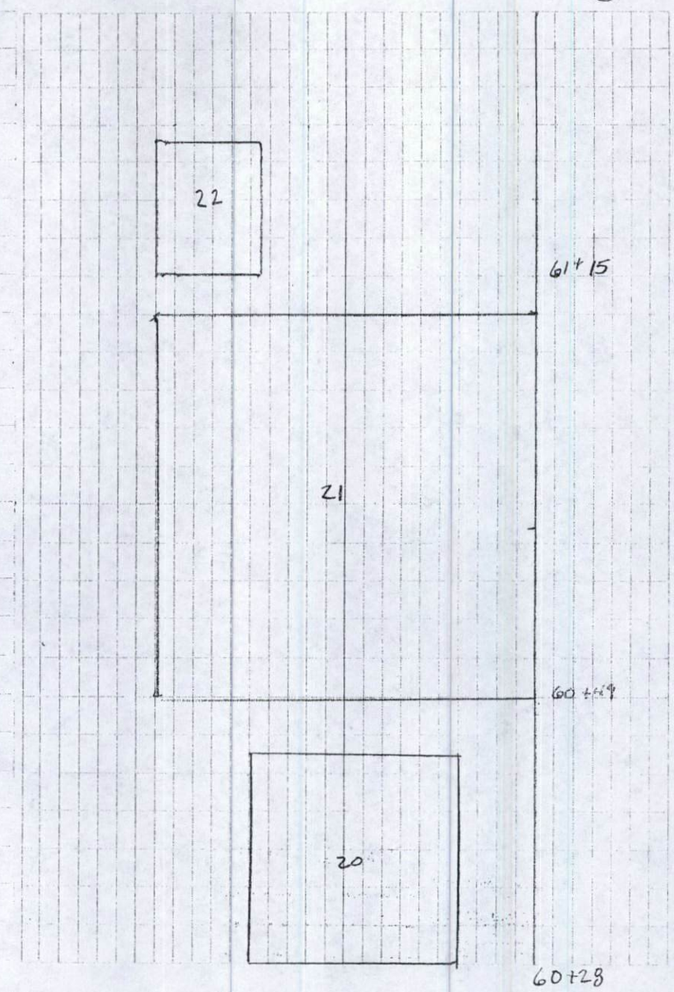
Ramp P Post Scarification

(64)

Patch	Sta.	Loc.	Dia		P/F
20	60+28	4'L ℄	121 / 11x11x.10 =	12.1	P
21	60+49	0L ℄	400 / 20x20x.15 =	60	P
22	61+15	14.5' ℄	35 / 5x7x.10 =	3.5	P
				75.6 ft³	

556 ft² / 9 = 61.78 yd²

TOTAL: 75.6/27: 2.8 C.Y.



	INITIAL(S)	DATE
MEASURED BY	GMM/DAS	9-21-04
CALCULATED BY	GMM	9-21-04
CHECKED BY	DAS	9-24-04

Ramp P Post Scarification

(65)

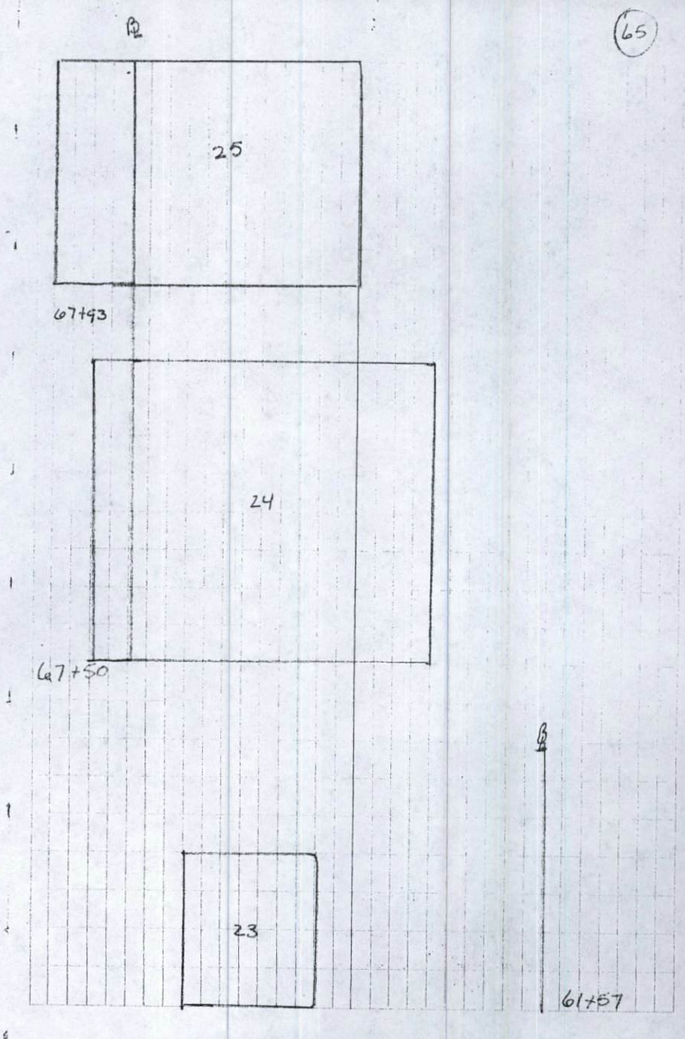
Patch	Sta.	Loc.	Dia.		Part / Full
23	61+57	12'L ℄	56 / 8x7x.10 =	5.6	P
24	67+50	2'L/16'R ℄	6.2 / 18x34x.10 =	61.2	P
25	67+93	4'L/12'R ℄	1,280 / 16x80x.15 =	192	P
				258.8 ft³	

1,342.2 SF² / 9 = ~~149.13~~ 211.44

24B 67+75 16'Rt 1X1 = 1 ft² F Tyl

See More Ramp P Pg 67-68

TOTAL: 258.8/27 : 9.59 C.Y.



	INITIAL(S)	DATE
MEASURED BY	GMM/DAS	9/21/04
CALCULATED BY	GMM	9/21/04
CHECKED BY	DAS	9-24-04

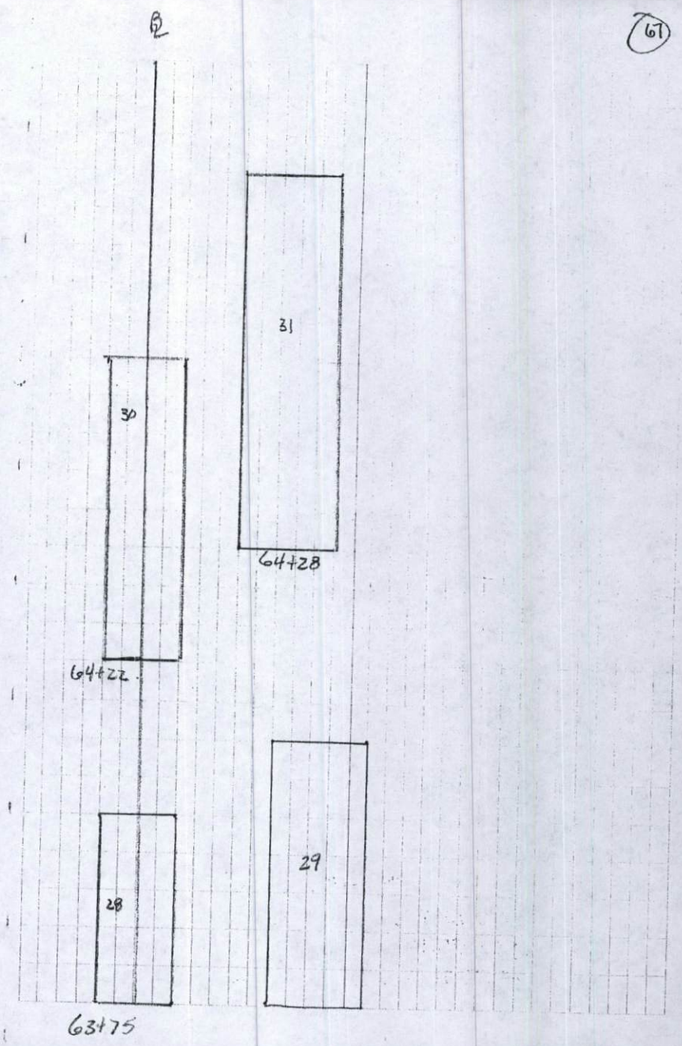
Ramp P Post Scarification

Patch	Sta.	Loc.	Dia.		Part. / Full
28	63+75	2'L/2'R ℄	4x34x.10 = 136	13.6	P
29	63+75	7'R ℄	5x30x.10 = 150	15	P
30	64+22	2'L/10R ℄	4x26x.10 = 104	10.4	P
31	64+28	5'R ℄	5x42x.10 = 210	21	P
				~~59.5~~ 60 Ft³	

600 Ft² / 9 = 66.67 yd²

TOTAL = 60/27 = 2.22 C.Y.

	INITIAL(S)	DATE
MEASURED BY	GMM/DAS	9/21/04
CALCULATED BY	GMM	9/24/04
CHECKED BY	DAS	9/24/04



Ramp P Post Scarification

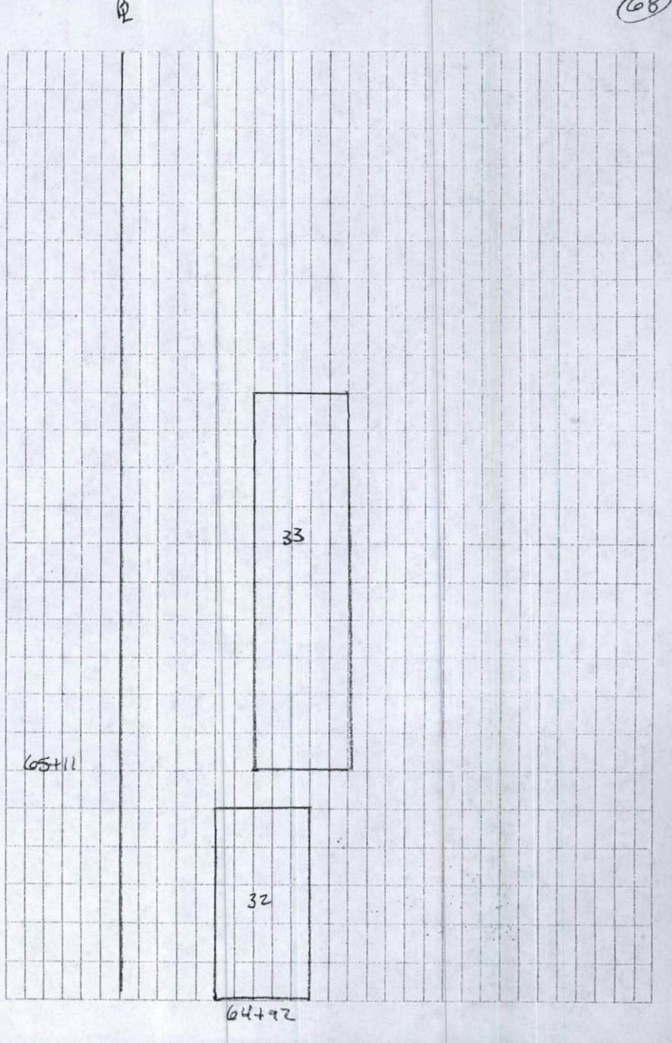
Patch	Sta.	Loc.	Dia		Part/Full
32	64+92	5'R ℄	5.0x10.0x.10 = 50	~~5~~ 5	P
33	65+11	7'R ℄	5.0x20x.10 = 100	10	P
				~~11.5~~ 15 Ft³	

150 Ft² / 9 = 16.67 yd²

Total For Ramp P 577 Ft³

TOTAL = 15/27 = 0.56 C.Y.

	INITIAL(S)	DATE
MEASURED BY	GMM/DAS	9/21/04
CALCULATED BY	GMM	9/21/04
CHECKED BY	DAS	9/24/04



TOTALS:

RDWY E

Z0016200 - DECK SLAB REPAIR (PARTIAL)
= 61.97 ~ 62 S.Y.
~ 3.44 C.Y.
SEE F.B. 3A PGS 72-75 : PGS 1-9 : 25-41 BK 3B

RDWY F

Z0016200 - DECK SLAB REPAIR (PARTIAL)
= 131.60 S.Y. ~ 131.7 S.Y.
~ 5.39 C.Y.
PGS 57-59, 72-75

RAMP N

Z0016200 - DECK SLAB REPAIR (PARTIAL)
= 510.99 S.Y. ~ 511 S.Y.
~ 17.8 C.Y.
SEE PGS 10-24

RAMP P

Z0016200 - DECK SLAB REPAIR (PARTIAL)
= 427.16 S.Y. ~ 427.2 S.Y. ~ 17.68 C.Y.
PGS 61-65 : 67-68

Z0016001 - DECK SLAB REPAIR (F.D. TYI)
1 S.F. / 9 = 0.1 S.Y. PG 65

ROADWAY H

Z0016200 - DECK SLAB REPAIR (PARTIAL)
= 161.78 S.Y. ~ 161.8 S.Y.
~ 5.39 C.Y.
PG 66

RAMP N (FULL DEPTH)

Z0016001 - DECK SLAB REPAIR (FULL DEPTH TYII)
Q120-X131-2A
9.46 ~ 9.5 S.F / 9 = 1.05
~ 1.1 S.Y.

X9801200 - DECK SLAB REPAIR (FULL DEPTH TYII)
Q120-X131-2A
= 217.75 S.F. / 9 = 24.18 ~ 24.2 S.Y.

PGS 10-11, 13-14, 17

MEAS BY: GMM 11/10/04
CALC. BY: SAG 9/16/05
↳ BY: DAS "

76210 #106 1-16-04 FAI 70 ST. CLAIR Sec (82-3HVB-2R-1)2 JAR #106

106

99.9%

9-24-2005

CONTENTS

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

RAMP O
2001 ADT = 6000 (actual)
2003 ADT = 6200 (estimated)
2003 DHV = 620 (estimated)
2023 ADT = 8350 (estimated)
2023 DHV = 840 (estimated)
SU = 4.0%
MU = 8.0%

RAMP M
2001 ADT = 9900 (actual)
2003 ADT = 10200 (estimated)
2003 DHV = 1020 (estimated)
2023 ADT = 13700 (estimated)
2023 DHV = 1370 (estimated)
SU = 4.0%
MU = 8.0%

RAMP N
2001 ADT = 8700 (actual)
2003 ADT = 9000 (estimated)
2003 DHV = 900 (estimated)
2023 ADT = 12100 (estimated)
2023 DHV = 1240 (estimated)
SU = 4.0%
MU = 8.0%

RAMP P
2001 ADT = 4300 (actual)
2003 ADT = 4400 (estimated)
2003 DHV = 440 (estimated)
2023 ADT = 5900 (estimated)
2023 DHV = 590 (estimated)
SU = 4.0%
MU = 8.0%

ROADWAY F
2001 ADT = 14200 (actual)
2003 ADT = 14600 (estimated)
2003 DHV = 1460 (estimated)
2023 ADT = 19600 (estimated)
2023 DHV = 1960 (estimated)
SU = 4.0%
MU = 8.0%

ROADWAY E
2001 ADT = 14600 (actual)
2003 ADT = 15000 (estimated)
2003 DHV = 1500 (estimated)
2023 ADT = 20200 (estimated)
2023 DHV = 2020 (estimated)
SU = 4.0%
MU = 8.0%

CONTRACT NO. 76210

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

082-0203

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

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

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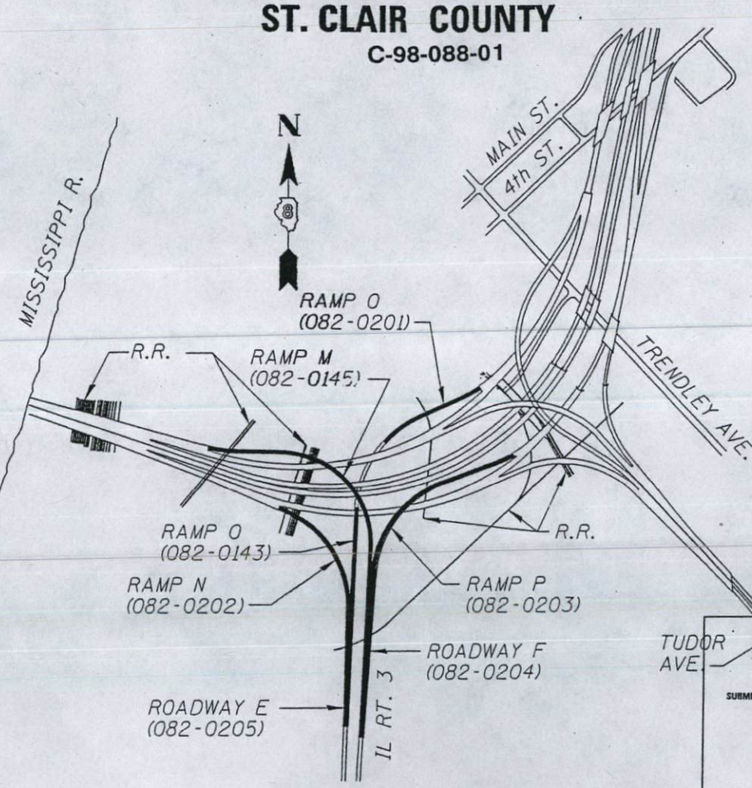
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

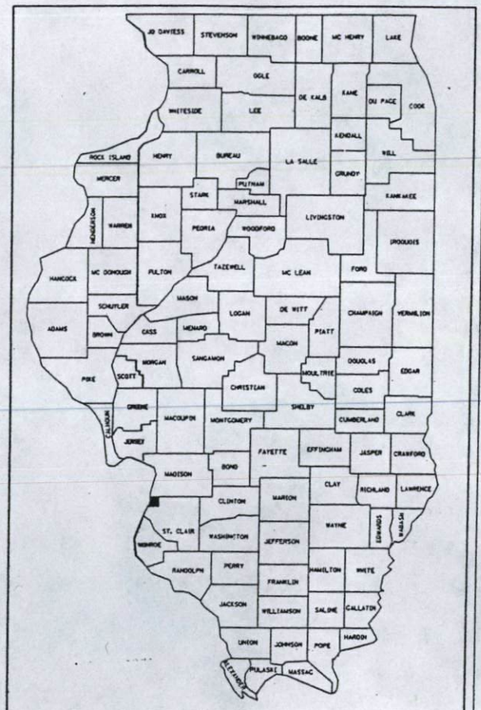


GROSS LENGTH OF PROJECT = 7403.3 FEET = 1.40 MILES
NET LENGTH OF PROJECT = 7403.3 FEET = 1.40 MILES

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	1
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT- *		SHEETS

*ACIM-ACBHI-070-1(178)001 *(82-3HVB-2R-1)-2

D-98-025-99



LOCATION OF SECTION INDICATED THUS: –

JOHN E. FINKE
061-002606
ST. LOUIS, MISSOURI
STATE OF ILLINOIS
PROFESSIONAL ENGINEER

EXPIRES 11-30-2004

John Finke 9/3/04

JOHN E. FINKE, S.E.
STRUCTURAL/SEISMIC RETROFIT

LANCE G. PETERMAN, JR.
5448
LICENSED STRUCTURAL ENGINEER OF ILLINOIS

Lance Peterman 9/2/04

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

ANDREW P. FREY
062-056018
PROFESSIONAL ENGINEER
STATE OF ILLINOIS

Andrew P. Frey
SEP 3, 2003
DATE
ILLINOIS REGISTRATION EXPIRES 11/30/04

ANDREW P. FREY, P.E.
TRAFFIC CONTROL

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Oct 24 20 03
Mary Hanie
DISTRICT ENGINEER

December 5, 20 03
Michael T. Klein
ENGINEER OF DESIGN AND ENVIRONMENT

December 5, 20 03
DIRECTOR, BUREAU OF HIGHWAYS

8-260

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

SHEET NO.
SHEETS

*(82-3H,3-2R-1)-2

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM	UNIT	PROJECT TOTAL	URBAN AC1M 90% FED. 10% STATE ROADWAY .X000	URBAN AC1M 90% FED. 10% STATE TRAFFIC CONTROL .X000-2A	URBAN ACBHI 80% FED. 20% STATE RAMP O STRUCTURE NO. 082-0143 X531-2A	URBAN ACBHI 80% FED. 20% STATE RAMP M STRUCTURE NO. 082-0145 X531-2A	URBAN ACBHI 80% FED. 20% STATE RAMP O STRUCTURE NO. 082-0201 X131-2A	URBAN ACBHI 80% FED. 20% STATE RAMP N STRUCTURE NO. 082-0202 X131-2A	URBAN AC1M 90% FED.10% STATE RAMP P STRUCTURE NO. 082-0203 X531-2A	URBAN ACBHI 80% FED. 20% STATE ROADWAY F STRUCTURE NO. 082-0204 X131-2A	URBAN ACBHI 80% FED. 20% STATE ROADWAY E STRUCTURE NO. 082-0205 X131-2A	100% STATE ROADWAY H STRUCTURE NO. 082-0256 SFTY-2A
44000910	BITUMINOUS CONCRETE REMOVAL (DECK)	SQ YD	21,594	--	--	1,479	3,845	2,499	1,927	3,462	4,801	3,443	139
50102400	CONCRETE REMOVAL	CU YD	3,398.3 [2]	--	--	275.5	694.9	418.6	356.7	621.9	574.1	437.1	19.5
50300150	NEOPRENE EXPANSION JOINT - 2"	FOOT	135	--	--	--	--	27	--	--	35	73	--
50300155	NEOPRENE EXPANSION JOINT - 2.5"	FOOT	209	--	--	--	27	--	--	27	62	93	--
50300160	NEOPRENE EXPANSION JOINT - 4"	FOOT	163	--	--	--	--	26	--	27	65	45	--
50300225	CONCRETE STRUCTURES	CU YD	7.8	--	--	2.1	--	2.3	--	--	1.7	1.7	--
50300255	CONCRETE SUPERSTRUCTURE	CU YD	2,670.0	--	--	215.3	561.7	342.8	286.5	493.9	427.6	327.2	15.0
50300260	BRIDGE DECK GROOVING	SQ YD	[2] 22,285	--	--	1,536	3,991	2,591	2,002	3,596	4,906	3,521	142
50300300	PROTECTIVE COAT	SQ YD	5,842	--	--	491	1,275	680	640	1,113	923	685	35
50300310	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	[1] 14	--	--	--	[6] [1]	--	--	[2] [1]	[6] [1]	--	--
50300320	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	18	--	--	--	--	8	2	--	2	6	--
50301245	FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5")	SQ FT	3,771 [3]	--	--	11 [3]	1,077	222	490 [3]	215	381 [3]	1,375	--
50301250	FORMED CONCRETE REPAIR (DEPTH GREATER THAN 5")	SQ FT	4	--	--	1	3	--	--	--	--	--	--
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	--	--	0.1	0.2	0.1	0.1	0.2	0.2	0.1	--
50500715	JACK AND REMOVE EXISTING BEARINGS	EACH	[1] 32	--	--	--	[6] [1]	8	2	[2] [1]	[8] [1]	6	--
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	523,210 [2]	--	--	43,290	107,980	59,280	55,490	96,580	88,410	69,040	3,140
54002500	EXPANSION BOLTS (SPECIAL)	EACH	1,752 [3]	--	--	92	502 [3]	154	164	390 [3]	218	232	--
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	24	24	--	--	--	--	--	--	--	--	--
67100100	MOBILIZATION	L SUM	1	1	--	--	--	--	--	--	--	--	--
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	6	--	6	--	--	--	--	--	--	--	--
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	--	2	--	--	--	--	--	--	--	--
70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	--	1	--	--	--	--	--	--	--	--
70300220	TEMPORARY PAVEMENT MARKING LINE 4"	FOOT	15,759	--	15,759	--	--	--	--	--	--	--	--
70300240	TEMPORARY PAVEMENT MARKING LINE 6"	FOOT	5,493	--	5,493	--	--	--	--	--	--	--	--
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	4,061	--	4,061	--	--	--	--	--	--	--	--
70400500	TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	1,451	--	1,451	--	--	--	--	--	--	--	--
70400600	RELOCATE TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	4,042	--	4,042	--	--	--	--	--	--	--	--
7800310	POLYUREA PAVEMENT MARKING TYPE II - LINE 4 INCH	FOOT	17,019	14,840	2,179	--	--	--	--	--	--	--	--
7800340	POLYUREA PAVEMENT MARKING TYPE II - LINE 8 INCH	FOOT	2,380	2,380	--	--	--	--	--	--	--	--	--
78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	74	74	--	--	--	--	--	--	--	--	--
78200100	MONODIRECTIONAL PRESMATIC BARRIER REFLECTOR	EACH	178	--	178	--	--	--	--	--	--	--	--
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1,672	--	1,672	--	--	--	--	--	--	--	--
X0321781	MECHANICAL SPLICE	EACH	618	--	--	50	150	50	50	50	179	89	--
X0322050	RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL	EACH	9	--	9	--	--	--	--	--	--	--	--
X0322549	COLUMN WRAP	SQ FT	17,149 [3]	--	--	950	3,668	1,916	1,385 [3]	4,243	3,123 [3]	1,864	--
X0322553	FOUNDATION WALL DOWEL MODIFICATION	EACH	18	--	--	6	2	--	1	3	2	4	--
X0322556	STIFFENER INTERSECTION MODIFICATION	EACH	1,976	--	--	272	--	408	344	--	544	408	--
X0322559	BOLT REPLACEMENT	EACH	514	--	--	10	109	6	30	2	273	84	--
X0322560	CRACK EXTENSION MODIFICATION	EACH	28	--	--	4	4	4	4	4	4	4	--
X0322563	VERTICAL WEB STIFFENER REMOVAL	EACH	3,668	--	--	316	801	482	360	691	628	390	--
X0323082	DRAINAGE SCUPPERS, DS-33	EACH	64	--	--	2	10	8	14	7	8	15	--
X0323558	BRIDGE JOINT SYSTEM (EXPANSION), 1-5/8"	FOOT	[2] 134	--	--	26	--	26	26	39	--	--	17
X0343400	REMOVE AND REINSTALL BEARINGS	EACH	10	--	--	--	--	--	4	--	2	4	--
X7015050	PORTABLE CHANGEABLE MESSAGE SIGN	CAL MO	126	--	126	--	--	--	--	--	--	--	--
Z0076600	TRAINEES	HOUR	500	500									
XZ193500	BRIDGE DECK MICROSILICA CONCRETE OVERLAY - 2¼"	SQ YD	[2] 23,879	--	--	1,670	4,340	2,777	2,177	3,896	5,159	3,709	151
Z0012100	CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ YD	23,879	--	--	1,670	4,340	2,777	2,177	3,896	5,159	3,709	151
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE 1)	SQ YD	3.1	--	--	0.4	0.7	0.4	0.4	0.3	0.7	0.2	--
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	510.2	--	--	41.7	192.4	94.3	81.3	40.1	10.1	50.3	--
Z0018800	DRAINAGE SYSTEM	L SUM	1	--	--	0.125	0.375	0.125	0.125	0.125	0.125	--	--
Z0022400	FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	237	--	--	27	79	27	27	27	50	--	--
Δ Z0029999	IMPACT ATTENUATOR REMOVAL	EACH	1	1	--	--	--	--	--	--	--	--	--
Δ Z0030150	IMPACT ATTENUATOR (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1	1	--	--	--	--	--	--	--	--	--
Z0047300	PROTECTIVE SHIELD	SQ YD	3,026	--	--	--	865	1,037	358	420	171	175	--
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1	--	--	--	--	--	--	--	--	--
Z0049100	RAISED PAVEMENT MARKER REFLECTOR REPLACEMENT	EACH	9	--	9	--	--	--	--	--	--	--	--
Δ Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	24	--	24	--	--	--	--	--	--	--	--
Δ Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	48	--	48	--	--	--	--	--	--	--	--
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	[1] 32	--	--	--	[1] 6	8	2	[1] 2	8	6	--
1	REMOVE TIE BEAM (SPECIAL)	EACH	13	--	--	1	--	--	4	--	5	3	--
1	REPLACE TIE BEAM (SPECIAL)	EACH	6	--	--	--	--	--	1	--	3	2	--
1	REMOVE AND REPLACE COLUMN (SPECIAL)	EACH	6	--	--	--	--	--	3	--	1	2	--

[3] (X0323558)

[3] (Z0076600)

DESIGNED	R. Victor
CHECKED	D. James
DRAWN	E. Bazzell
CHECKED	R. Victor

* SPECIALTY ITEM
ø Y080
Δ SFTY 3N

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

REHABILITATION FOR FAI 55/70 COMPLEX

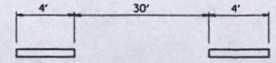
SUMMARY OF QUANTITIES
(FAI-70) ST. CLAIR CO.

P:\C1X11900\700cadd\709STR\082-0143\143sq01.dgn

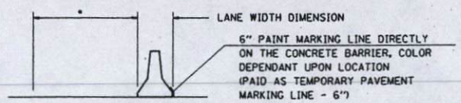
[1] REVISED 07-29-04, MRC [2] REVISED 08-05-04, MRC [3] REVISED 09-15-04, MRC

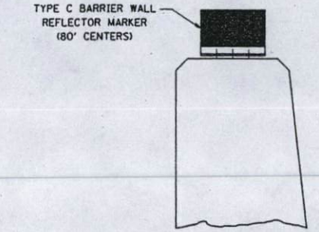
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	(82-3HVB-2R-1)-2	ST. CLAIR	388	3
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
56 SHEETS



REFLECTORIZED PAVEMENT MARKING
SKIP-DASH DETAIL





TYPICAL MOUNTING DETAIL
FOR BARRIER WALL REFLECTOR

NOTES

1. ALL PAVEMENT MARKINGS FOR STAGE CONSTRUCTION SHALL BE PAINTED.

2. DELETED

3. PEAK HOURS IS DEFINED AS 6:00 AM TO 9:00 AM WESTBOUND AND 3:00 PM TO 6:00 PM EASTBOUND.

4. 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.

5. NO LANE CLOSURE BETWEEN NOVEMBER 30 AND MAY 1 UNLESS APPROVED BY THE ENGINEER.

6. 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.

7. 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.

8. 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.

9. TAPERED END SECTION NO LONGER ALLOWED.

10. PAINT REMOVAL SHALL BE BY THE WATER-BLAST METHOD.

11. ONE-WAY TRAFFIC IN AND OUT OF ACCESS OPENINGS.

12. WARNING SIGNS READING "TRUCKS ENTERING AND LEAVING HIGHWAY" SHALL BE PLACED IN ADVANCE OF ACCESS OPENINGS.

13. BRIDGE DECK MICROSILICA CONCRETE OVERLAY SHALL REQUIRED THE DIRECT BOND METHOD.

14. 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.

15. 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.

16. ALL TEMPORARY PAVEMENT MARKINGS WILL BE PLACED IN SUCH A MANNER SO AS NOT TO INTERFERE WITH THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

17. 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.

18. THE APPROACH END(S) 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.

INDEX OF SHEETS

1	NOT USED
2	STAGE CONSTRUCTION DETAILS
3	NOT USED
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8-9	SCHEDULE OF QUANTITIES (TRAFFIC CONTROL)
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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

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

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2	SUMMARY OF QUANTITIES
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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

DRAWN BY A. Ledbetter
CHECKED BY A. Frey

DATE 17-NOV-2003

P:\C111900\700cadd\702civil\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.

Existing Structure: SN 082-0203 was built as F.A.I. Route 70 Section (82-3HVB-2R-1)-2 in 1967. The roadway is striped for one lane. The Superstructure consists of three 3 span continuous units and one 4 span continuous unit with two welded steel plate girders, plate girder floor beams, rolled stringers, and non-composite R.C. slab, and one simple span with composite slab on rolled girders. The Substructure is R.C. piers on R.C. piles. Existing structure shall be [illegible]ilitated with seismic retrofit and redundancy retrofit. Traffic shall be maintained during the rehabilitation.

Salvage: None

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	239
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
51 SHEETS

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

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1 GENERAL PLAN AND ELEVATION SPANS P1 THRU P6
2 GENERAL PLAN AND ELEVATION SPANS P7 THRU P15
3 GENERAL NOTES AND TOTAL BILL OF MATERIAL
4 SCOPE OF WORK
5 NOT USED
6 SLAB SPANS P1 THRU P4
7 SLAB SPANS P5 THRU P8
8 SLAB SPANS P9 THRU P12
9 SLAB SPANS P13 THRU P15
10 PARAPET DETAILS SPANS P1 THRU P6
11 PARAPET DETAILS SPANS P4 THRU P9
12 PARAPET DETAILS SPANS P10 THRU P15
13 PARAPET DETAILS AND SUPERSTRUCTURE BILL OF MATERIAL
14 DEMOLITION DETAILS
14A EXPANSION JOINT REPLACEMENT DETAILS
15 DRAINAGE DETAILS
16 DRAINAGE SCUPPER DS-33
17 PJS EXPANSION JOINT DETAILS PIERS P14 AND P15
18 NEOPRENE EXPANSION JOINT DETAILS PIERS P4 AND P7
19 FINGER PLATE DETAILS PIER P10
20 FINGER PLATE DETAILS PIER P10
20A DRAINAGE SYSTEM AT FINGER PLATE PIER P10
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23 RETROFIT AND SUBSTRUCTURE REPAIR PIER P4
24 RETROFIT AND SUBSTRUCTURE REPAIR PIER P5
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26 RETROFIT AND SUBSTRUCTURE REPAIR PIER P7
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30 RETROFIT AND SUBSTRUCTURE REPAIR PIER P11
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35 RETROFIT AND SUBSTRUCTURE REPAIR PIER P15
36 CRACK EXTENSION RETROFIT AND REDUNDANCY RETROFIT DETAILS
37 REDUNDANCY RETROFIT DETAILS
38 TYPICAL REDUNDANCY RETROFIT DETAILS
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41 BUMPER / RESTRAINER DETAILS
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43 CROSS FRAME MODIFICATIONS
44 CROSS FRAME MODIFICATIONS
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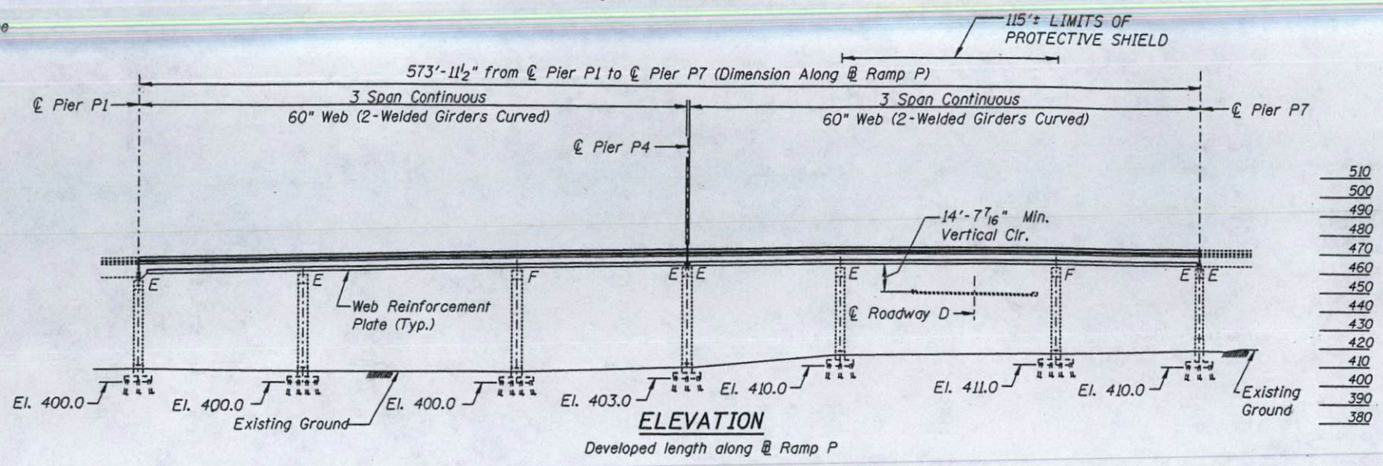
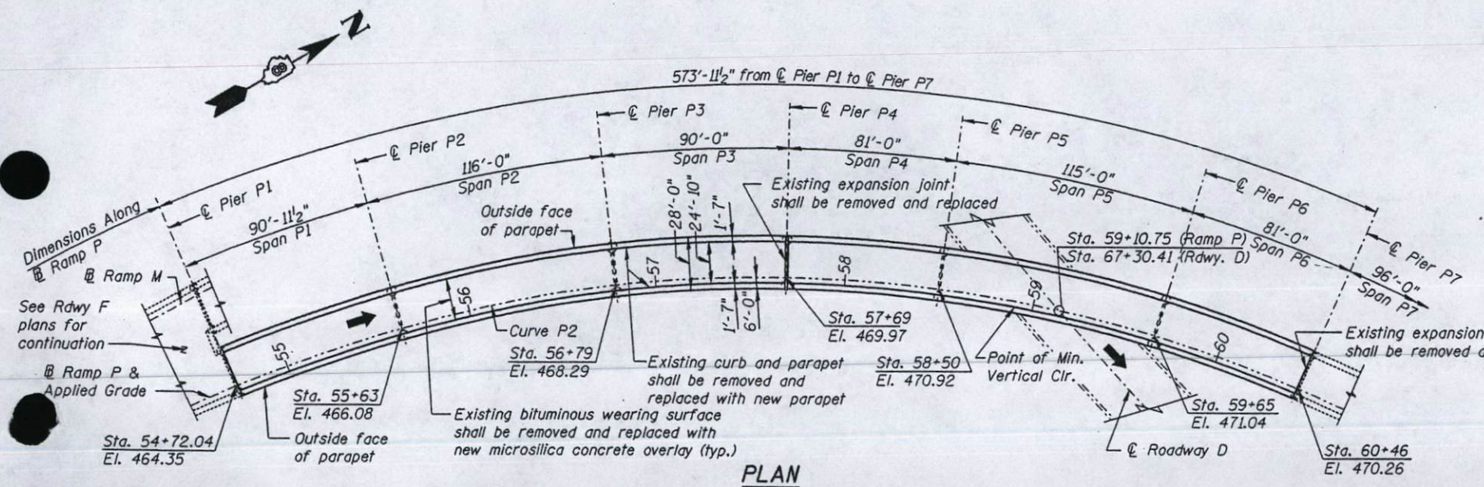
49 AS-BUILT DECK REPAIR LOCATIONS SPANS P5 THRU P8
50 AS-BUILT DECK REPAIR LOCATIONS SPANS P9 THRU P12
51 AS-BUILT DECK REPAIR LOCATIONS SPANS P3 THRU P15

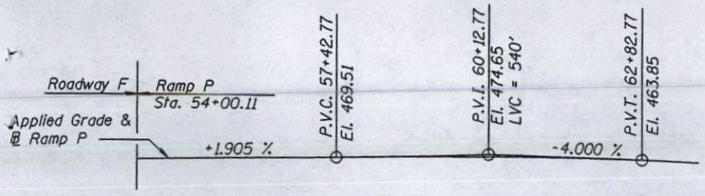


ELEVATION

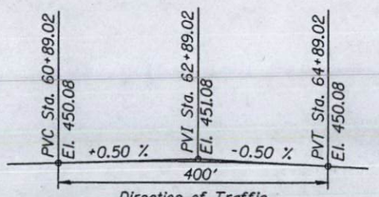
Developed length along ℄ Ramp P



PLAN



PROFILE GRADE RAMP P



PROFILE GRADE ROADWAY D

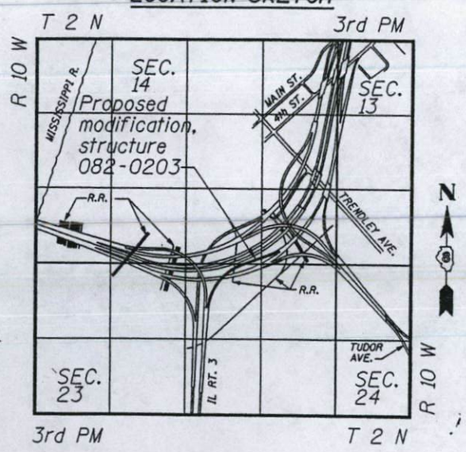
CURVE DATA

CURVE P2
P.I. = 58+81.46
Δ = 65°23'55"
D = 8°11'06"
R = 700.00'
L = 798.99'
T = 449.38'
E = 131.83'
S = 8.00%

NOTES

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

LOCATION SKETCH



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

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

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

JOHN E. FINKE, S.E.
STRUCTURAL/SEISMIC RETROFIT
EXPIRES 11-30-2004

LANCE PETERMAN, S.E.
REDUNDANCY RETROFIT
Expires 11/30/04

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
GENERAL PLAN AND ELEVATION
SPANS P1 THRU P6
STA. 54+72.04 THRU 60+46 (FAI-70) ST. CLAIR CO.

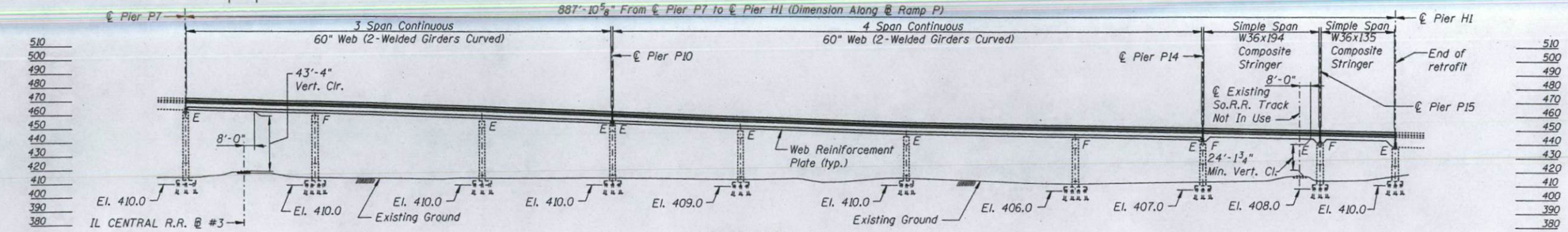
[1] REVISED 7-29-04 MRC

P:\C1X11900\700cadd\709STR\082-0203\203GP01.dgn

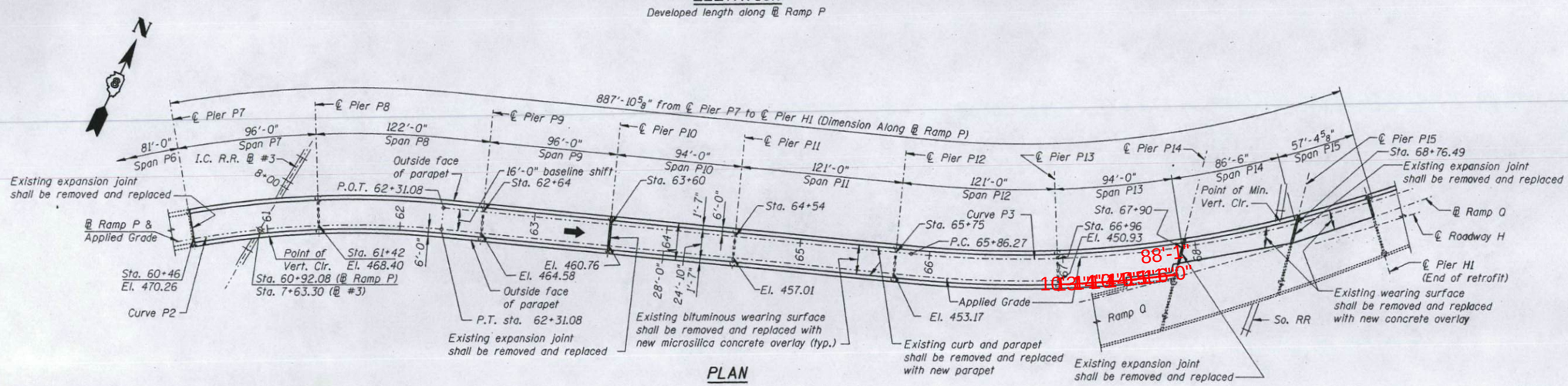
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	240
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

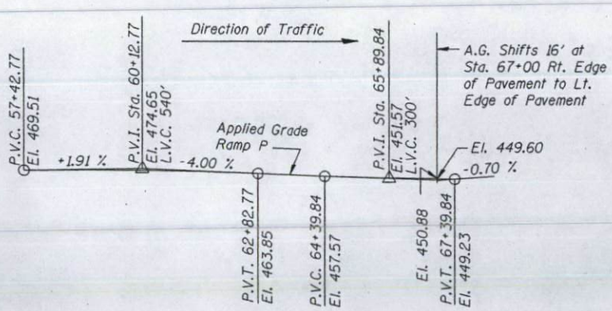
SHEET NO. 2
51 SHEETS
*(82-3HVB-2R-1)-2



ELEVATION
Developed length along ℄ Ramp P



PLAN



PROFILE RAMP P

CURVE P3
P.I. = 67+38.03
△ = 21°04'14"
D = 7°01'18"
R = 816.00'
L = 300.08'
T = 151.76'
E = 13.99'
S = 8.00%

NOTE
Work this sheet with sheet 1.

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

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
GENERAL PLAN AND ELEVATION
SPANS P7 THRU P15
STA. 60+46 THRU 68+76.49 (FAI-70) ST. CLAIR CO.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	241
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3
51 SHEETS

*(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) = 243,690 lbs.

Calculated weight of Structural Steel (M270, Grade 50) = 154,990 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 4/8. 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 $\frac{1}{4}$ inch deep shall be indentified 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 reinforcement splice plates shall conform to the Supplemental Requirments for Notch Toughness Zone 2.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPERSTRUCTURE	SUBSTRUCTURE	TOTAL
BITUMINOUS CONCRETE REMOVAL (DECK)	SQ YD	3,462	--	3,462
CONCRETE REMOVAL	CU YD	621.9	--	621.9
NEOPRENE EXPANSION JOINT - 2.5"	FOOT	27	--	27
NEOPRENE EXPANSION JOINT - $1\frac{5}{8}$"	FOOT	27	--	27
CONCRETE SUPERSTRUCTURE	CU YD	493.9	--	493.9
BRIDGE DECK GROOVING	SQ YD	3,596	--	3,596
PROTECTIVE COAT	SQ YD	1,113	--	1,113
FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5")	SQ FT	--	215	215
FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	--	--	0.2
REINFORCEMENT BARS, EPOXY COATED	POUND	96,580	--	96,580
EXPANSION BOLTS (SPECIAL)	EACH	390	--	390 [2]
MECHANICAL SPLICE	EACH	50	--	50
COLUMN WRAP	SQ FT	--	4,243	4,243
FOUNDATION WALL DOWEL MODIFICATION	EACH	--	3	3
BOLT REPLACEMENT	EACH	2	--	2
CRACK EXTENSION MODIFICATION	EACH	4	--	4
VERTICAL WEB STIFFENER REMOVAL	EACH	691*	--	691*
DRAINAGE SCUPPERS, DS-33	EACH	7	--	7
BRIDGE JOINT SYSTEM (EXPANSION) - $1\frac{5}{8}$"	FOOT	39	--	39
BRIDGE DECK MICROSILICA CONCRETE OVERLAY - $2\frac{1}{4}$"	SQ YD	3,896	--	3,896
CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ YD	3,896	--	3,896
DECK SLAB REPAIR (FULL DEPTH, TYPE 1)	SQ YD	0.3	--	0.3
DECK SLAB REPAIR (PARTIAL)	SQ YD	40.1	--	40.1
DRAINAGE SYSTEM	L SUM	--	0.125	0.125
FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	27	--	27
PROTECTIVE SHIELD	SQ YD	420	--	420
JACK AND REMOVE EXISTING BEARINGS	EACH	2	--	2 [1]
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	2	--	2
TEMPORARY SHORING AND CRIBBING	EACH	2	--	2

* Includes Bearing Stiffener Modification (34 Total)

DESIGNED	R. Victor
CHECKED	D. James
DRAWN	E. Bazzell
CHECKED	R. Victor

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
GENERAL NOTES AND
TOTAL BILL OF MATERIAL
(FAI-70) ST. CLAIR CO.

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[1] REVISED 07-29-04, MRC
[2] REVISED 09-15-05, MRC

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	242
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
51 SHEETS

*(82-3HV8-2R-1)-2

SCOPE OF WORK

GENERAL:
The detailed drawings presented herein are for Ramp P - Structure Number 082-0203 in St. Clair County, Illinois. Work relating to Piers P2 through P15 and Spans P1 through P14 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:
P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13 P14, P15
2. Install Tie Beam Confinement Plates at the following Piers:
P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13
3. Install Cross Frame Assemblies (including Column Band Assemblies) at the following Piers: P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13 P14, P15
4. Install Bumper/Restrainer Assemblies at the following Piers:
P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14
5. Install Bumper Plates at the following Piers:
P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13
6. Install Roadway Tie Assemblies at the following Piers:
P14, P15
7. Install Slab-to-Floorbeam Connections at the following Piers:
P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13 P14, P15
8. Perform Column Base Modifications (including Dowel Cutting and Fuse Bars) to the following Piers: P14

9. Remove Existing and Install New Bearings at the following Piers: P1 (Span P1) [1]

FATIGUE AND REDUNDANCY RETROFIT:
1. Install Web Reinforcement Plates on the following Spans:
P1 through P13
2. Perform Bolt Replacement or Tighten Bolts in the following Spans:
P2 (2 locations), P8

GENERAL REHABILITATION:
1. Perform Formed Concrete Repair on the following Piers:
P3, P4, P5, P6, P7, P8, P10, P12, P13, P14, P15
2. Perform a Type 2 Deck Rehabilitation (including Overlay Removal, Scarification and Installation of a Microsilica Concrete Overlay) on the following Spans: P1 through P14
3. Remove and Replace Expansion Joints at the following Piers:
P4, P7, P10, P14 (partial), P15 (partial)
4. Remove Existing Curbs and Barriers and Replace with New Parapets on the following Spans: P1 through P14
5. Perform Full or Partial Deck Repair on the following Spans:
P2, P4 through P7, P9 through P14
6. Remove Existing Floor Drains on the following Spans:
P1 through P4, P6, P8, P9, P11 through P13
7. Install New Scuppers or Drains on the following Spans:
P1, P4, P6, P8, P9, P10, P13

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 P - STRUCTURE NO. 082-0203
SCOPE OF WORK
(FAI-70) ST. CLAIR CO.

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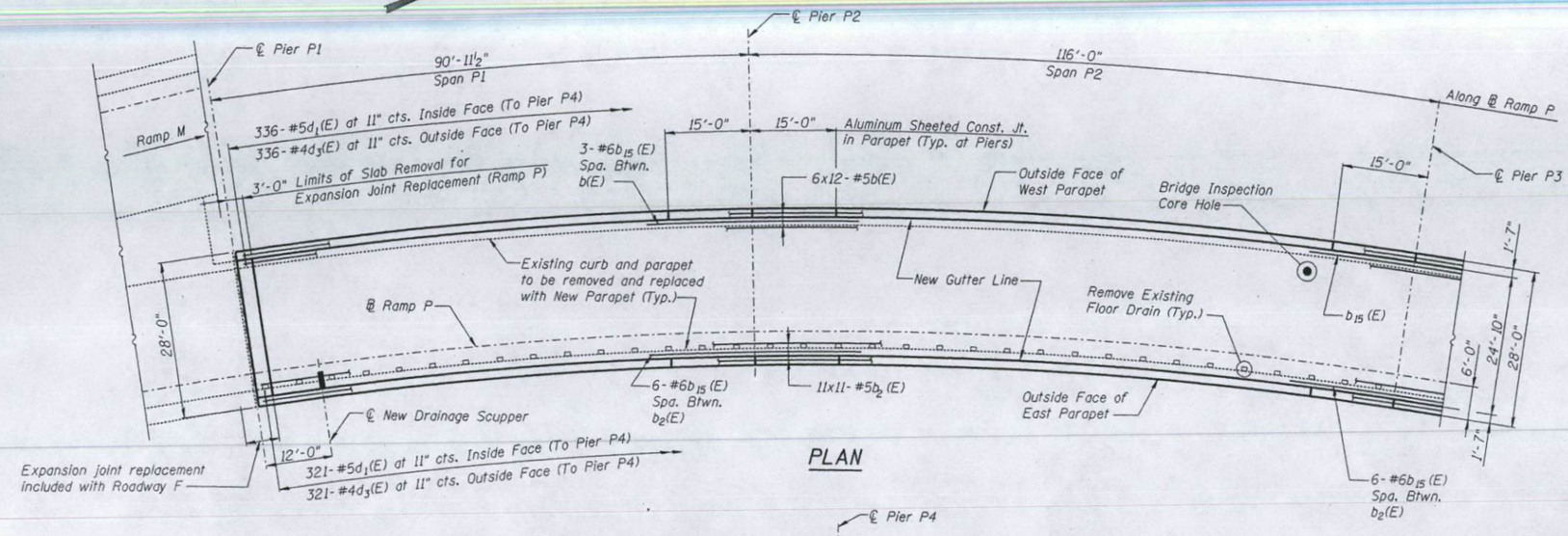
[1] REV. 07-29-04

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

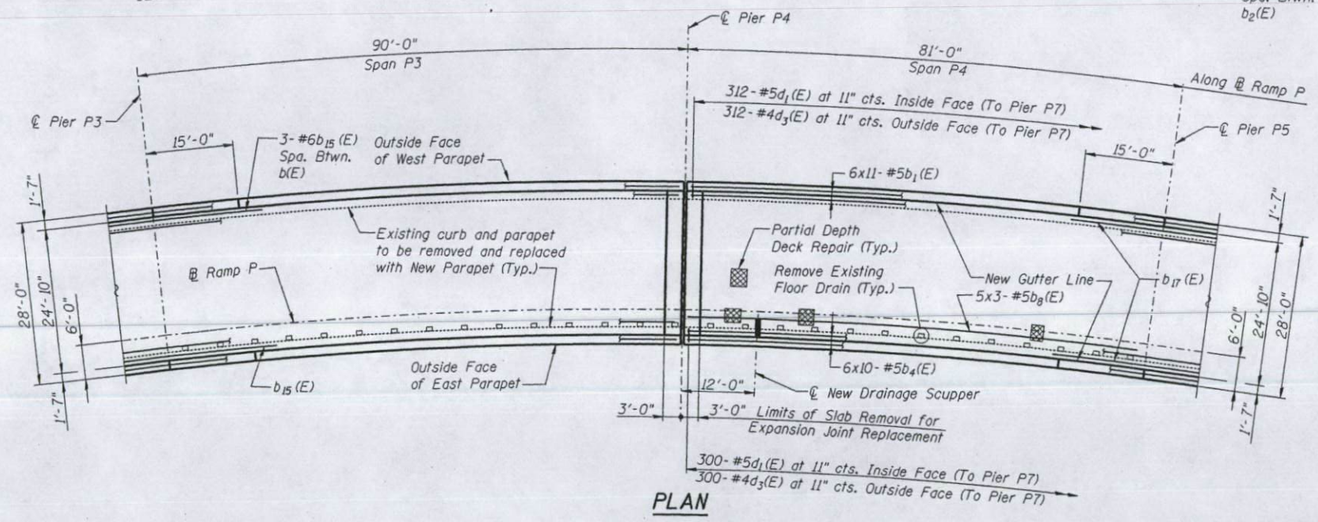
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	243
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6
51 SHEETS

*(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.

DECK REPAIR

Deck Slab Repair (Partial)	Sq.Yd.
Span P4	4
Total	4

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 13.

For Parapet details, see Sheets 10 and 13.

For Drainage details, see Sheet 15.

For Expansion Joint details, see Sheets 17 thru 20.

Bars indicated thus 6 x 7-#5 etc. indicates 6 lines of bars with 7 lengths per line.

For Concrete Removal details, see Sheet 14.

Provide full depth deck slab repair at each bridge inspection core hole, 1 sq. ft. each.

Additional #6 bars over piers shall be centered about centerline of pier.

DESIGNED	M. King
CHECKED	G. Dee
DRAWN	M. King
CHECKED	G. Dee

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
SLAB
SPANS P1 THRU P4

(FAI-70) ST. CLAIR CO.

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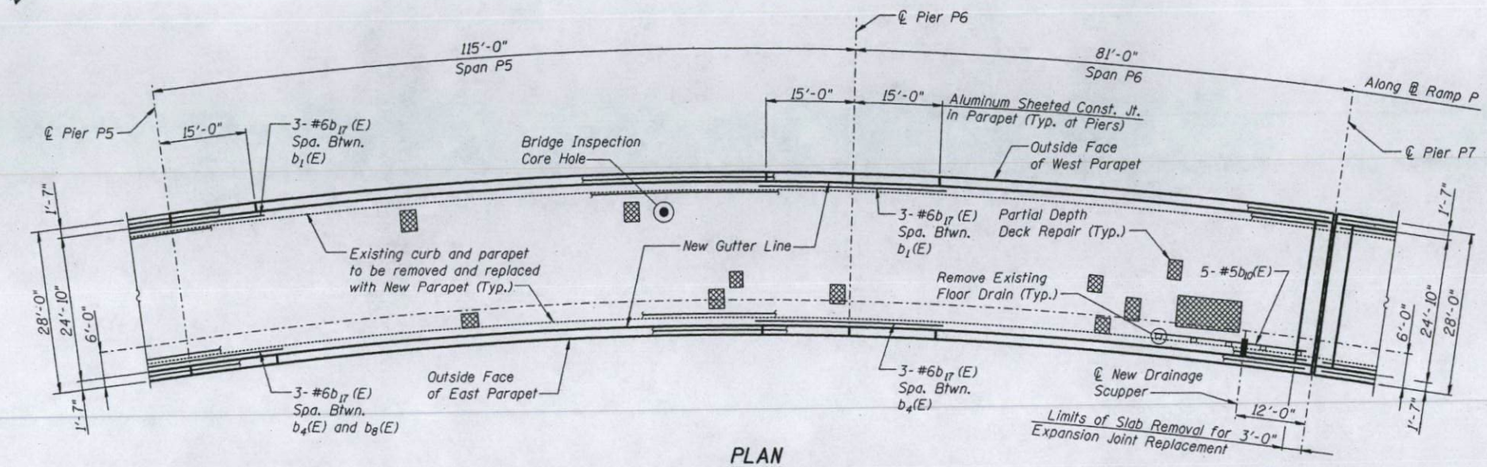
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

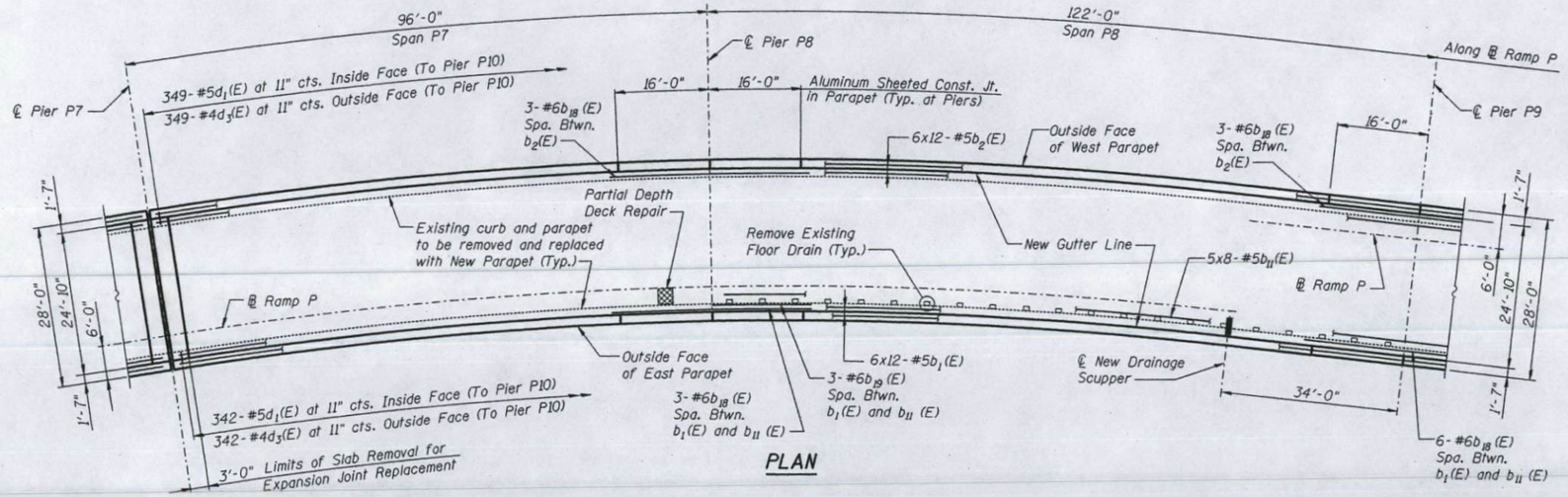
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	244
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 7
51 SHEETS

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



PLAN



PLAN

DECK REPAIR	
Deck Slab Repair (Partial)	Sq.Yd.
Spans P5-P6	16
Span P7	1
Total	17

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

NOTES

Work this Sheet with Sheet 6.

DESIGNED	M. King
CHECKED	G. Dee
DRAWN	M. King
CHECKED	G. Dee

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
SLAB
SPANS P5 THRU P8
(FAI-70) ST. CLAIR CO.

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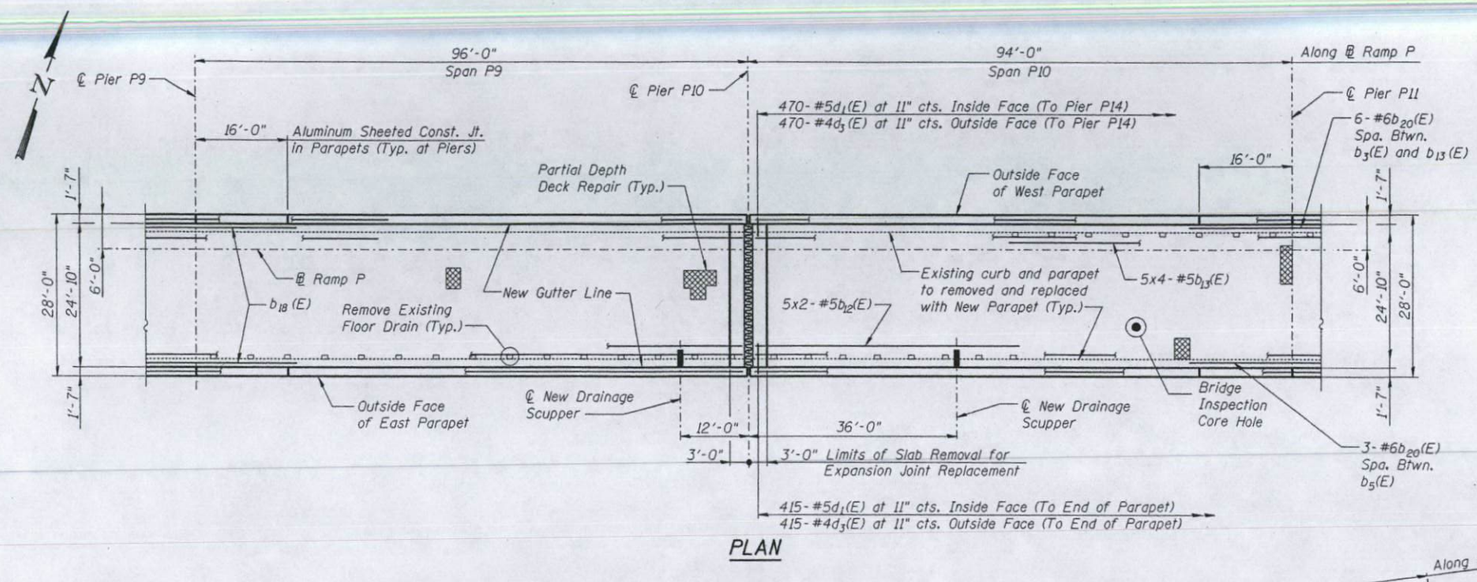
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

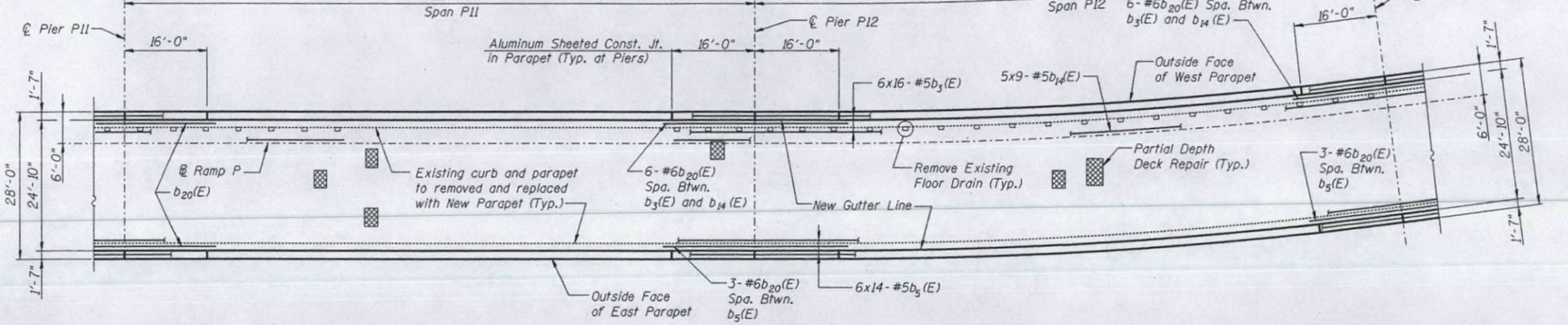
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	245
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
51 SHEETS

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



PLAN



PLAN

DECK REPAIR

Deck Slab Repair (Partial)	Sq. Yd.
Spans P9-P10	6
Spans P11-P12	7
Total	13

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

NOTES

Work this Sheet with Sheet 7.

DESIGNED	M. King
CHECKED	G. Dee
DRAWN	M. King
CHECKED	G. Dee

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
SLAB
SPANS P9 THRU P12

(FAI-70) ST. CLAIR CO.

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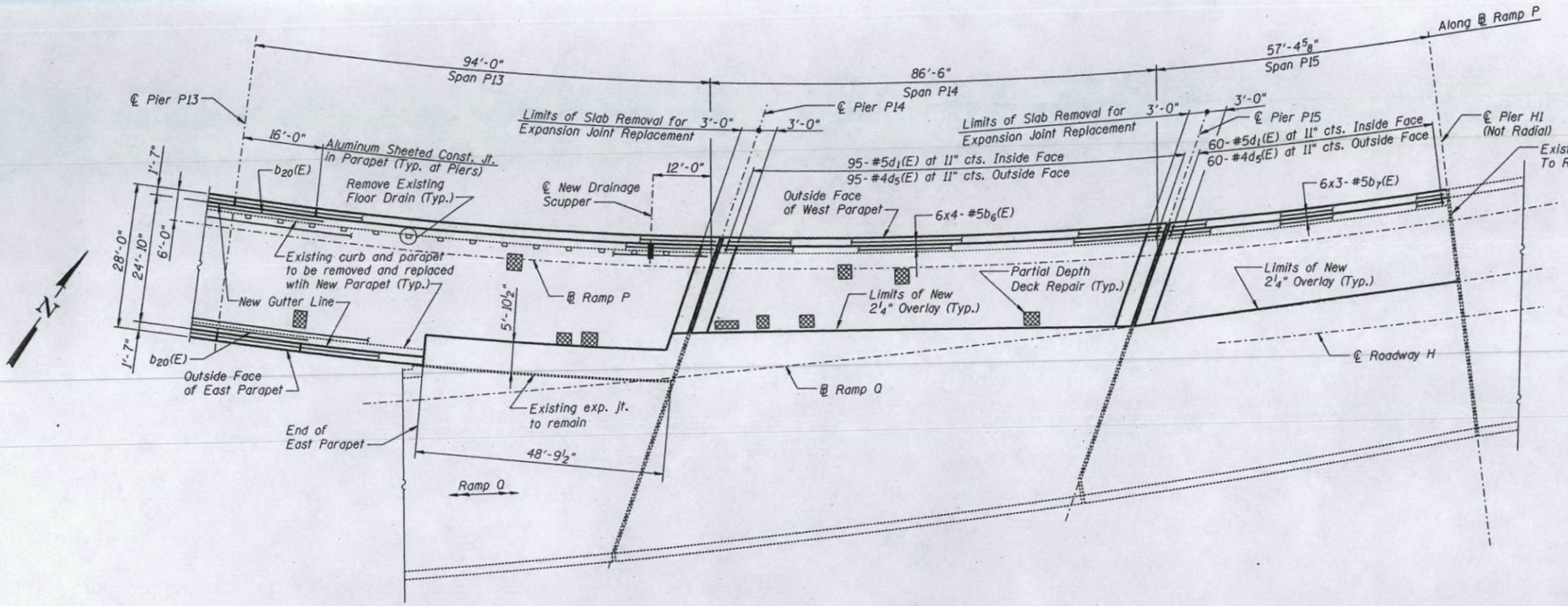
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

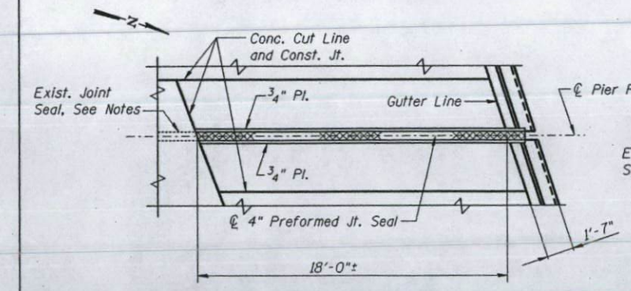
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	246
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
51 SHEETS

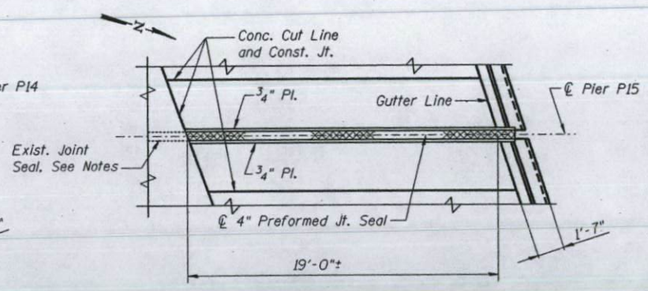
*(82-3HVB-2R-1)-2



PLAN



PARTIAL PLAN AT PIER P14



PARTIAL PLAN AT PIER P15

DECK REPAIR	
Deck Slab Repair (Partial)	Sq. Yd.
Spans P13-P14	8
Total	8

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

NOTES

Work this Sheet with Sheet 8.
Splicing of the existing joint seal with the new joint seal shall be in accordance with the manufacturer's reccomendations. See Special Provisions.

DESIGNED	M. King
CHECKED	G. Dee
DRAWN	M. King
CHECKED	G. Dee

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
SLAB
SPANS P13 THRU P15

(FAI-70) ST. CLAIR CO.

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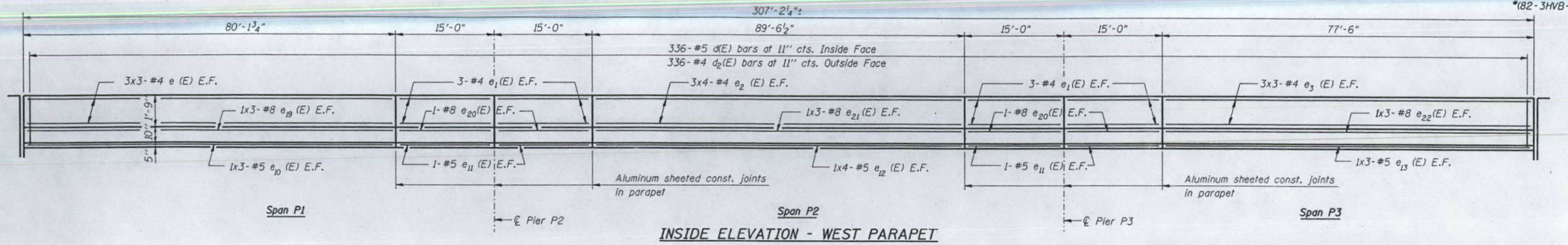
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

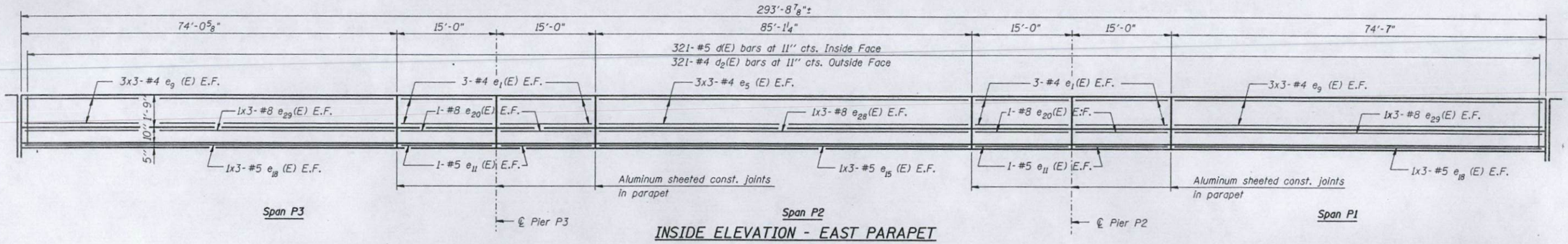
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	247
FED. ROAD DIST. NO. *	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 10
51 SHEETS

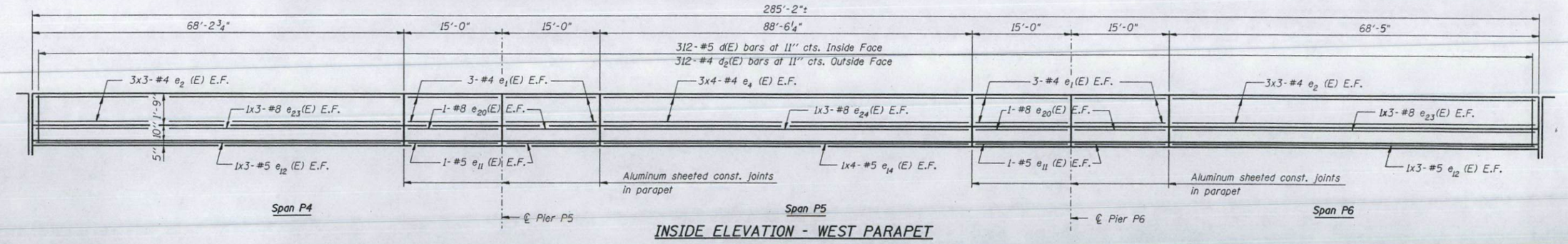
*(82-3HVB-2R-1)-2



INSIDE ELEVATION - WEST PARAPET



INSIDE ELEVATION - EAST PARAPET



INSIDE ELEVATION - WEST PARAPET

DESIGNED	M. King
CHECKED	G. Dee
DRAWN	M. King
CHECKED	G. Dee

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
PARAPET DETAILS
SPANS P1 THRU P6
(FAI-70) ST. CLAIR CO.

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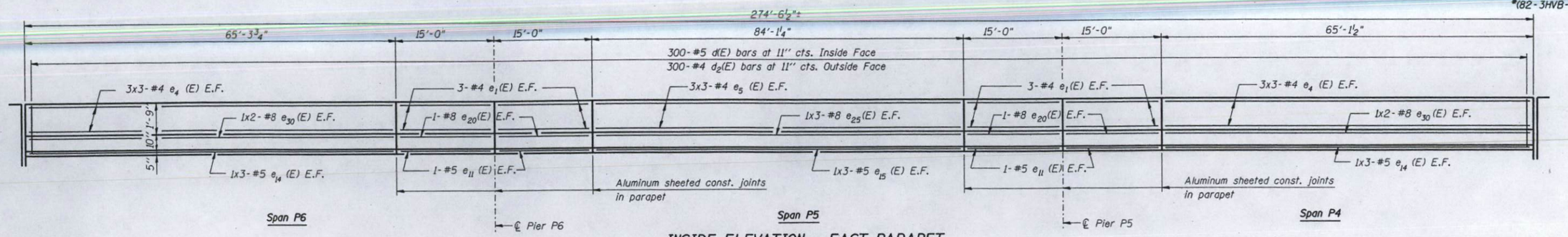
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	248
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 11
51 SHEETS

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



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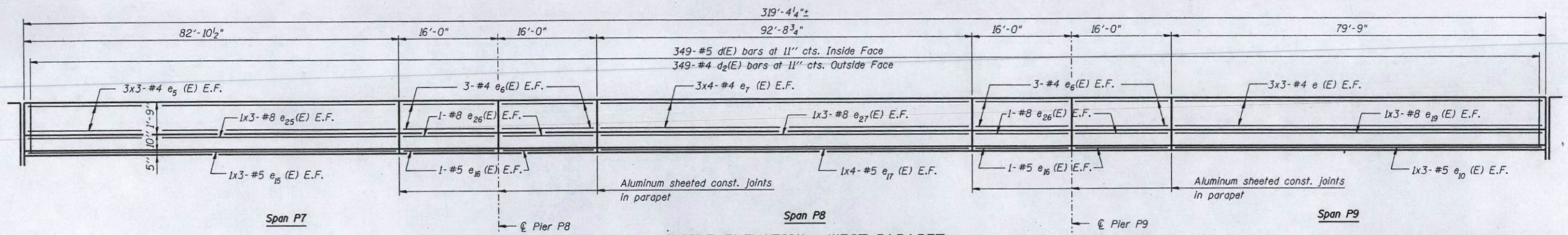

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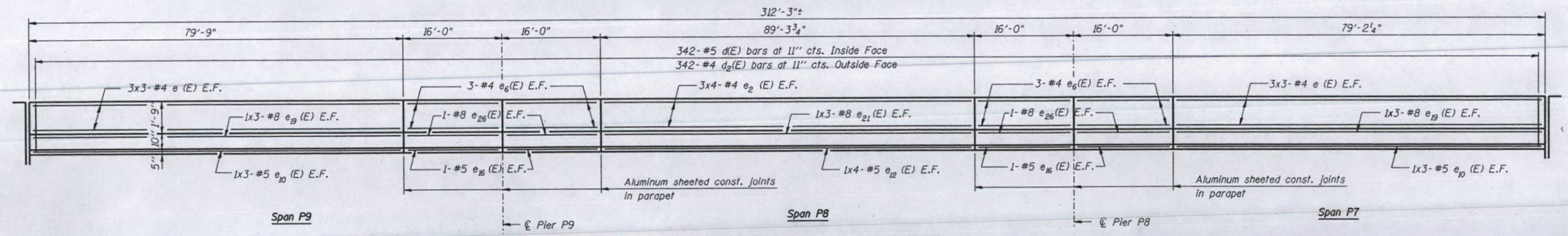

INSIDE ELEVATION - EAST PARAPET

DESIGNED	M. King
CHECKED	G. Dee
DRAWN	M. King
CHECKED	G. Dee

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
PARAPET DETAILS
SPANS P4 THRU P9
(FAI-70) ST. CLAIR CO.

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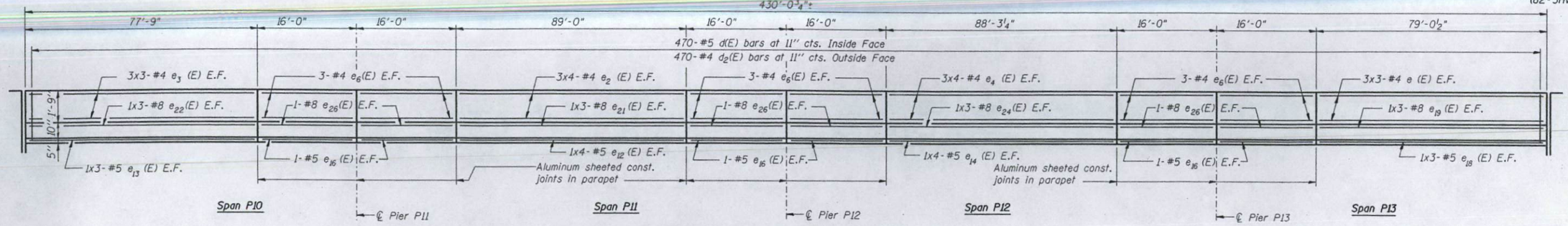
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

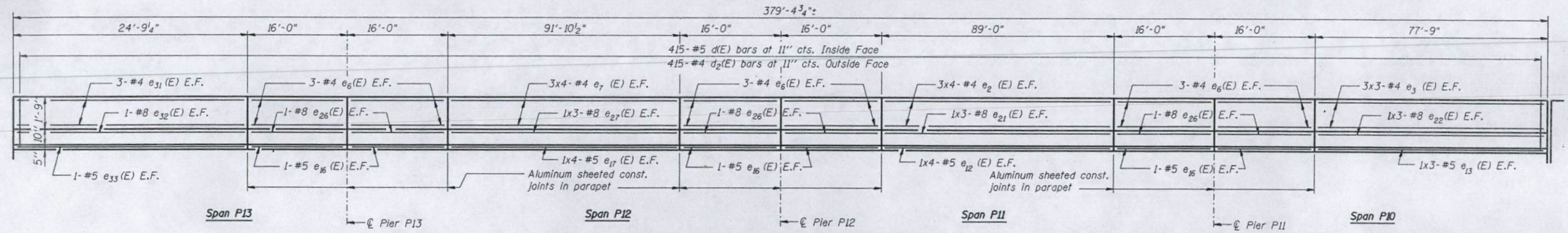
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	249
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 12
51 SHEETS

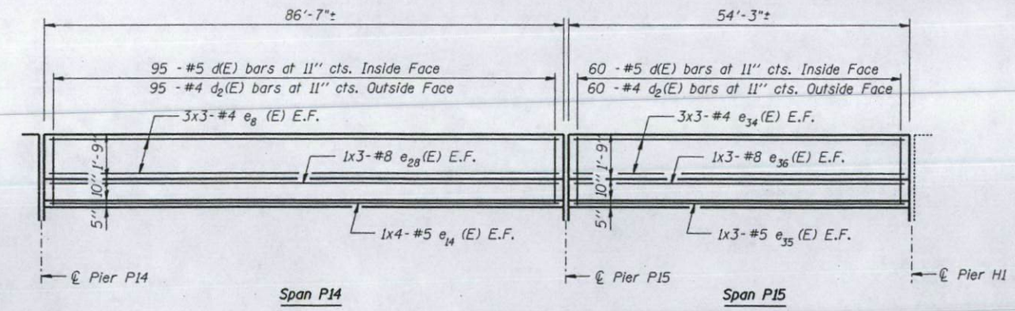
*(82-3HVB-2R-1)-2



INSIDE ELEVATION - WEST PARAPET



INSIDE ELEVATION - EAST PARAPET



INSIDE ELEVATION - WEST PARAPET

DESIGNED	M. King
CHECKED	G. Dee
DRAWN	M. King
CHECKED	G. Dee

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
PARAPET DETAILS
SPANS P10 THRU P15
(FAI-70) ST. CLAIR CO.

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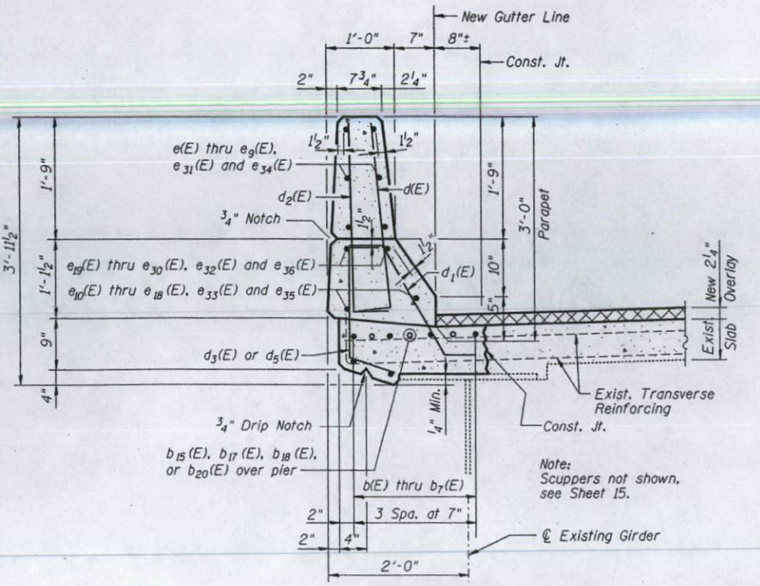
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

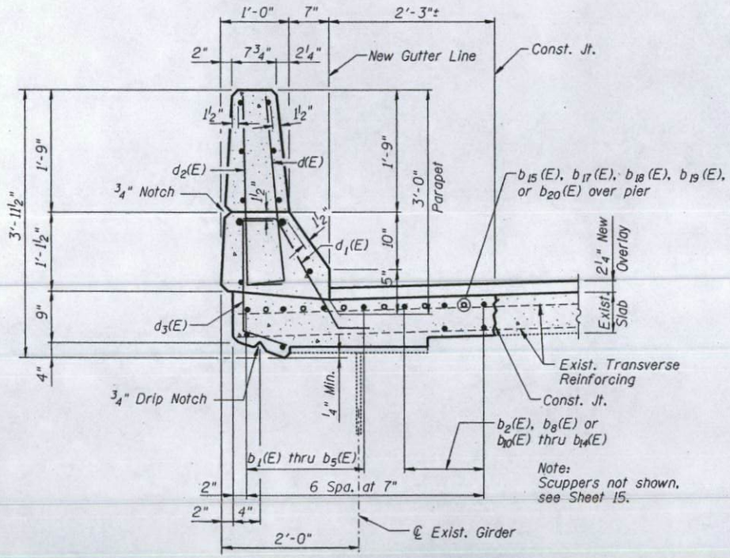
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	250
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 13
51 SHEETS

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



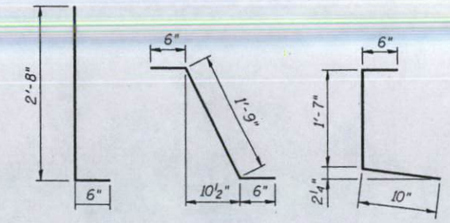
TYPICAL SLAB REPLACEMENT



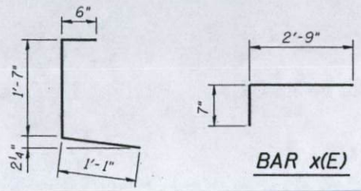
AT FLOOR DRAIN REMOVAL

Note: For details not shown, see Typical Slab Replacement section.

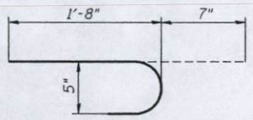
TYPICAL SECTION THRU PARAPETS



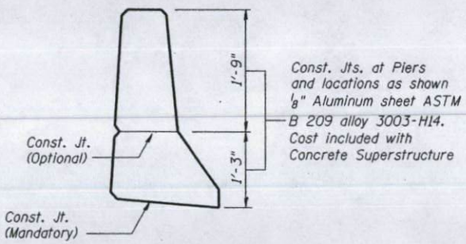
BARS d(E) & d2(E) BAR d1(E) BAR d3(E)



BAR d5(E) BAR x(E)



BAR x1(E)



PARAPET JOINT DETAILS

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	78	#5	27'-4"	
d1(E)	24	#5	19'-0"	
d2(E)	24	#5	20'-0"	
b(E)	72	#5	28'-0"	
b1(E)	138	#5	28'-3"	
b2(E)	193	#5	29'-0"	
b3(E)	96	#5	29'-0"	
b4(E)	60	#5	29'-9"	
b5(E)	84	#5	29'-6"	
b6(E)	24	#5	23'-6"	
b7(E)	18	#5	19'-9"	
b8(E)	15	#5	26'-10"	
b9(E)	56	#5	2'-0"	
b10(E)	5	#5	27'-4"	
b11(E)	40	#5	29'-0"	
b12(E)	10	#5	24'-0"	
b13(E)	20	#5	23'-6"	
b14(E)	45	#5	27'-4"	
b15(E)	18	#6	38'-0"	
b17(E)	12	#6	32'-6"	
b18(E)	15	#6	35'-0"	
b19(E)	3	#6	17'-6"	
b20(E)	27	#6	35'-6"	
d(E)	3000	#5	3'-2"	
d1(E)	3000	#5	2'-9"	
d2(E)	3000	#4	3'-2"	
d3(E)	2845	#4	2'-11"	
d5(E)	155	#4	3'-2"	
e(E)	90	#4	27'-8"	
e1(E)	96	#4	14'-9"	
e2(E)	132	#4	23'-10"	
e3(E)	54	#4	26'-11"	
e4(E)	84	#4	23'-3"	
e5(E)	54	#4	29'-4"	
e6(E)	120	#4	15'-9"	
e7(E)	48	#4	24'-4"	
e8(E)	18	#4	29'-10"	
e9(E)	36	#4	25'-11"	
e10(E)	24	#5	28'-4"	
e11(E)	32	#5	14'-9"	

Bar	No.	Size	Length	Shape
e12(E)	44	#5	24'-5"	
e13(E)	18	#5	27'-7"	
e14(E)	36	#5	24'-0"	
e15(E)	18	#5	30'-0"	
e16(E)	40	#5	15'-9"	
e17(E)	16	#5	25'-1"	
e18(E)	18	#5	27'-0"	
e19(E)	30	#8	30'-4"	
e20(E)	32	#8	14'-9"	
e21(E)	24	#8	33'-5"	
e22(E)	18	#8	29'-6"	
e23(E)	12	#8	26'-5"	
e24(E)	12	#8	33'-1"	
e25(E)	12	#8	31'-7"	
e26(E)	40	#8	15'-9"	
e27(E)	12	#8	34'-6"	
e28(E)	12	#8	32'-5"	
e29(E)	12	#8	28'-6"	
e30(E)	8	#8	35'-3"	
e31(E)	6	#4	24'-6"	
e32(E)	2	#8	24'-6"	
e33(E)	2	#5	24'-6"	
e34(E)	18	#4	19'-1"	
e35(E)	6	#5	19'-9"	
e36(E)	6	#8	21'-8"	
x(E)	225	#5	3'-4"	
x1(E)	50	#5	2'-3"	

Reinforcement Bars, Epoxy Coated	Pound	96,580
Concrete Superstructure	Cu. Yd.	484
Concrete Removal	Cu. Yd.	621.9

Reinforcement bars designated (E) shall be epoxy coated.

PARAPET NOTES

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

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

E.F. indicates each face.

All edges shall have a ¾" chamfer, unless otherwise noted.

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

For expansion joint details, see Sheets 17 thru 20.

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 P - STRUCTURE NO. 082-0203
PARAPET DETAILS AND
SUPERSTRUCTURE BILL OF MATERIAL
(FAI-70) ST. CLAIR CO.

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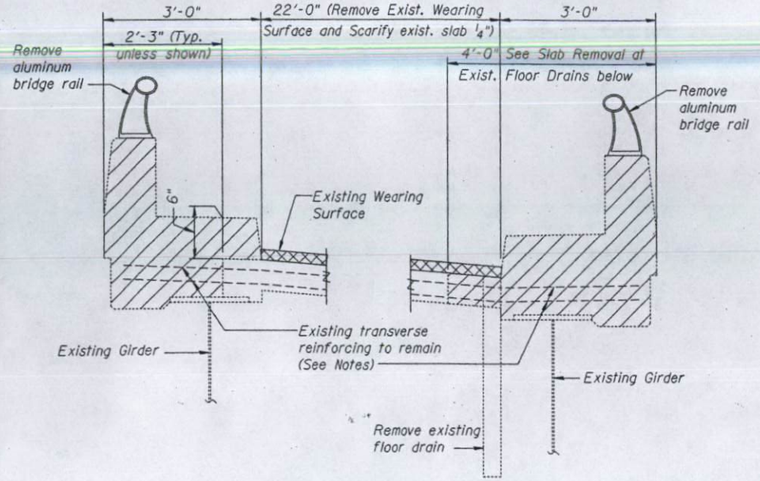
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	251
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

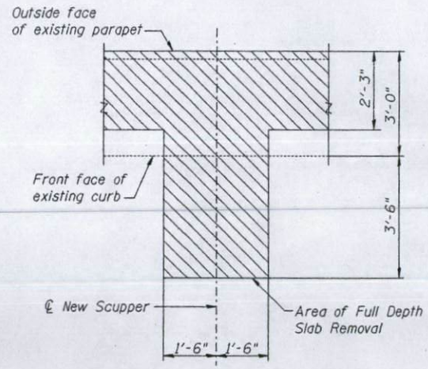
SHEET NO. 14
51 SHEETS

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



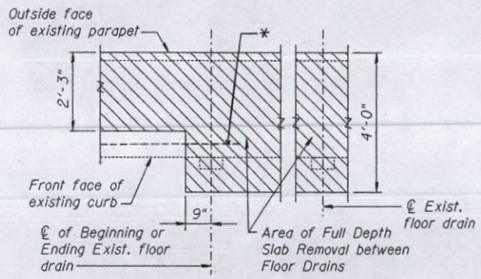
CROSS SECTION - DEMOLITION

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.



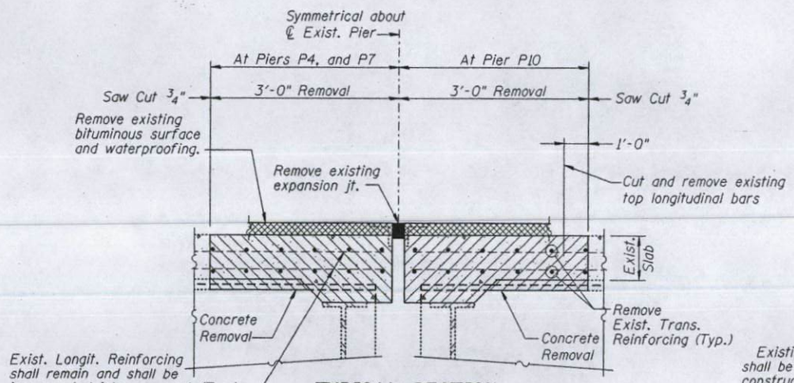
PLAN - SLAB REMOVAL AT NEW SCUPPER LOCATION

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



PLAN - SLAB REMOVAL AT EXISTING FLOOR DRAINS

* Existing longitudinal reinforcement shall be cut off 3'-0" from removal line and lapped with new reinforcement.



TYPICAL SECTION DEMOLITION AT EXPANSION JOINTS

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.

DESIGNED	R. Victor
CHECKED	M. Supak
DRAWN	M. King
CHECKED	G. Dee

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
DEMOLITION DETAILS
(FAI-70) ST. CLAIR CO.

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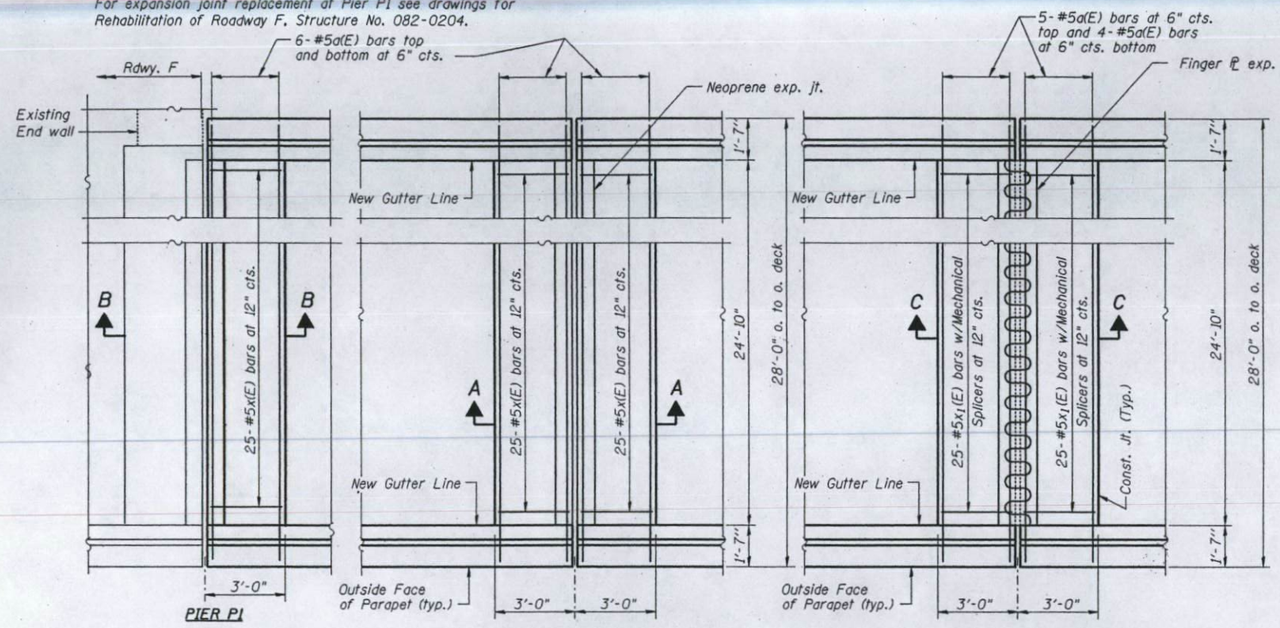
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

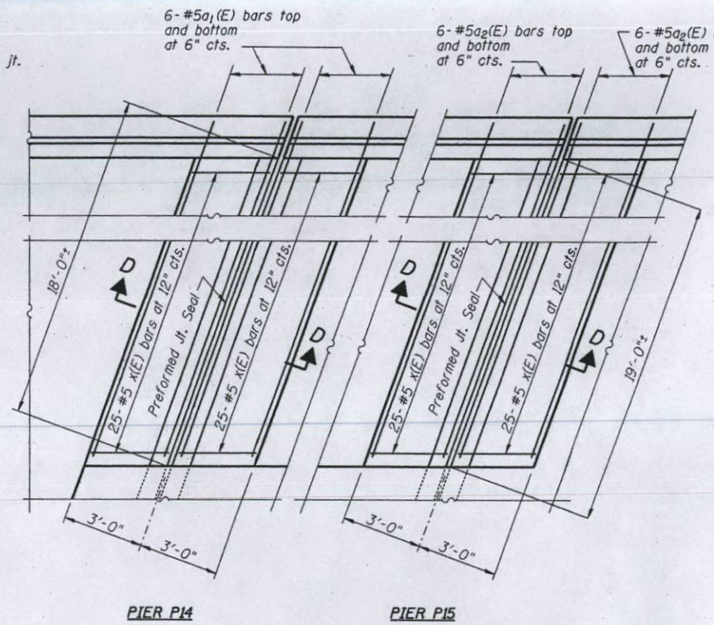
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	252
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14A
51 SHEETS

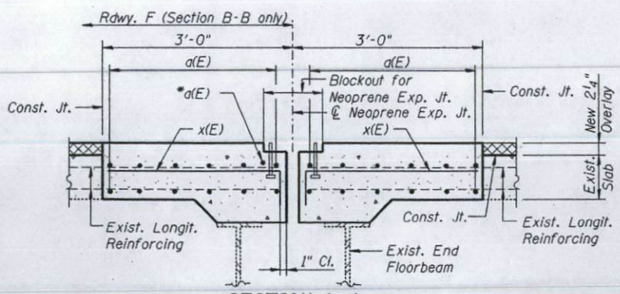
*(82-3HVB-2R-1)-2

Note:
For expansion joint replacement at Pier P1 see drawings for Rehabilitation of Roadway F, Structure No. 082-0204.



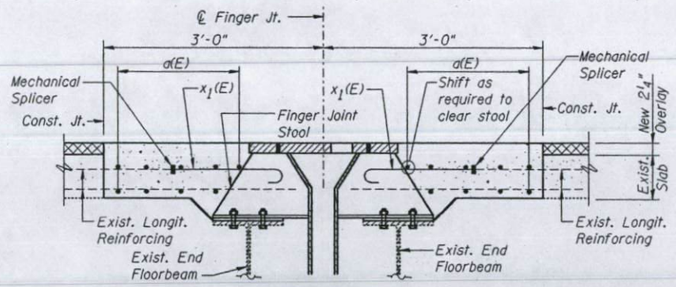


EXPANSION JOINT REPLACEMENT PLAN

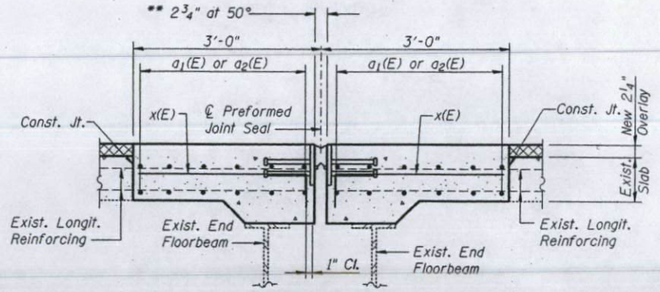


SECTION A-A (Piers P4 and P7)

SECTION B-B (Pier P1)



SECTION C-C



SECTION D-D (Piers P14 and P15)

* Place a(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(E) bars.

** 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.

DESIGNED	R. Victor
CHECKED	M. Supak
DRAWN	M. King
CHECKED	G. Dee

Neoprene Joint Size	
Pier	Size
P1	4"
P4	4"
P7	2½"

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
EXPANSION JOINT REPLACEMENT DETAILS
(FAI-70) ST. CLAIR CO.

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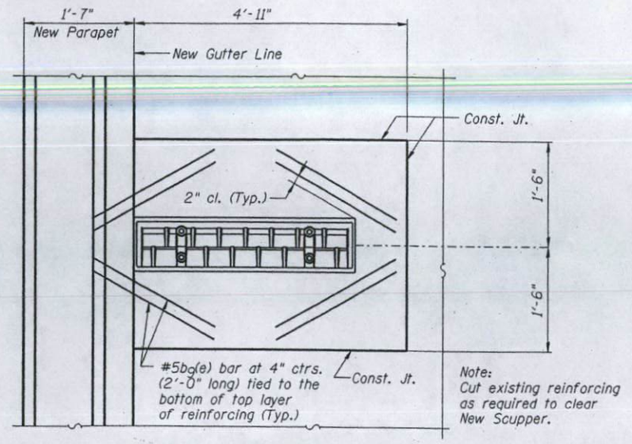
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

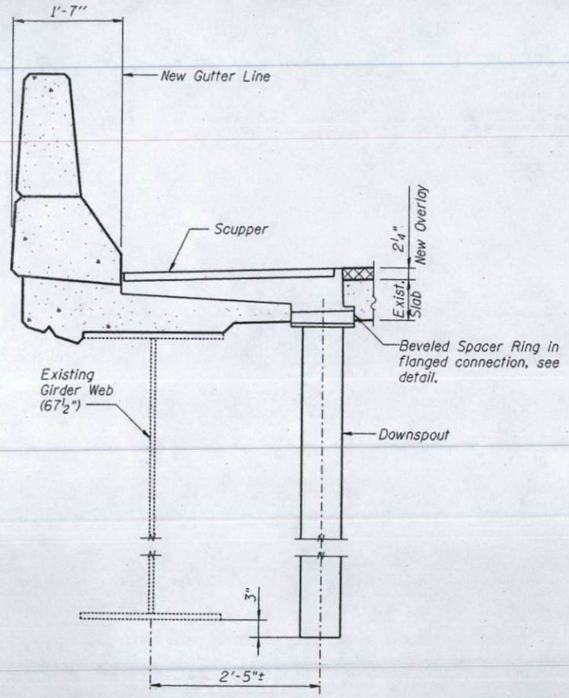
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	253
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 15
51 SHEETS

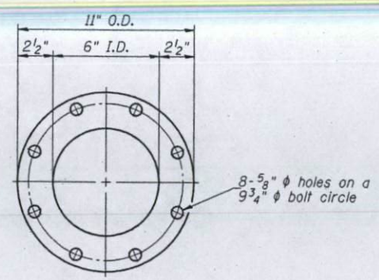
*(82-3HVB-2R-1)-2

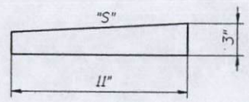


PLAN AT SCUPPER



SECTION AT SCUPPER





BEVELED SPACER RING DETAIL

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

NOTES

1. For DS-33 Scupper detail see Sheet 12.
2. Cost and installation of scuppers, spacer rings and downspouts shall be included in the unit price for Drainage Scuppers, DS-33.
3. 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	R. Victor
DRAWN	M. King
CHECKED	R. Victor

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
DRAINAGE DETAILS
(FAI-70) ST. CLAIR CO.

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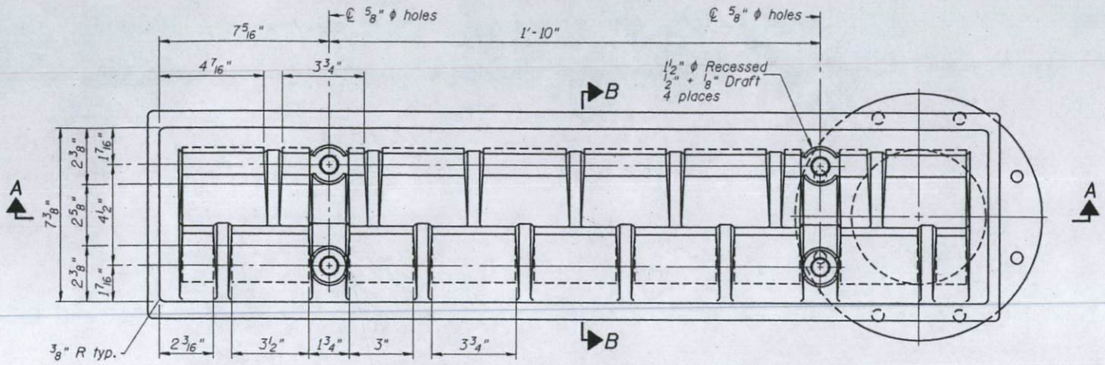
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

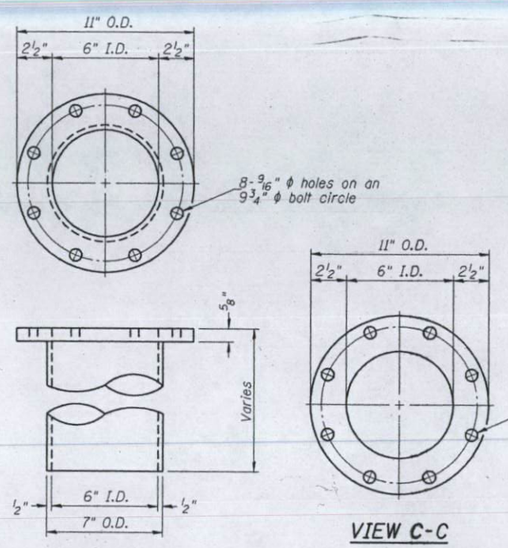
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	254
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 16
51 SHEETS

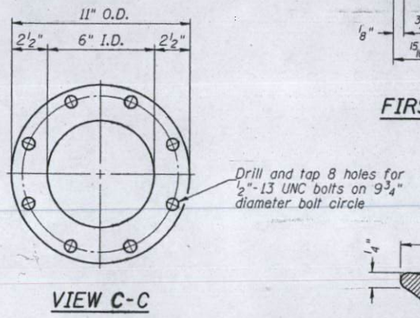
*(82-3HVB-2R-1)-2



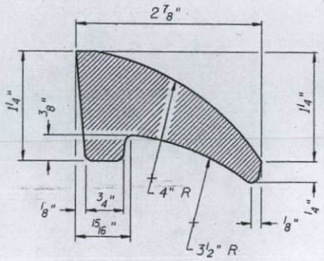
PLAN



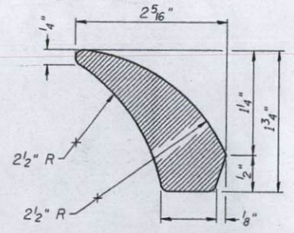
DOWNSPOUT



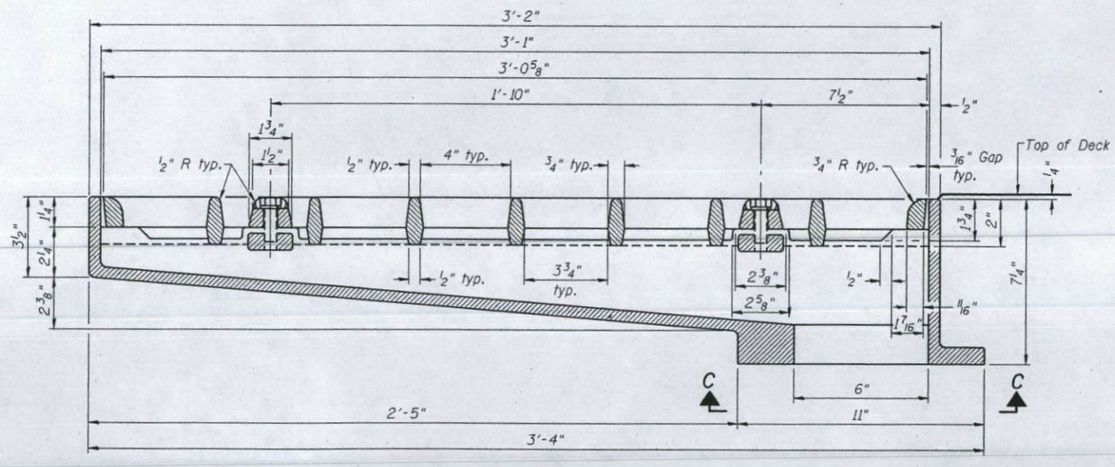
VIEW C-C



FIRST VANE DETAIL

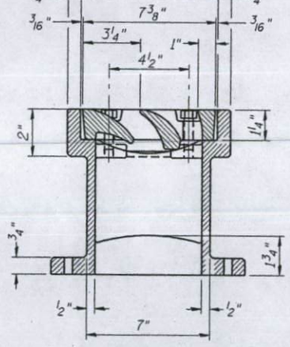


SECOND VANE DETAIL

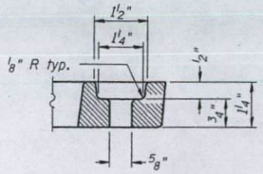


SECTION A-A

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



SECTION B-B



BOLT HOLE DETAIL

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 apropriate 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	7

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 P - STRUCTURE NO. 082-0203
DRAINAGE SCUPPER
DS-33
(FAI-70) ST. CLAIR CO.

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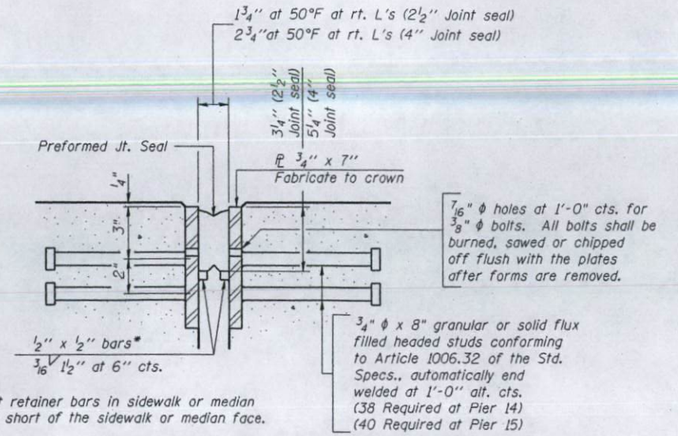
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	255
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 17
51 SHEETS

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



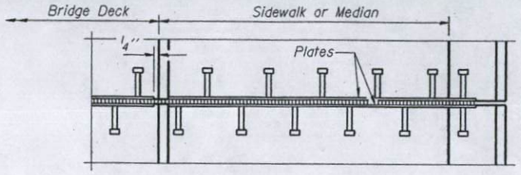
*Cut retainer bars in sidewalk or median 6" short of the sidewalk or median face.

SECTION THRU EXPANSION JOINT
(2½" and 4" joint seals)

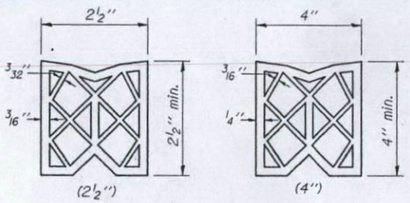
Bridge Joint System (Expansion)		
DESIGN MOVEMENT	Required Preformed Joint Seal Size	Required Strip Seal rated movement
1"	2½"	1"
1⅝"	4"	2"

GENERAL NOTES

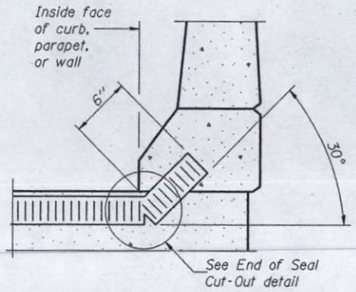
Furnish steel plates in segments of 20 feet maximum length. Maximum space between installed segments shall be 3/16". Seal space with silicone sealant suitable for structural steel.



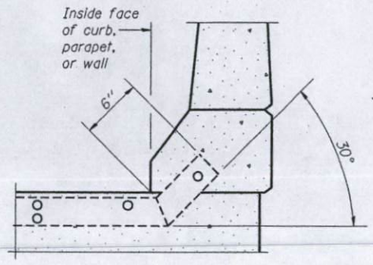
PLAN AT SIDEWALK OR MEDIAN



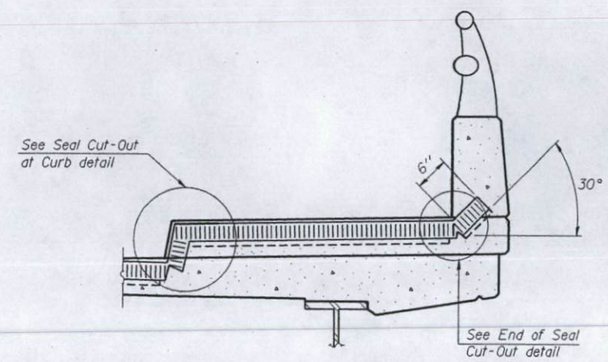
PREFORMED JOINT SEAL



AT CURB, PARAPET, OR WALL
(Showing seal)

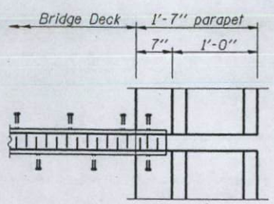


AT CURB, PARAPET, OR WALL
(Showing plate)

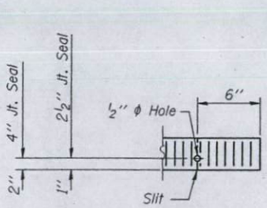


AT SIDEWALK OR MEDIAN
(Showing plate and seal)

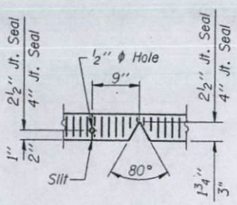
TYPICAL END TREATMENTS



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	39

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

EJ-BJS

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
PJS EXPANSION JOINT DETAILS
PIERS P14 AND P15
(FAI-70) ST. CLAIR CO.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 18
FAI-70	*	St. Clair	388	256	51 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

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

Joint Size	"C" at 50°F	"D" at 50°F	Dim "F"
2"	2"	1½" Min.	2"
2½"	2½"	1¾" Min.	2½"
4"	3"	2½" Min.	3"

INSTALLATION NOTES

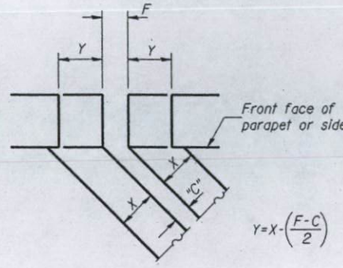
1. Install continuous seal in roadway, parapet, curb, and sidewalk.
2. Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

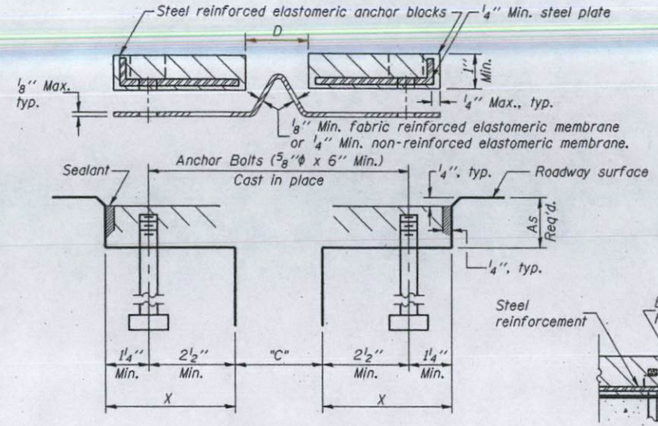
SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

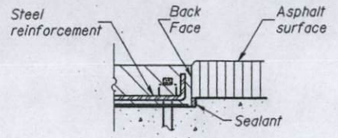
For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed according to dimension "D", might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK WITH ASPHALT SURFACE

GENERAL NOTES

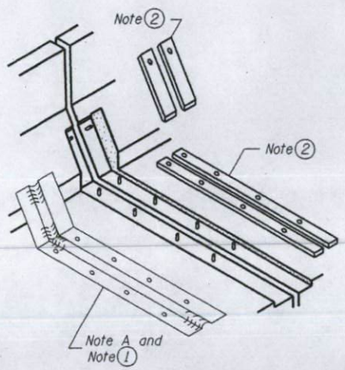
Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.

The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

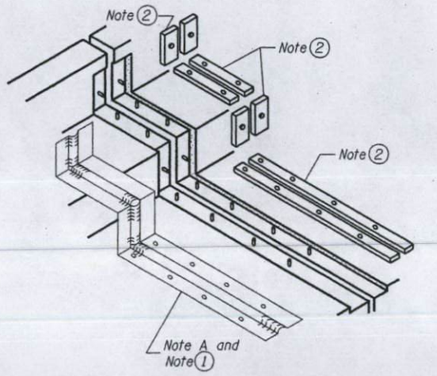
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

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.

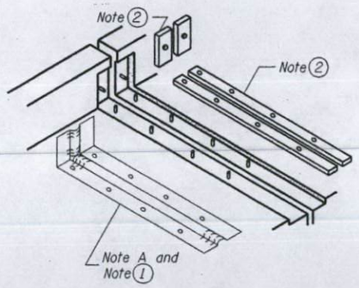
The parapet and roadway membrane shall be made continuous by an approved vulcanizing process. Lapping will not be permitted.



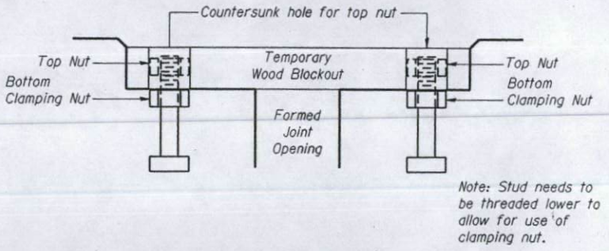
AT PARAPET



AT SIDEWALK OR MEDIAN

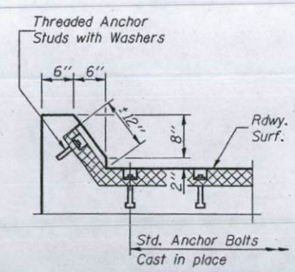


AT WALL

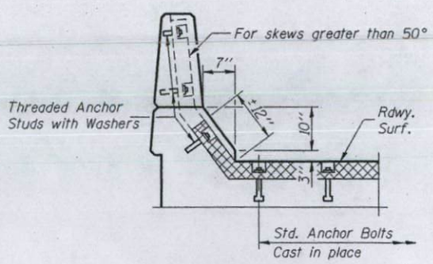


Anchor studs should be stainless

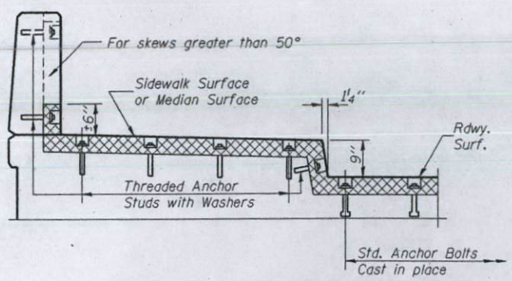
RECOMMENDED BLOCKOUT DETAIL



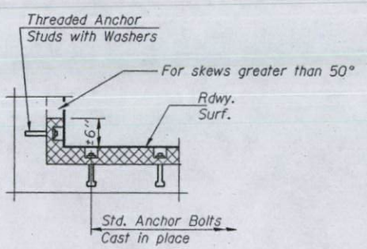
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN



AT WALL

TYPICAL END TREATMENTS

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

EJ-CS 4-30-97

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
NEOPRENE EXPANSION JOINT DETAILS
PIERS P4 AND P7

(FAI-70) ST. CLAIR CO.

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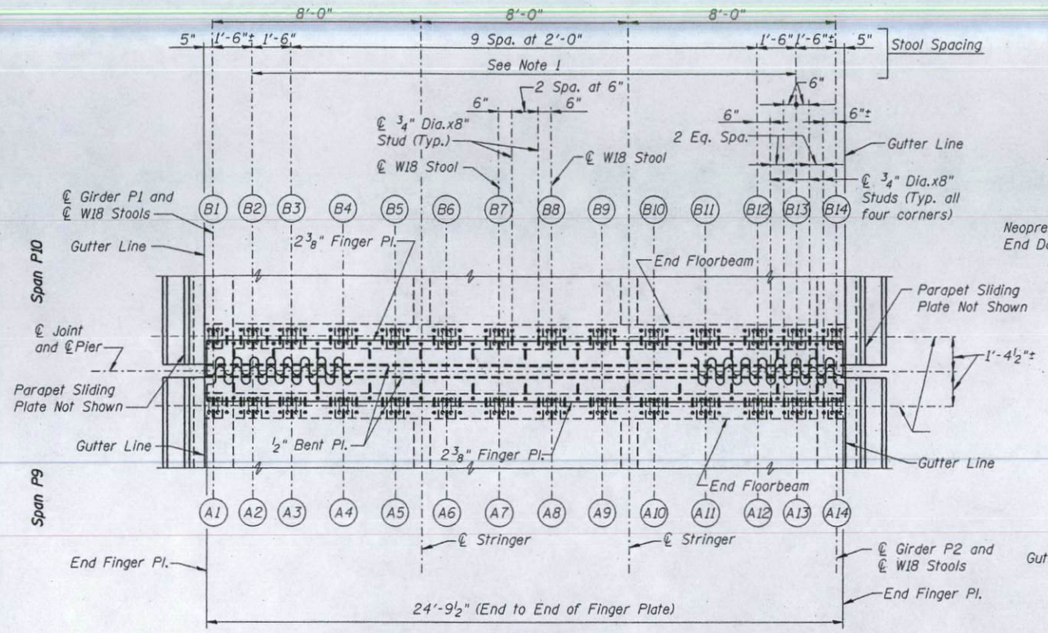
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

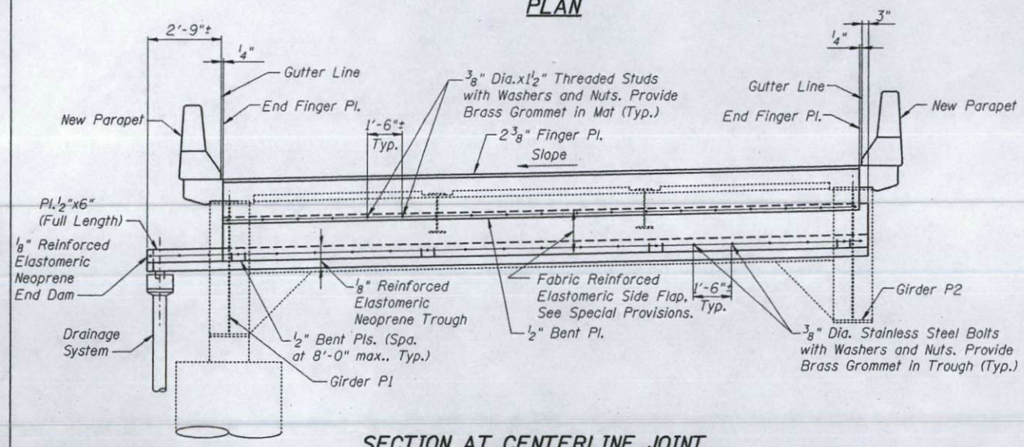
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	257
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 19
51 SHEETS

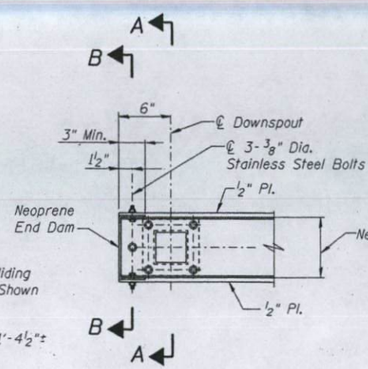
*(82-3HVB-2R-1)-2



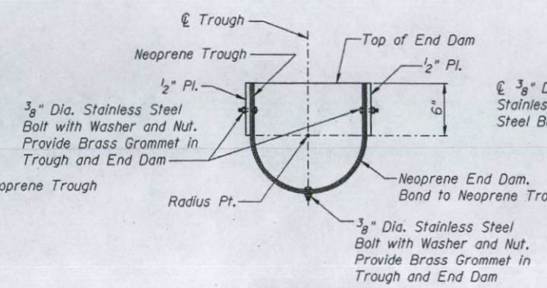
PLAN



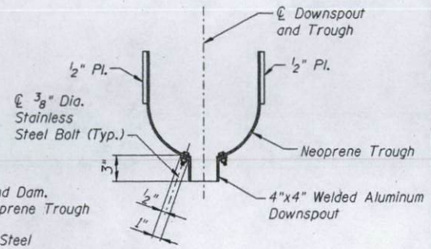
SECTION AT CENTERLINE JOINT
(Looking Ahead Station)



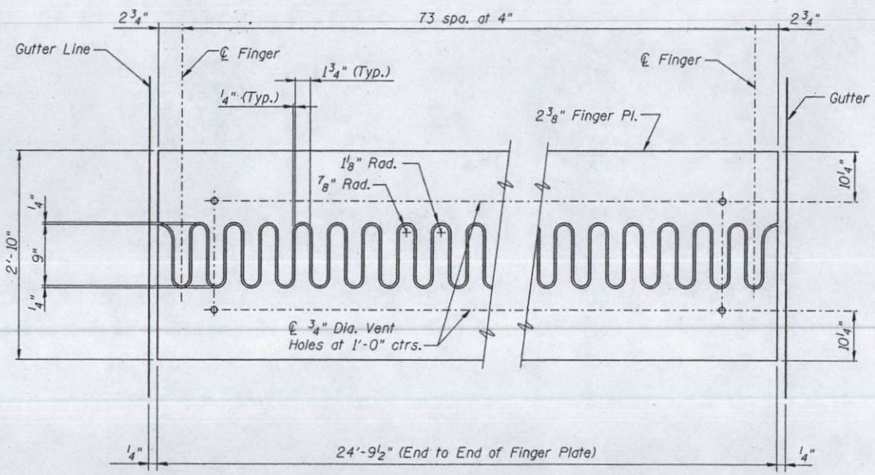
SECTION AT DOWNSPOUT



SECTION B-B

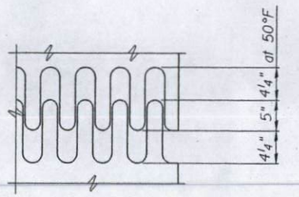


SECTION A-A



FINGER PLATE CUTTING DETAIL

Note: The 2 3/8" 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 1/4" for each 5° fall in Temperature.
Decrease Gap 1/4" 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 20.
3. For Drainage System Details, see Sheet 20A.

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 P - STRUCTURE NO. 082-0203
FINGER PLATE DETAILS
PIER P10
(FAI-55/70) ST. CLAIR CO.

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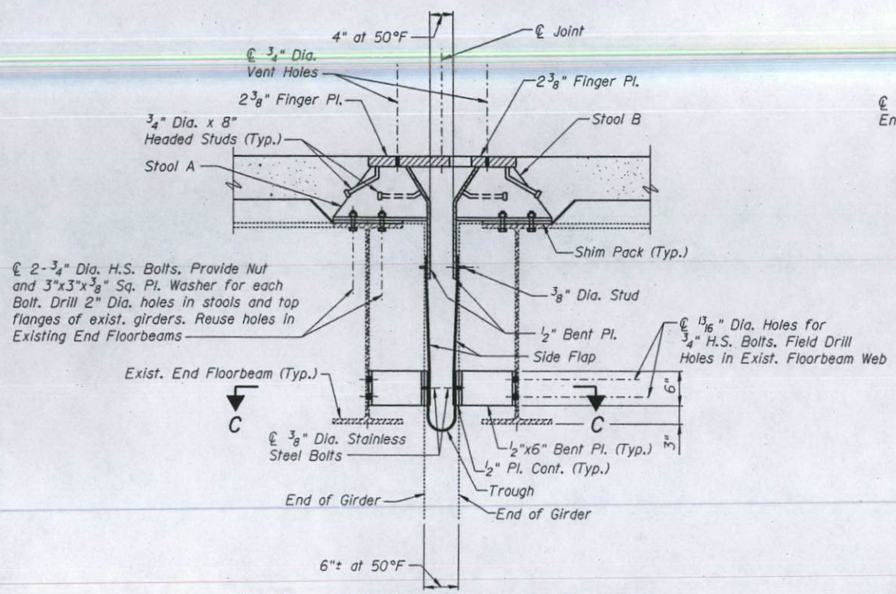
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	258
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

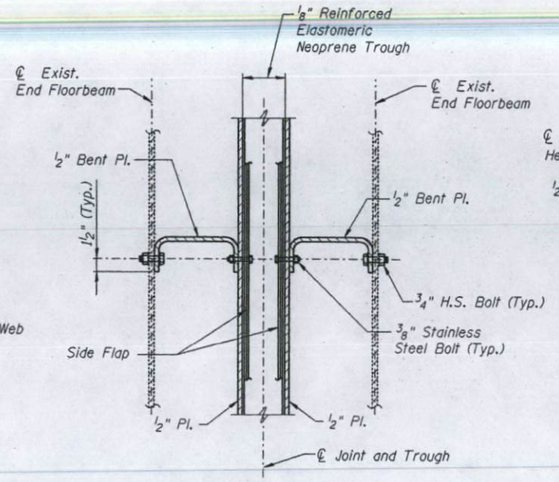
SHEET NO. 20
51 SHEETS

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

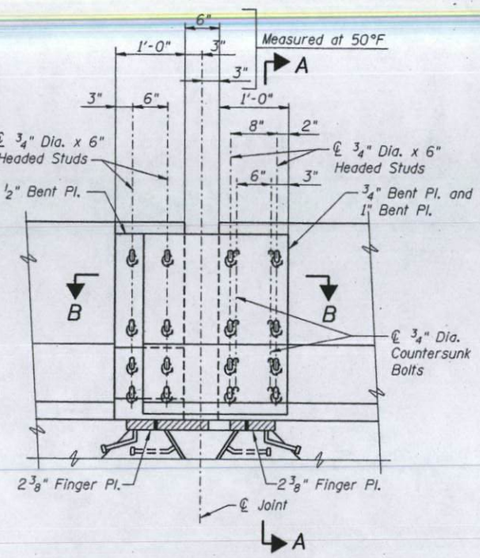


TYPICAL SECTION THRU FINGER PLATE

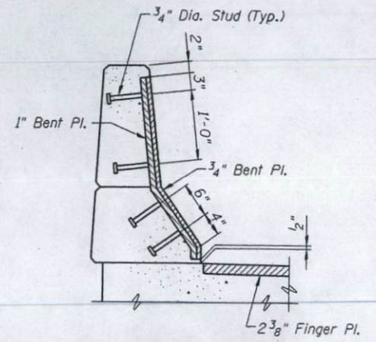
Note: The Shim Pack is to include 1/4" normal shim plus one 1/8" and one 1/16" shims for height adjustment.



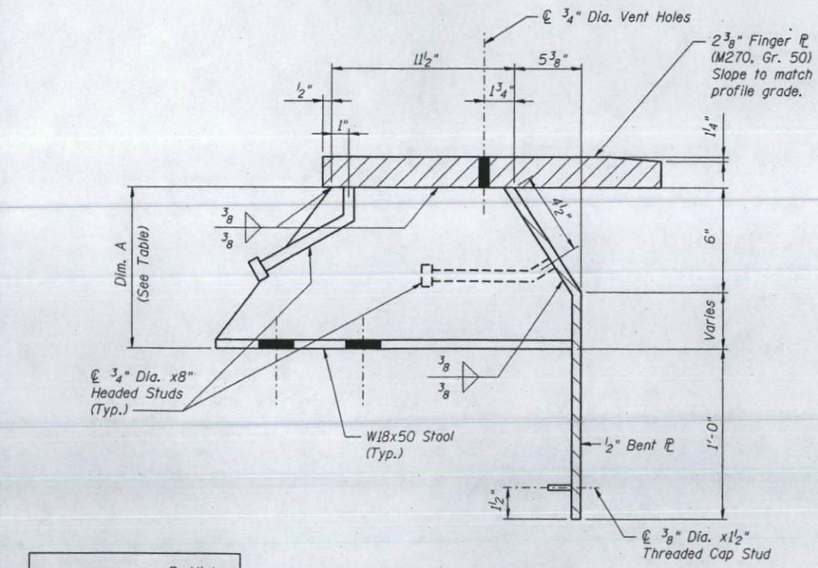
SECTION C-C



PARAPET SLIDING PLATE DETAIL



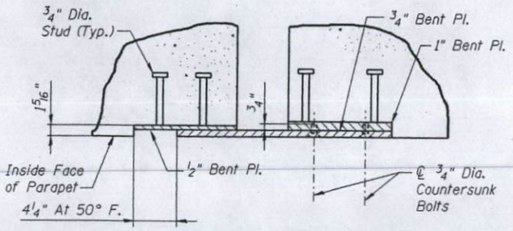
SECTION A-A



TYPICAL STOOL DETAIL

Stool A Shown, Stool B Similar

THEORETICAL STOOL HEIGHT			
STOOL	DIM. A	STOOL	DIM. A
A1	9 3/8"	B1	9 1/2"
A2	9 1/4"	B2	9 1/8"
A3	9 1/4"	B3	9 1/8"
A4	9 1/4"	B4	9 1/8"
A5	9 1/4"	B5	9 1/8"
A6	9 1/4"	B6	9 1/8"
A7	9 1/4"	B7	9 1/8"
A8	9 1/4"	B8	9 1/8"
A9	9 1/4"	B9	9 1/8"
A10	9 1/4"	B10	9 1/8"
A11	9 1/4"	B11	9 1/8"
A12	9 1/4"	B12	9 1/8"
A13	9 1/4"	B13	9 1/8"
A14	9 3/8"	B14	9 1/2"



SECTION B-B

NOTES

1. For General Notes, see Sheet 2.
2. The Expansion Device shall be fabricated to fit the roadway grade and cross slope.
3. 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 P - STRUCTURE NO. 082-0203
FINGER PLATE DETAILS
PIER P10
(FAI-70) ST. CLAIR CO.

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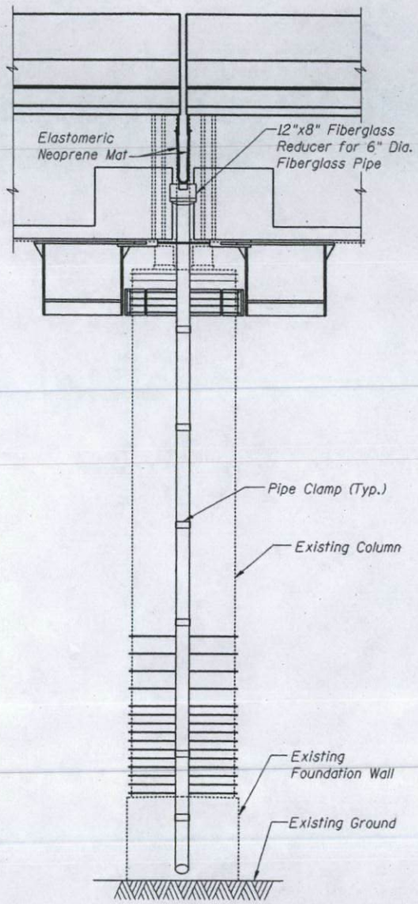
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

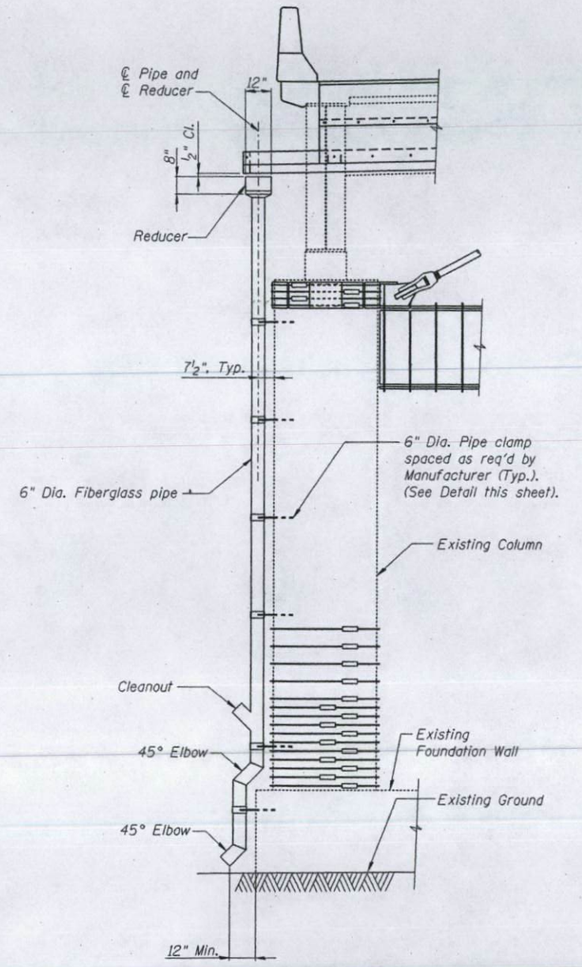
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	259
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 20A
51 SHEETS

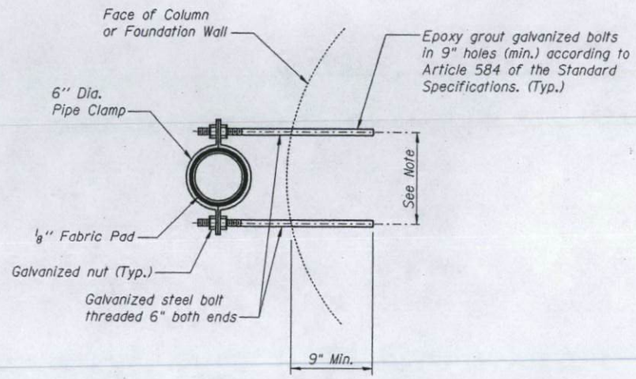
*(82-3HVB-2R-1)-2



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 P - STRUCTURE NO. 082-0203
DRAINAGE SYSTEM AT FINGER PLATE
PIER P10
(FAI-70) ST. CLAIR CO.

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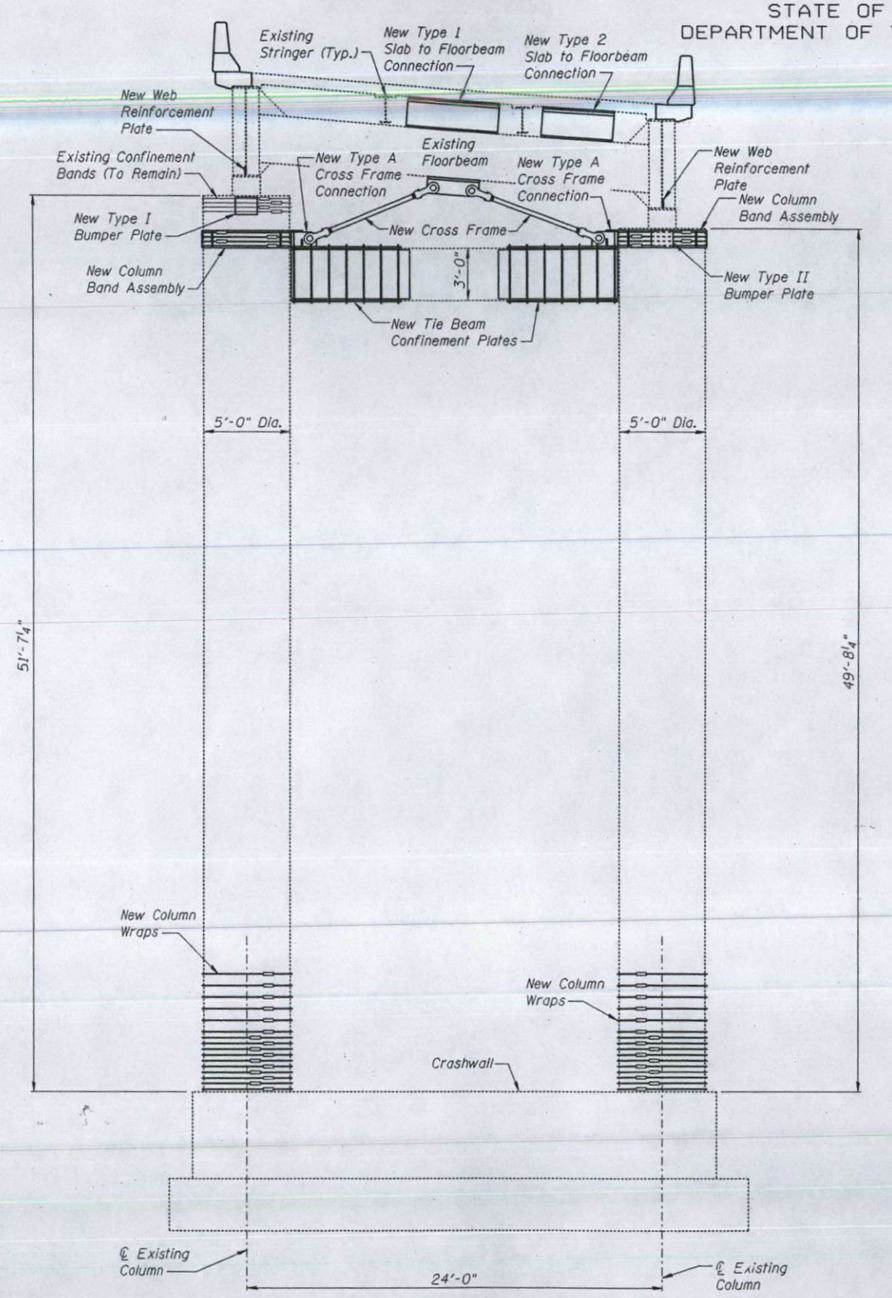
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

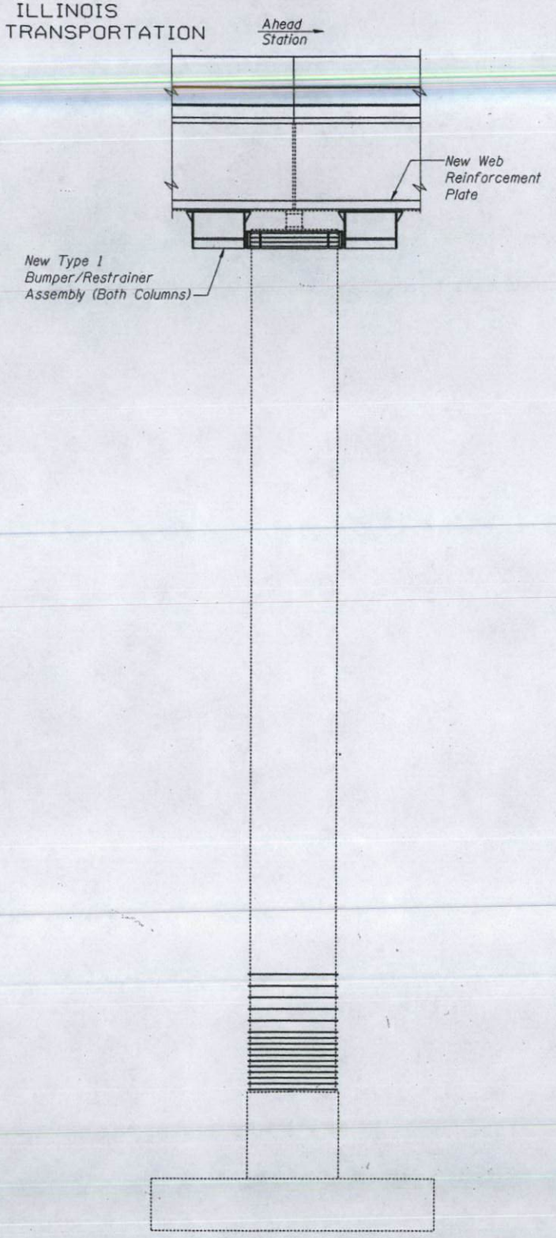
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	260
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 21
51 SHEETS

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



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



END VIEW

BILL OF MATERIAL - PIER P2

ITEM	UNIT	QUANTITY
Expansion Bolts (Special)	EACH	435
Column wrap	SQ. FT.	18

NOTES

1. For Cross Frame Details, see Sheets 43 and 44.
2. For Column Band Assembly Details, see Sheets 43 and 44.
3. For Slab to Floorbeam Connection Details, see Sheet 45.
4. For Bumper Plate Details, see Sheet 42.
5. For Bumper/Restatiner Assembly Details, see Sheets 40 and 41.
6. For Column Wrap Details, see Sheet 47.
7. For Web Reinforcement Plate Details, see Sheet 37.
8. For Tie Beam Confinement Plates, see Sheet 47.

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 P - STRUCTURE NO. 082-0203
RETROFIT AND SUBSTRUCTURE REPAIR
PIER P2
(FAI-70) ST. CLAIR CO.

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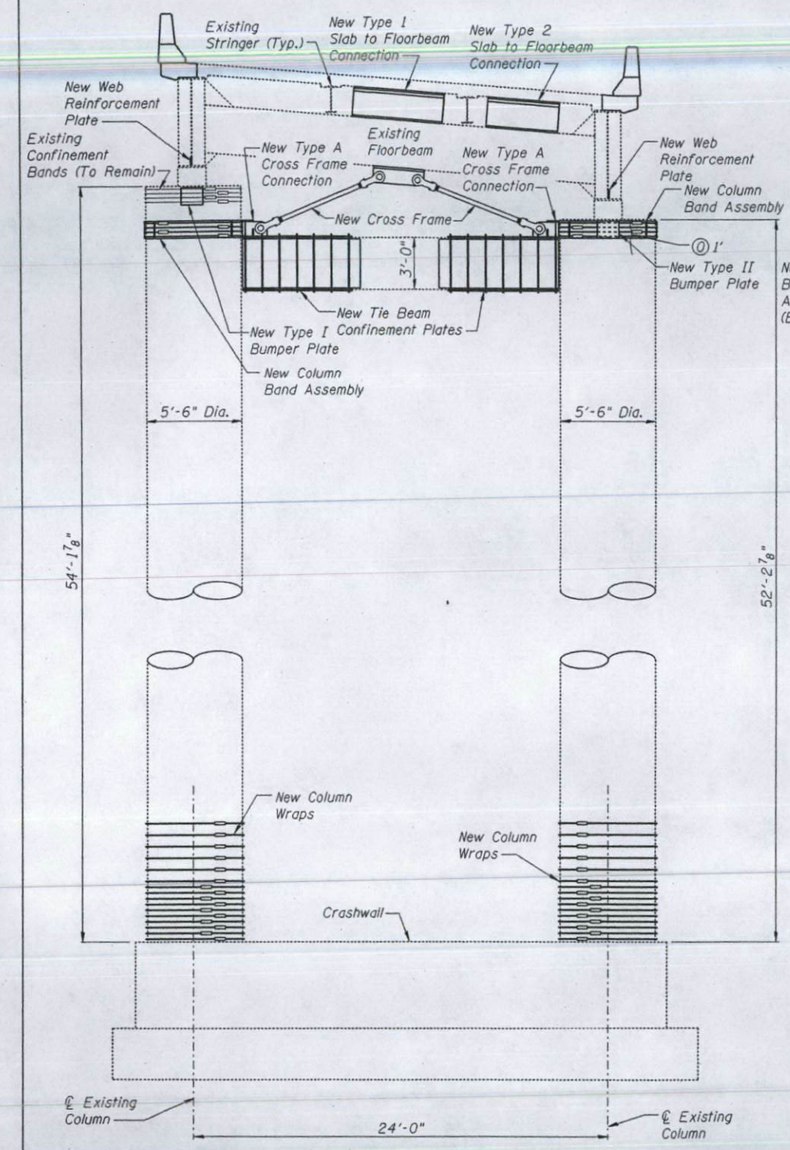
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

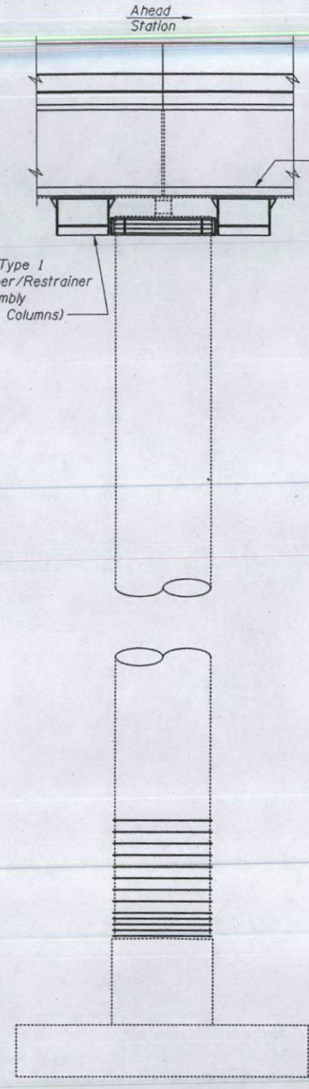
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	261
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 22
51 SHEETS

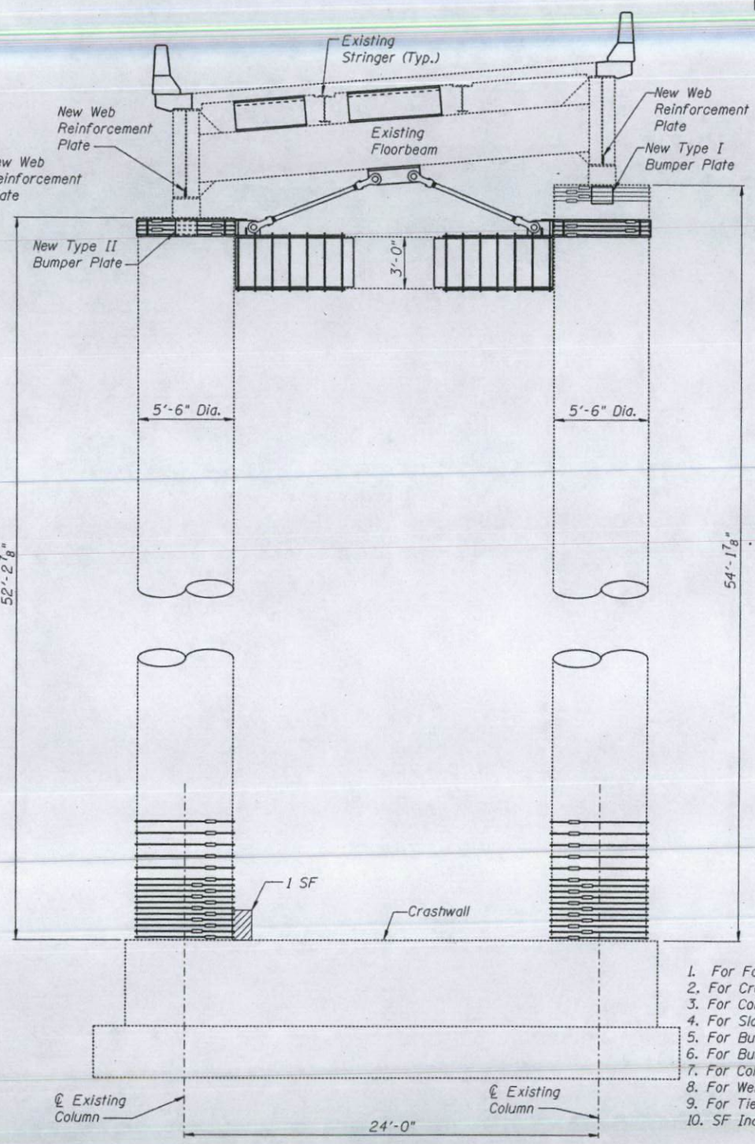
*(82-3HVB-2R-1)-2



ELEVATION
(Looking Ahead Station)



END VIEW



ELEVATION
(Looking Back Station)

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

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

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

BILL OF MATERIAL - PIER P3

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	478
Expansion Bolts (Special)	EACH	18
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	2

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

⓪ = Open Crack - Formed Concrete Repair (Depth ≤ 5")

NOTES

1. For Formed Concrete Repairs, see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper Plate Details, see Sheet 42.
6. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
7. For Column Wrap Details, see Sheet 47.
8. For Web Reinforcement Plate Details, see Sheet 37.
9. For Tie Beam Confinement Plates, see Sheet 47.
10. SF Indicates Square Foot.

REHABILITATION FOR FAI 55/70 COMPLEX RAMP P - STRUCTURE NO. 082-0203 RETROFIT AND SUBSTRUCTURE REPAIR PIER P3

(FAI-70) ST. CLAIR CO.

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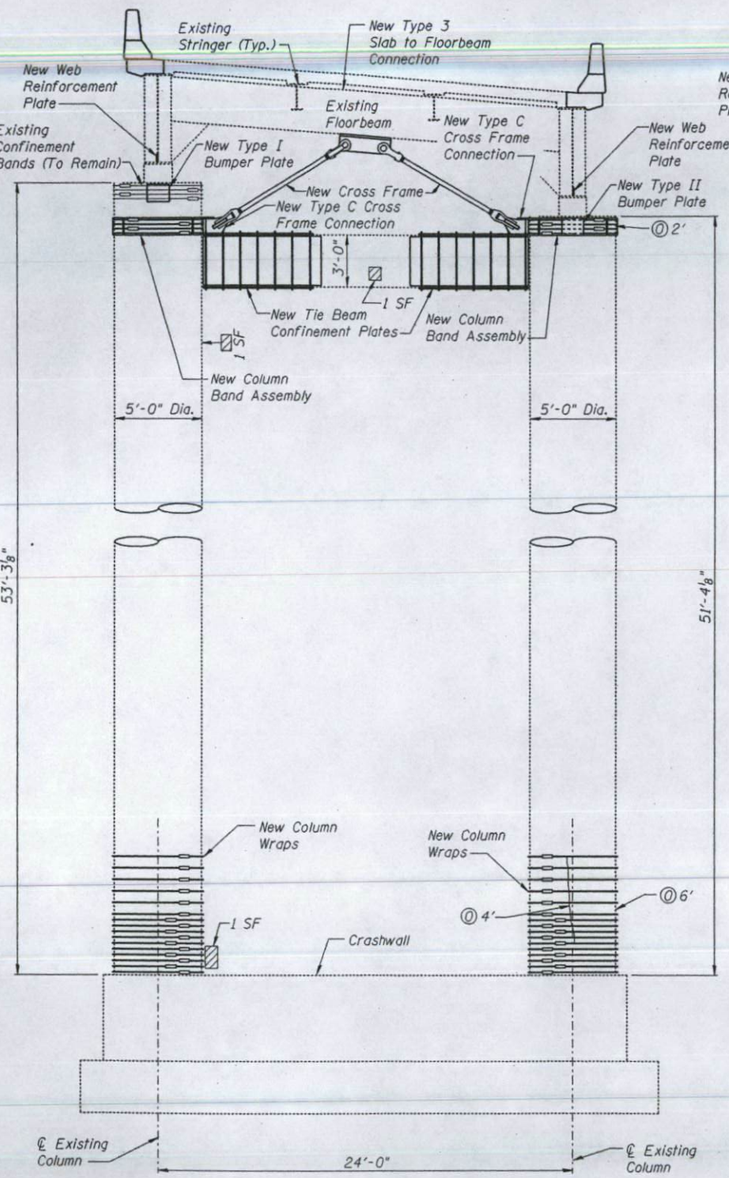
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

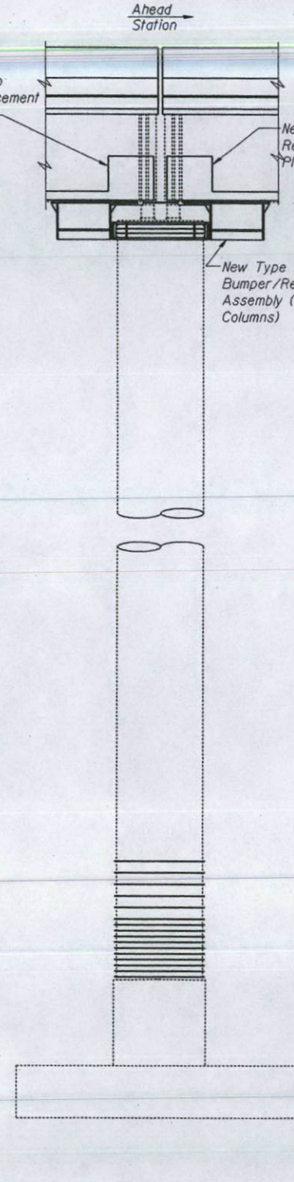
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	262
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 23
51 SHEETS

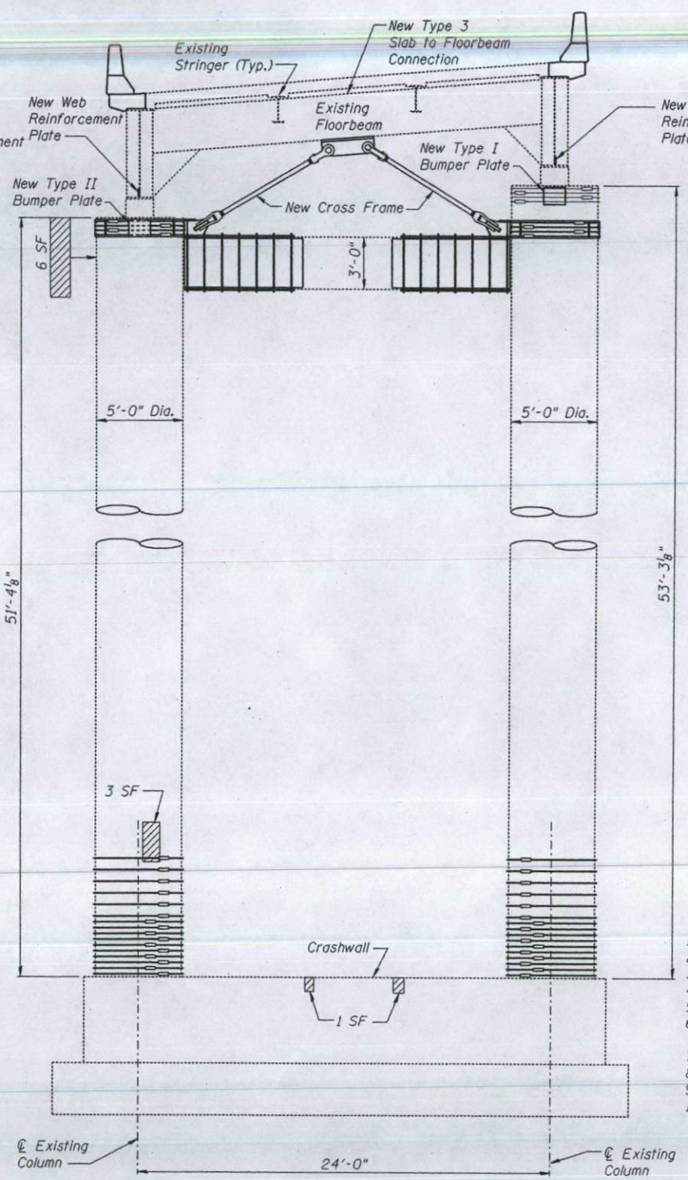
*(82-3HVB-2R-1)-2



ELEVATION
(Looking Ahead Station)



END VIEW



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

NOTES

1. For Formed Concrete Repairs, see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper Plate Details, see Sheet 42.
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7. For Column Wrap Details, see Sheet 47.
8. For Web Reinforcement Plate Details, see Sheet 37.
9. For Tie Beam Confinement Plates, see Sheet 47.
10. SF Indicates Square Foot.

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

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

BILL OF MATERIAL - PIER P4

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	435
Expansion Bolts (Special)	EACH	12
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	26

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

Ⓞ = Open Crack - Formed Concrete Repair (Depth ≤ 5")

REHABILITATION FOR FAI 55/70 COMPLEX RAMP P - STRUCTURE NO. 082-0203 RETROFIT AND SUBSTRUCTURE REPAIR PIER P4
(FAI-70) ST. CLAIR CO.

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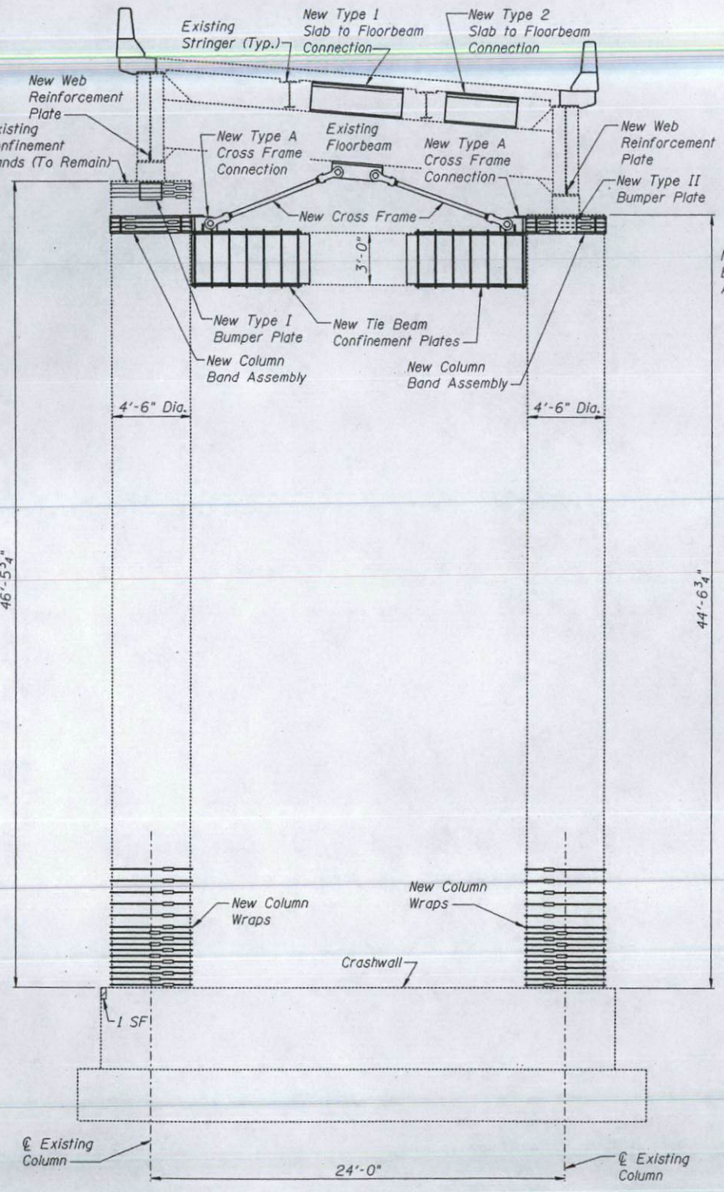
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

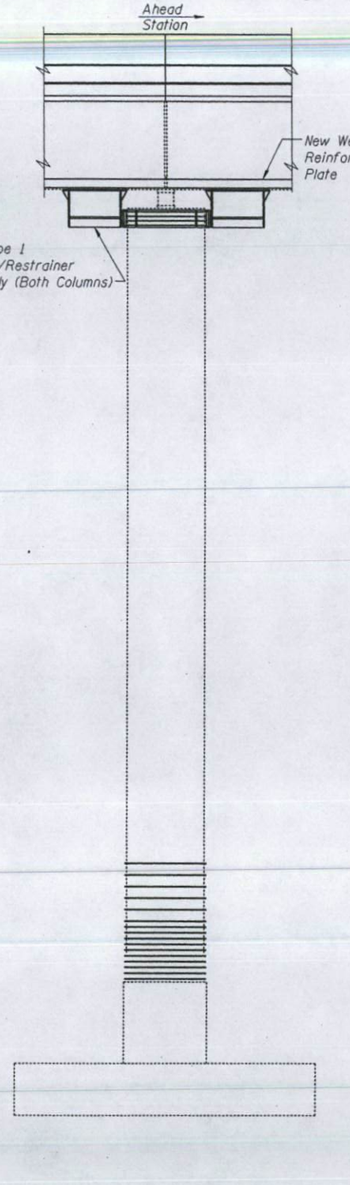
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	263
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 24
51 SHEETS

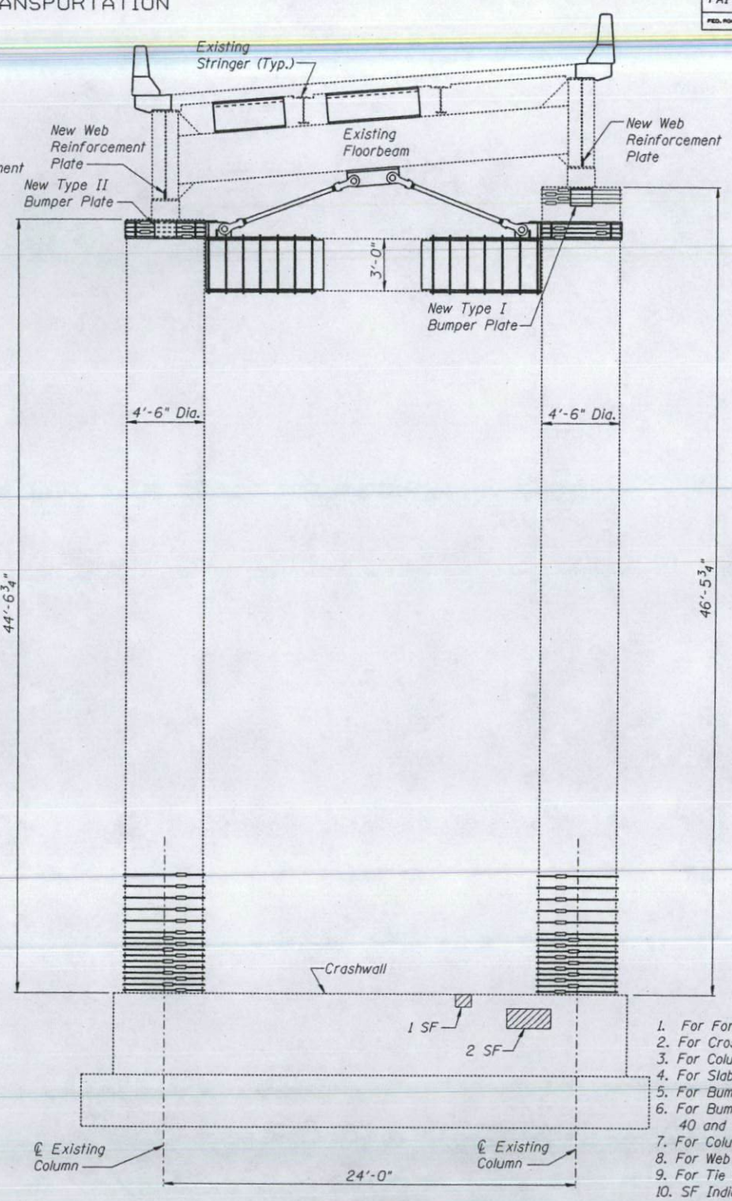
*(82-3HVB-2R-1)-2



ELEVATION
(Looking Ahead Station)



END VIEW



ELEVATION
(Looking Back Station)

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

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

NOTES

1. For Formed Concrete Repairs, see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper Plate Details, see Sheet 42.
6. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
7. For Column Wrap Details, see Sheet 47.
8. For Web Reinforcement Plate Details, see Sheet 37.
9. For Tie Beam Confinement Plates, see Sheet 47.
10. SF Indicates Square Foot.

BILL OF MATERIAL - PIER P5

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	391
Expansion Bolts (Special)	EACH	18
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	4

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 P - STRUCTURE NO. 082-0203 RETROFIT AND SUBSTRUCTURE REPAIR PIER P5

(FAI-70) ST. CLAIR CO.

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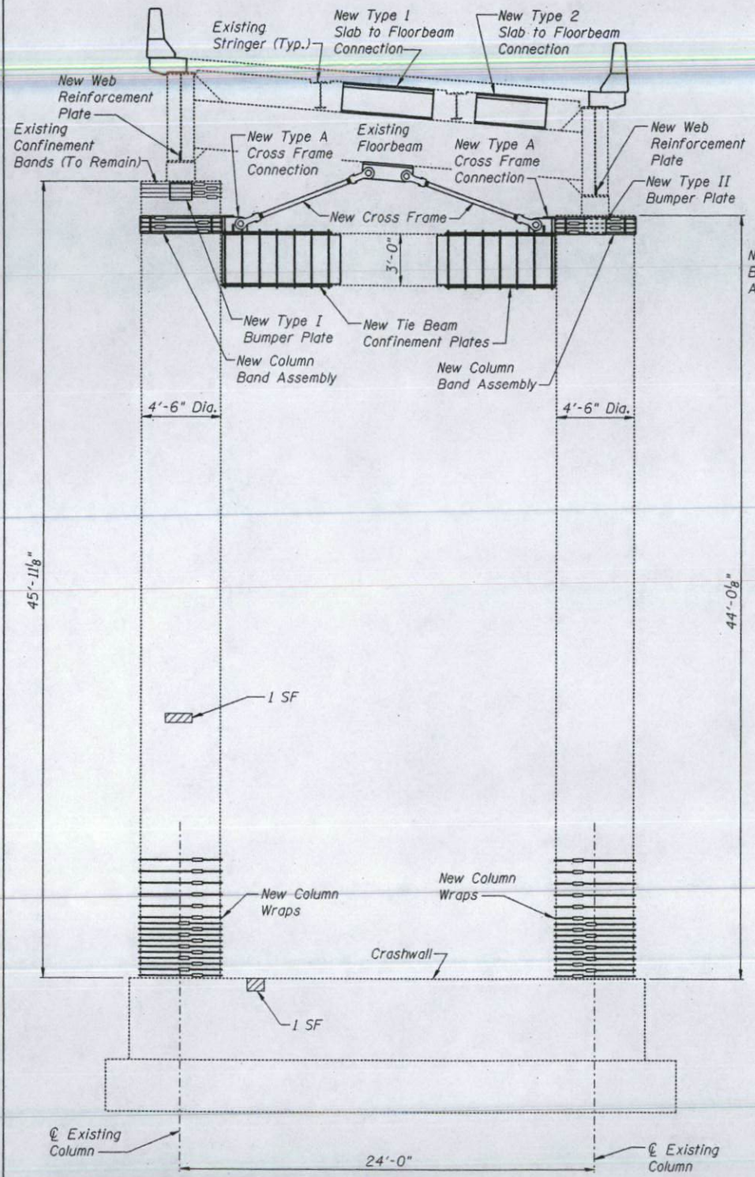
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

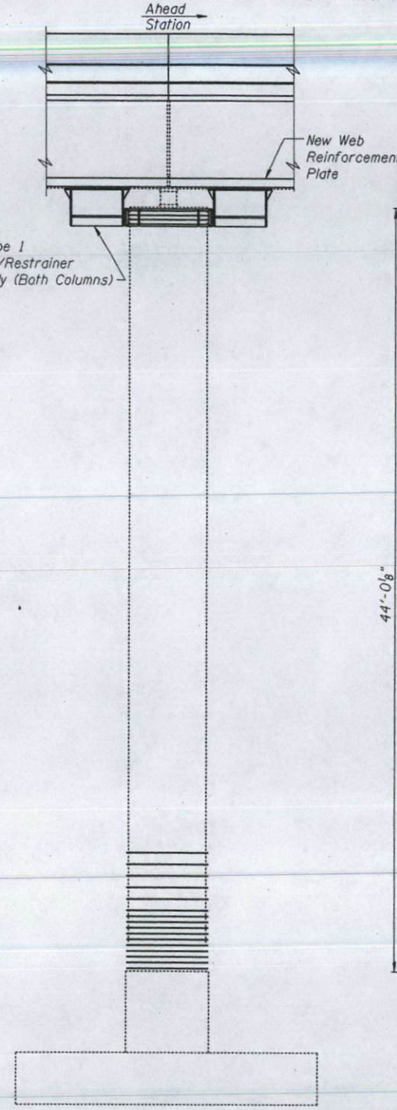
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	264
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 25
51 SHEETS

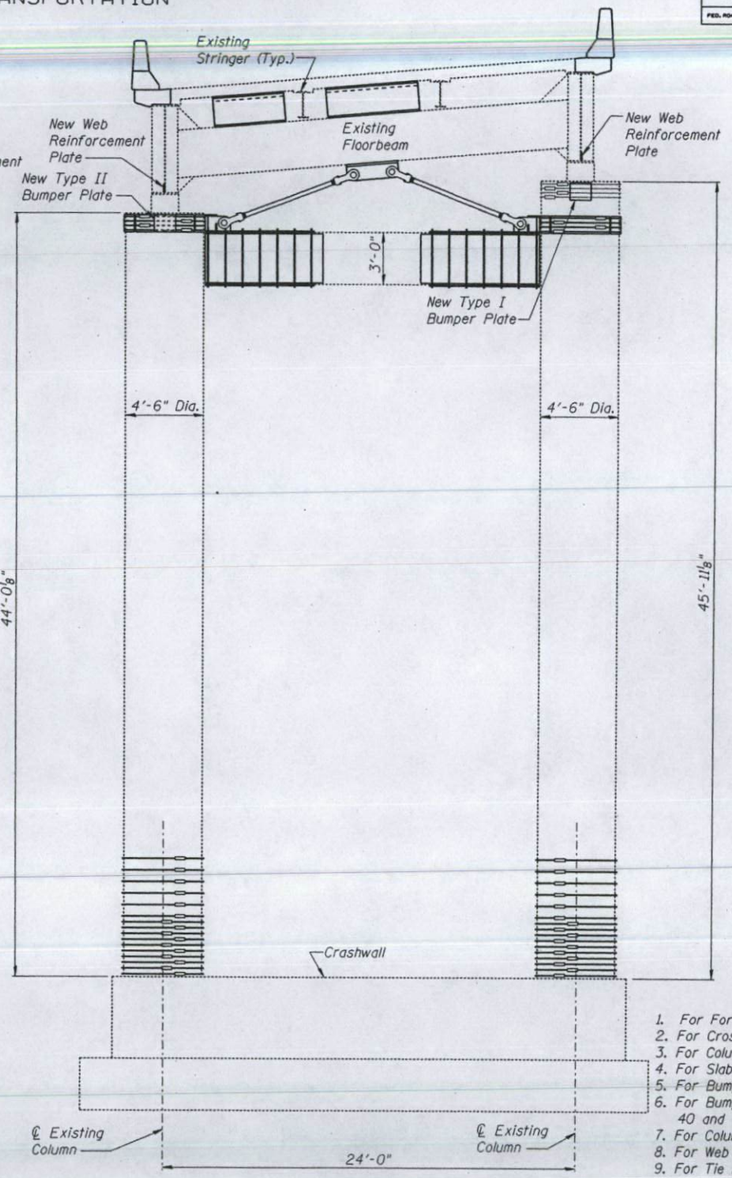
*(82-3HVB-2R-1)-2



ELEVATION
(Looking Ahead Station)



END VIEW



ELEVATION
(Looking Back Station)

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

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

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

BILL OF MATERIAL - PIER P6

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	391
Expansion Bolts (Special)	EACH	18
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	2

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

NOTES

1. For Formed Concrete Repairs, see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper Plate Details, see Sheet 42.
6. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
7. For Column Wrap Details, see Sheet 47.
8. For Web Reinforcement Plate Details, see Sheet 37.
9. For Tie Beam Confinement Plates, see Sheet 47.
10. SF Indicates Square Foot.

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
RETROFIT AND SUBSTRUCTURE REPAIR
PIER P6
(FAI-70) ST. CLAIR CO.

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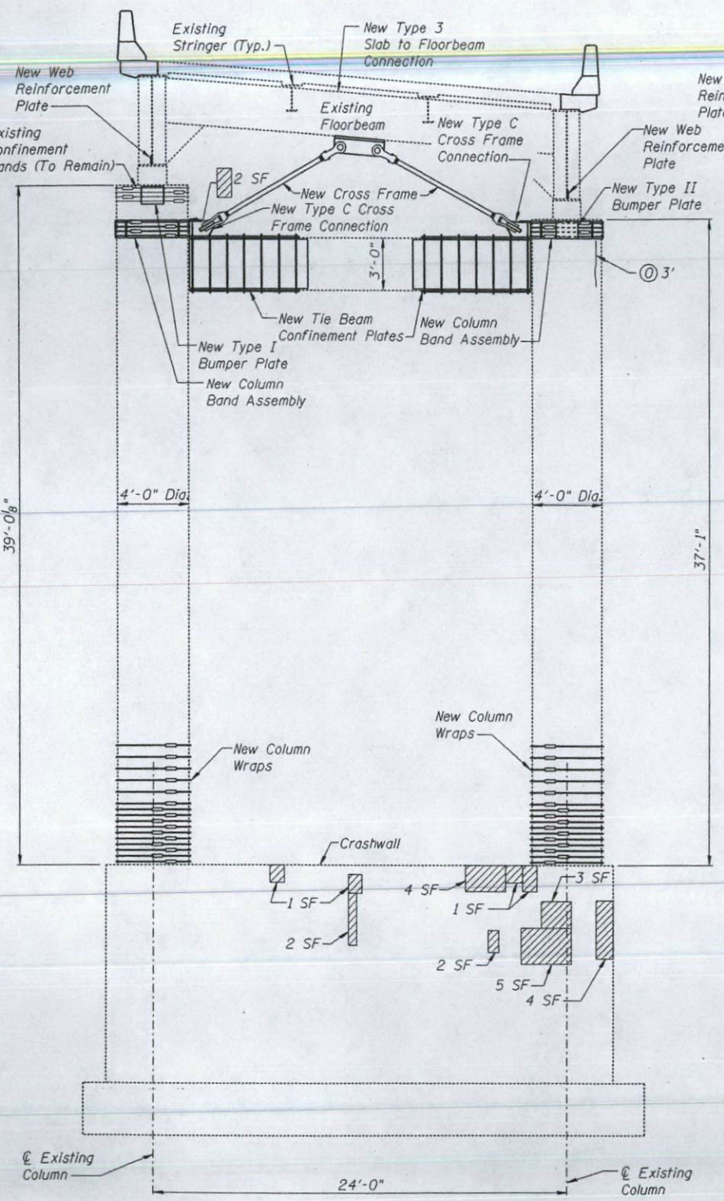
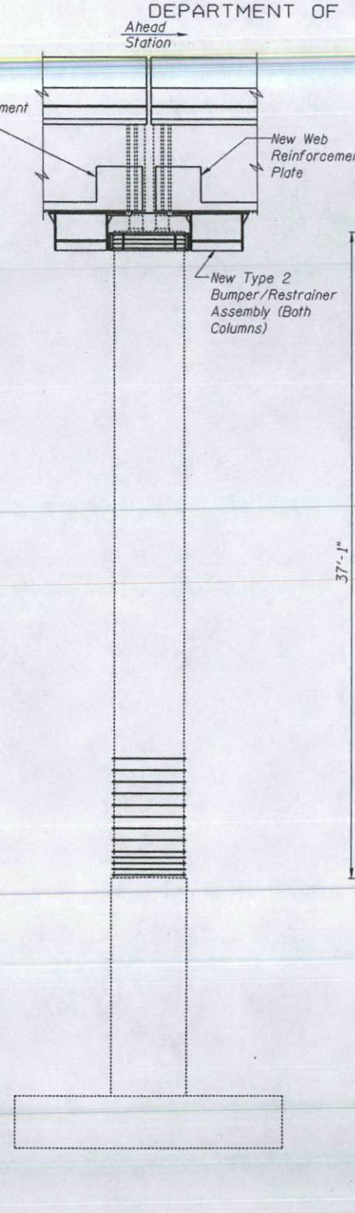
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	265
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 26
51 SHEETS
*(82-3HVB-2R-1)-2



ELEVATION
(Looking Ahead Station)



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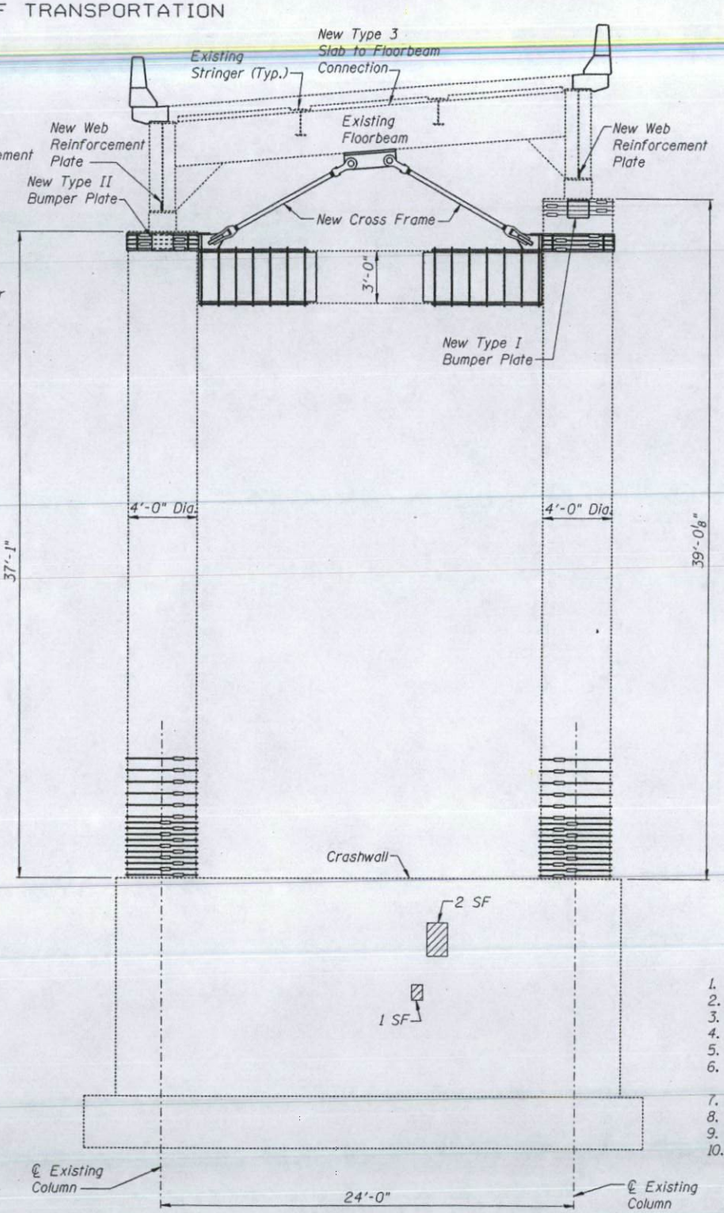

ELEVATION
(Looking Back Station)
Note: For seismic and redundancy information not shown, see "ELEVATION (Looking Ahead Station)".

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

NOTES

1. For Formed Concrete Repais, see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper Plate Details, see Sheet 42.
6. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
7. For Column Wrap Details, see Sheet 47.
8. For Web Reinforcement Plate Details, see Sheet 37.
9. For Tie Beam Confinement Plates, see Sheet 47.
10. SF Indicates Square Foot.

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

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

BILL OF MATERIAL - PIER P7

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	264
Expansion Bolts (Special)	EACH	12
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	32

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
RETROFIT AND SUBSTRUCTURE REPAIR
PIER P7
(FAI-70) ST. CLAIR CO.

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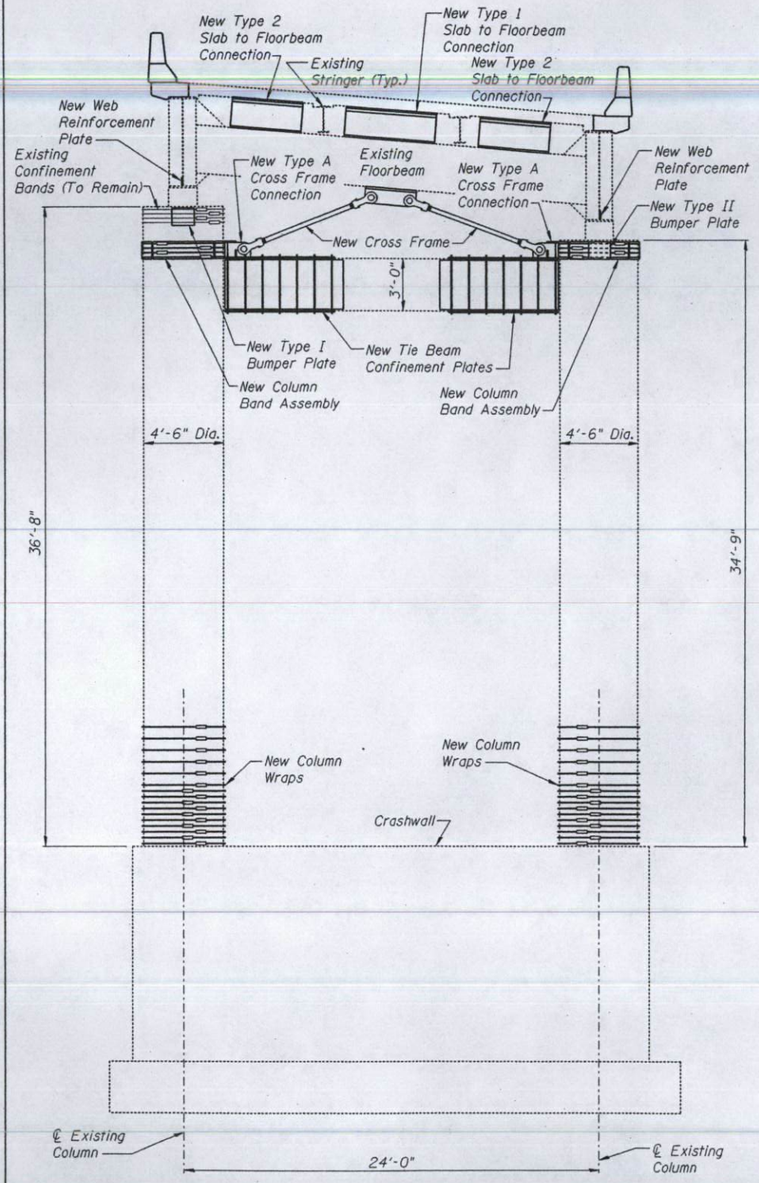
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

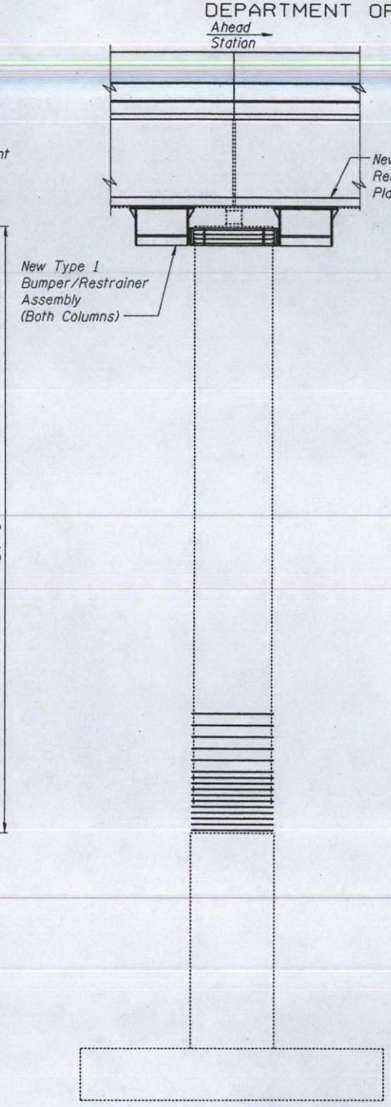
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	266
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 27
51 SHEETS

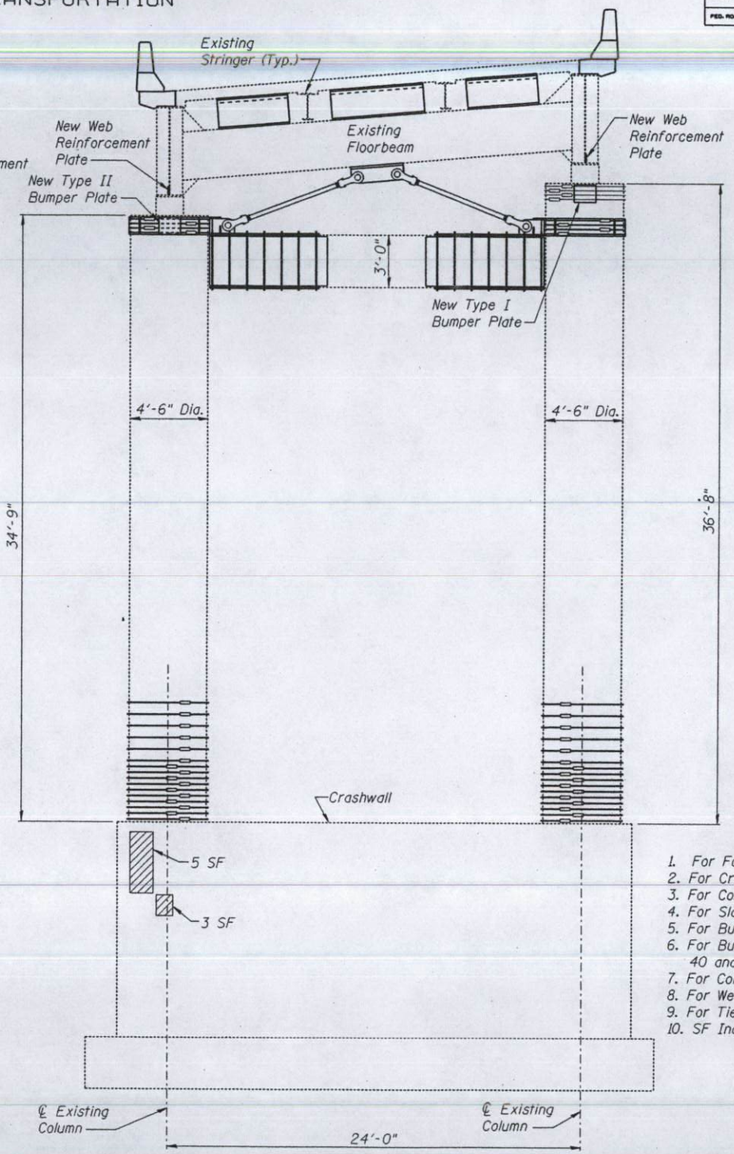
*(82-3HVB-2R-1)-2



ELEVATION
(Looking Ahead Station)



END VIEW



ELEVATION
(Looking Back Station)

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

NOTES

1. For Formed Concrete Repairs, see Special Provisions
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper Plate Details, see Sheet 42.
6. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
7. For Column Wrap Details, see Sheet 47.
8. For Web Reinforcement Plate Details, see Sheet 37.
9. For Tie Beam Confinement Plates, see Sheet 47.
10. SF Indicates Square Foot.

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

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

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

BILL OF MATERIAL - PIER P8

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	297
Expansion Bolts (Special)	EACH	26
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	8

REHABILITATION FOR FAI 55/70 COMPLEX RAMP P - STRUCTURE NO. 082-0203 RETROFIT AND SUBSTRUCTURE REPAIR PIER P8

(FAI-70) ST. CLAIR CO.

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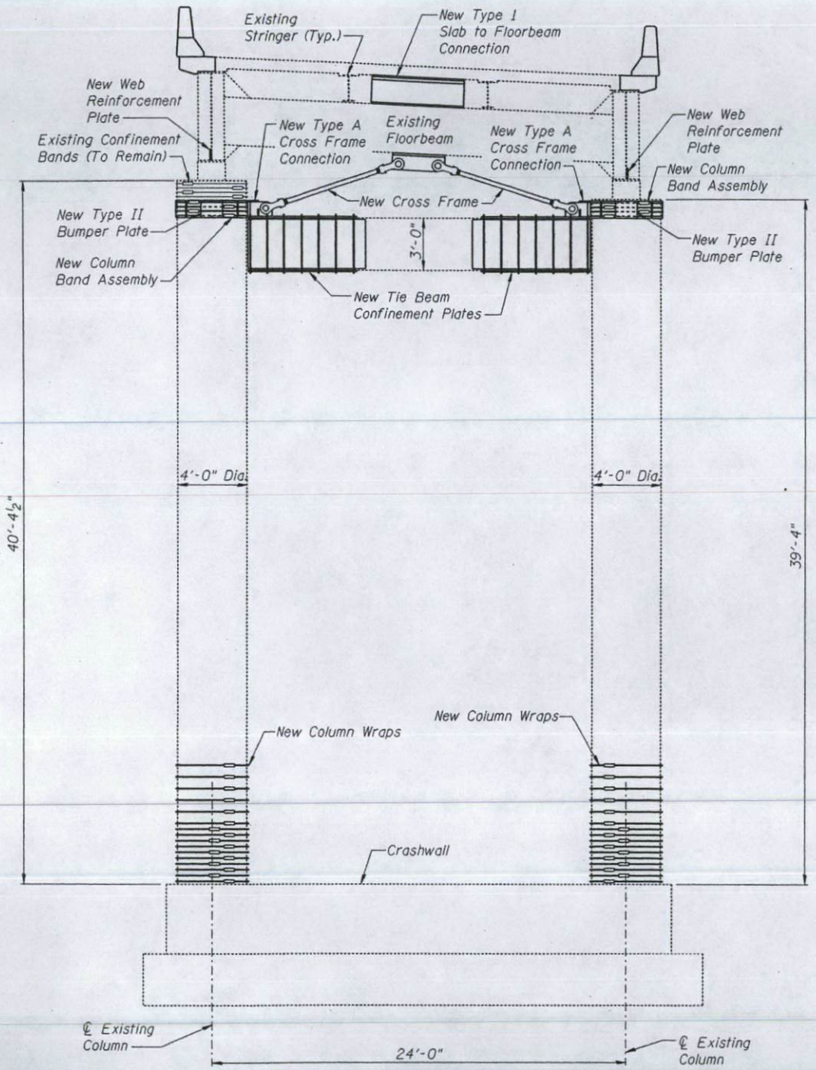
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

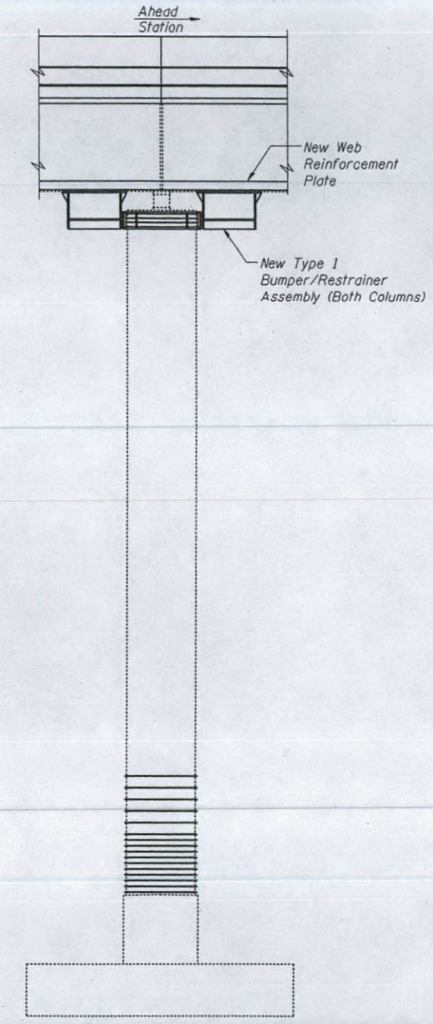
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	267
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 28
51 SHEETS

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



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



END VIEW

NOTES

1. For Cross Frame Details, see Sheets 43 and 44.
2. For Column Band Assembly Details, see Sheets 43 and 44.
3. For Slab to Floorbeam Connection Details, see Sheet 45.
4. For Bumper Plate Details, see Sheet 42.
5. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
6. For Column Wrap Details, see Sheet 47.
7. For Web Reinforcement Plate Details, see Sheet 37.
8. For Tie Beam Confinement Plates, see Sheet 47.

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

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

BILL OF MATERIAL - PIER P9

ITEM	UNIT	QUANTITY
Expansion Bolts (Special)	EACH	264
Column wrap	SQ. FT.	10

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
RETROFIT AND SUBSTRUCTURE REPAIR
PIER P9
(FAI-70) ST. CLAIR CO.

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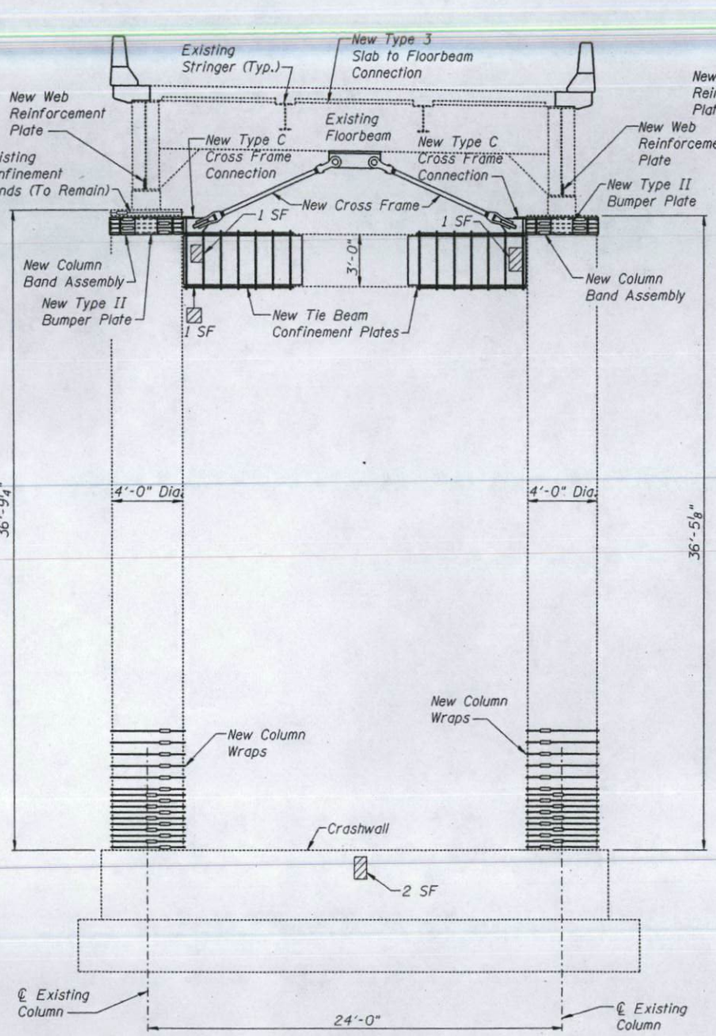
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

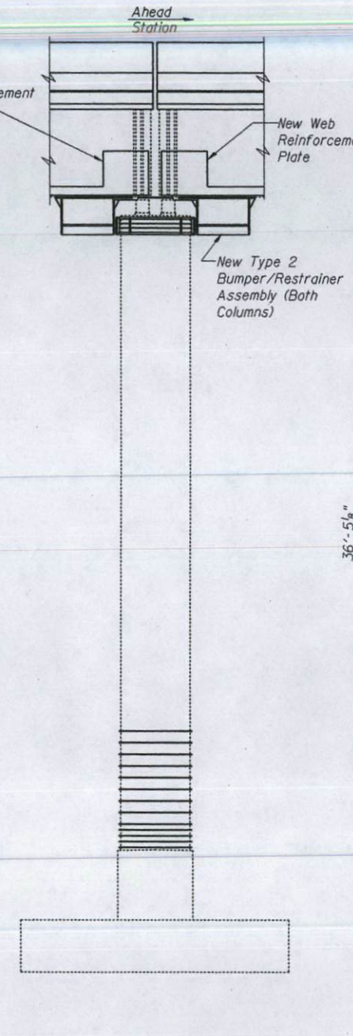
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	268
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 29
51 SHEETS

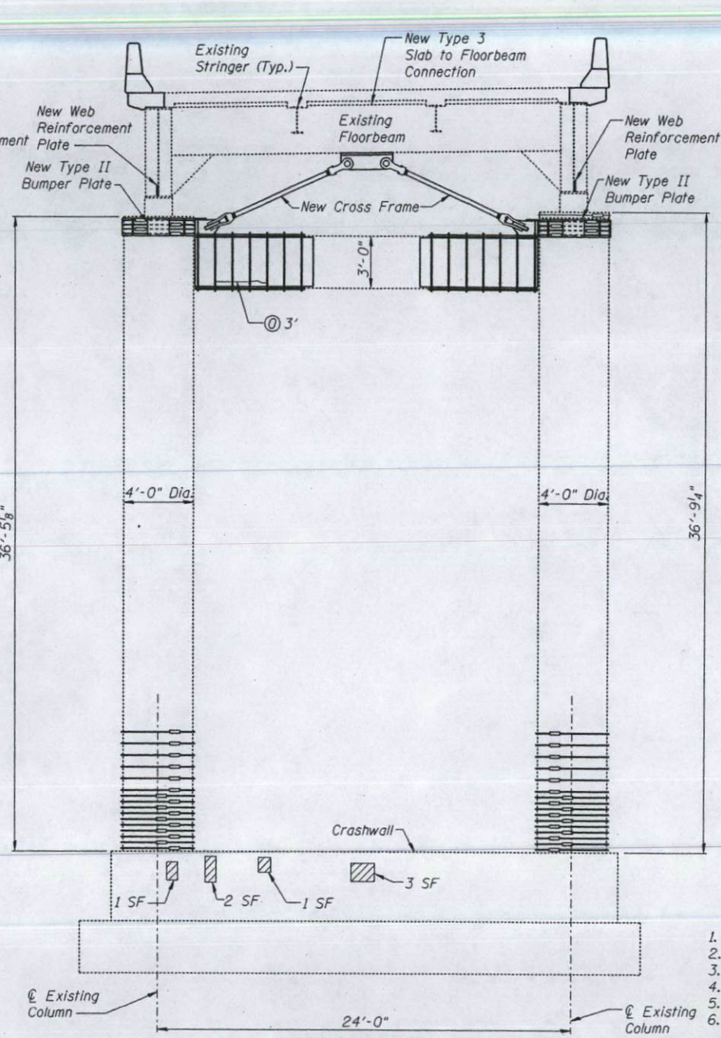
*(82-3HVB-2R-1)-2



ELEVATION
(Looking Ahead Station)



END VIEW



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

NOTES

1. For Formed Concrete Repairs, see Special Provisions
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper Plate Details, see Sheet 42.
6. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
7. For Column Wrap Details, see Sheet 47.
8. For Web Reinforcement Plate Details, see Sheet 37.
9. For Tie Beam Confinement Plates, see Sheet 47.
10. SF Indicates Square Foot.

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

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

BILL OF MATERIAL - PIER P10

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	264
Expansion Bolts (Special)	EACH	12
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	15

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

Ⓞ = Open Crack - Formed Concrete Repair (Depth ≤ 5")

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
RETROFIT AND SUBSTRUCTURE REPAIR
PIER P10
(FAI-70) ST. CLAIR CO.

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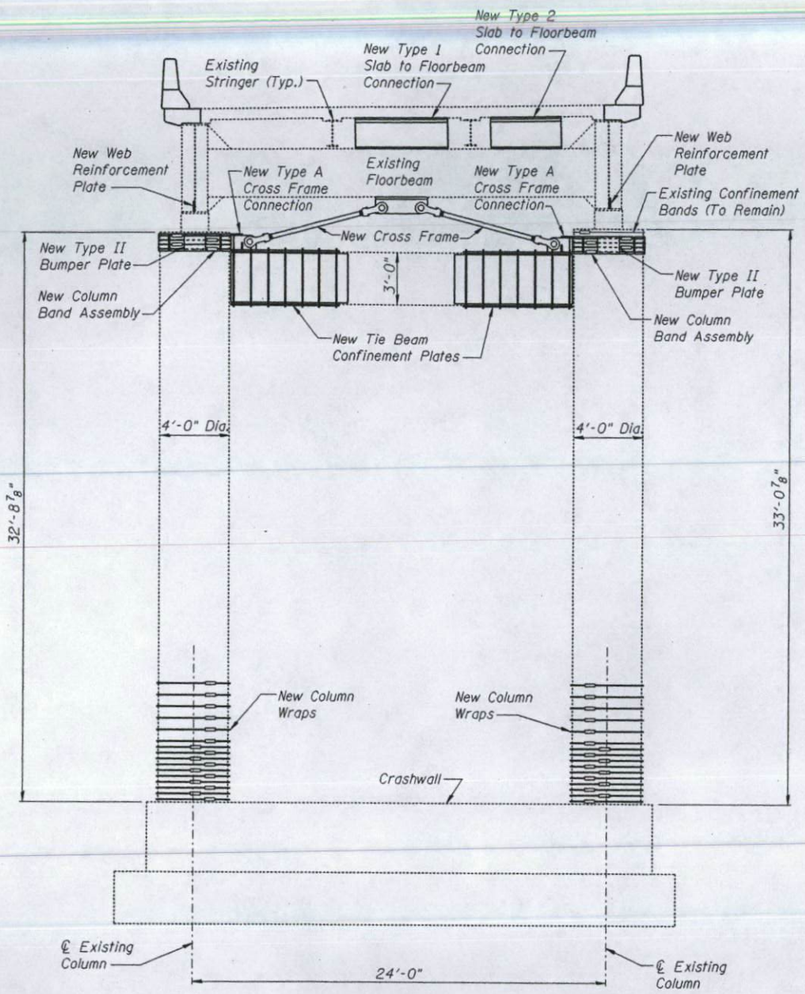
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	269
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 30
51 SHEETS

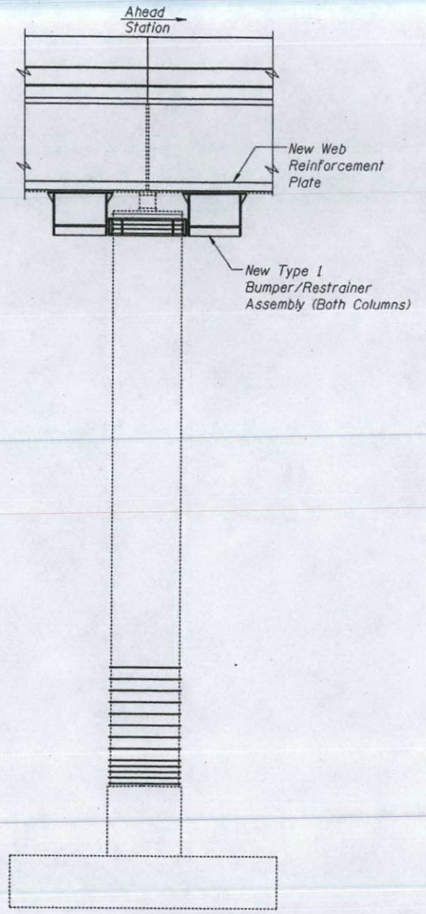
*(82-3HVB-2R-1)-2



ELEVATION

(Looking Ahead Station)

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



END VIEW

NOTES

1. For Cross Frame Details, see Sheets 43 and 44.
2. For Column Band Assembly Details, see Sheets 43 and 44.
3. For Slab to Floorbeam Connection Details, see Sheet 45.
4. For Bumper Plate Details, see Sheet 42.
5. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
6. For Column Wrap Details, see Sheet 47.
7. For Web Reinforcement Plate Details, see Sheet 37.
8. For Tie Beam Confinement Plates, see Sheet 47.

BILL OF MATERIAL - PIER P11		
ITEM	UNIT	QUANTITY
Expansion Bolts (Special)	EACH	230
Column wrap	SQ. FT.	18

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 P - STRUCTURE NO. 082-0203
RETROFIT AND SUBSTRUCTURE REPAIR
PIER P11
(FAI-70) ST. CLAIR CO.

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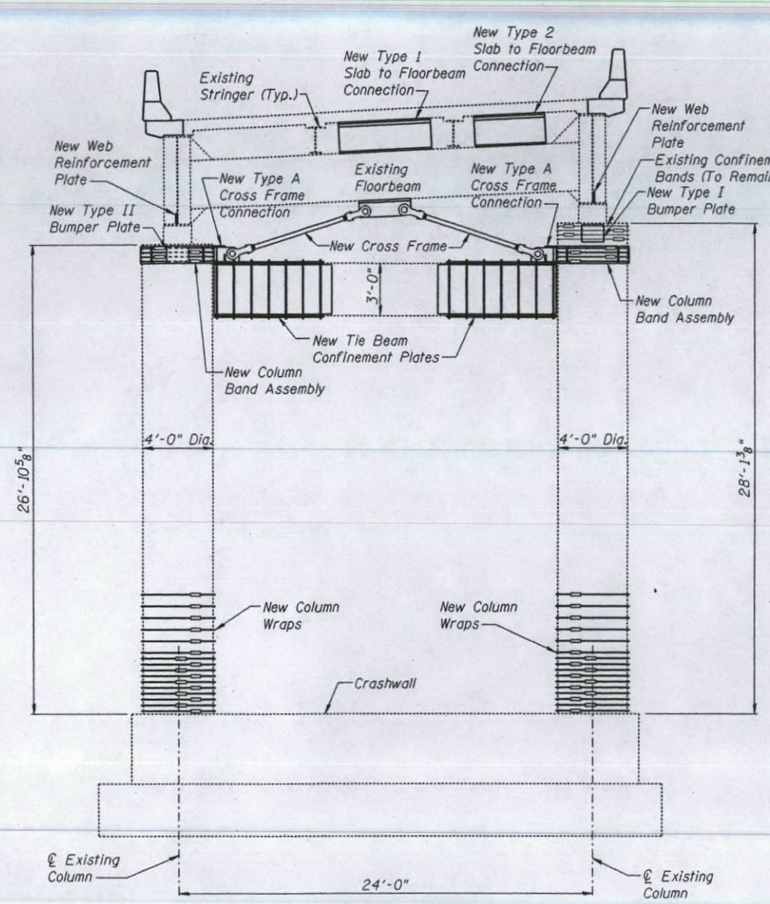
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

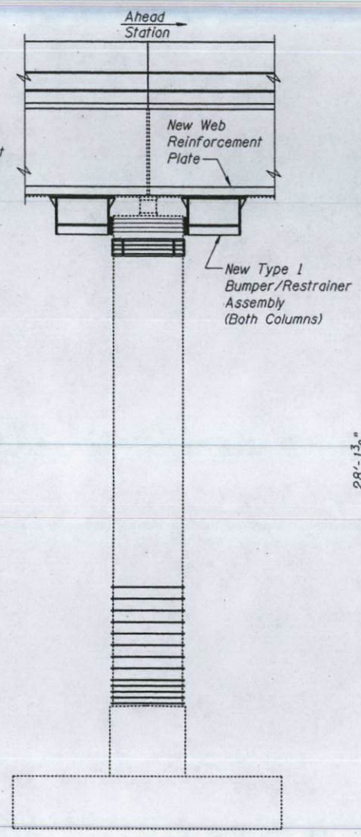
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	270
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 31
51 SHEETS

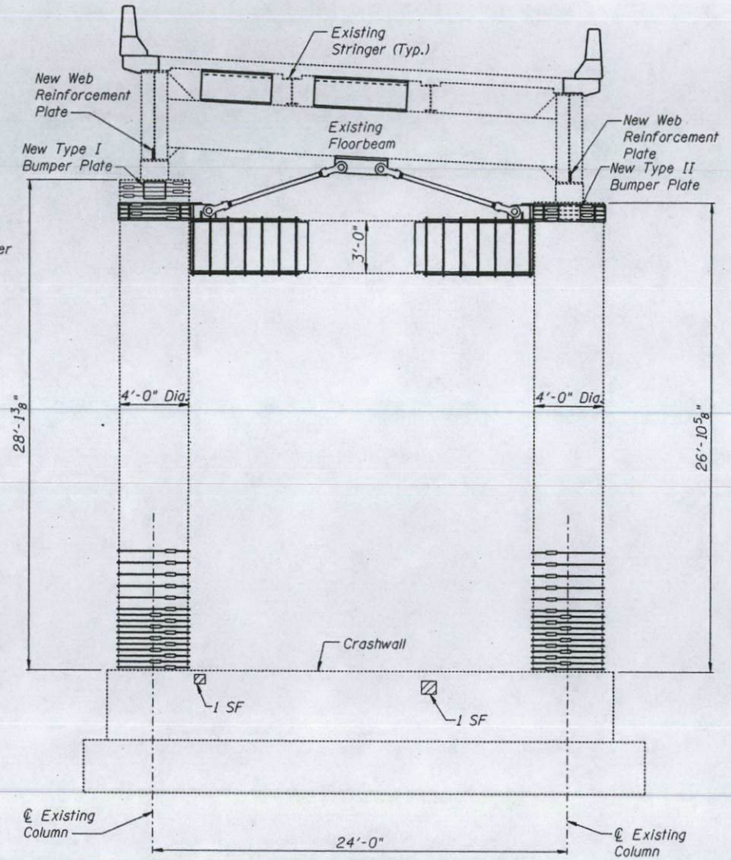
*(82-3HVB-2R-1)-2



ELEVATION
(Looking Ahead Station)



END VIEW



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

NOTES

1. For Formed Concrete Repairs, see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper Plate Details, see Sheet 42.
6. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
7. For Column Wrap Details, see Sheet 47.
8. For Web Reinforcement Plate Details, see Sheet 37.
9. For Tie Beam Confinement Plates, see Sheet 47.
10. SF Indicates Square Foot.

BILL OF MATERIAL - PIER P12

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	180
Expansion Bolts (Special)	EACH	18
Formed Concrete Repair (Depth ≤5")	SQ. FT.	2

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

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 P - STRUCTURE NO. 082-0203 RETROFIT AND SUBSTRUCTURE REPAIR PIER P12

(FAI-70) ST. CLAIR CO.

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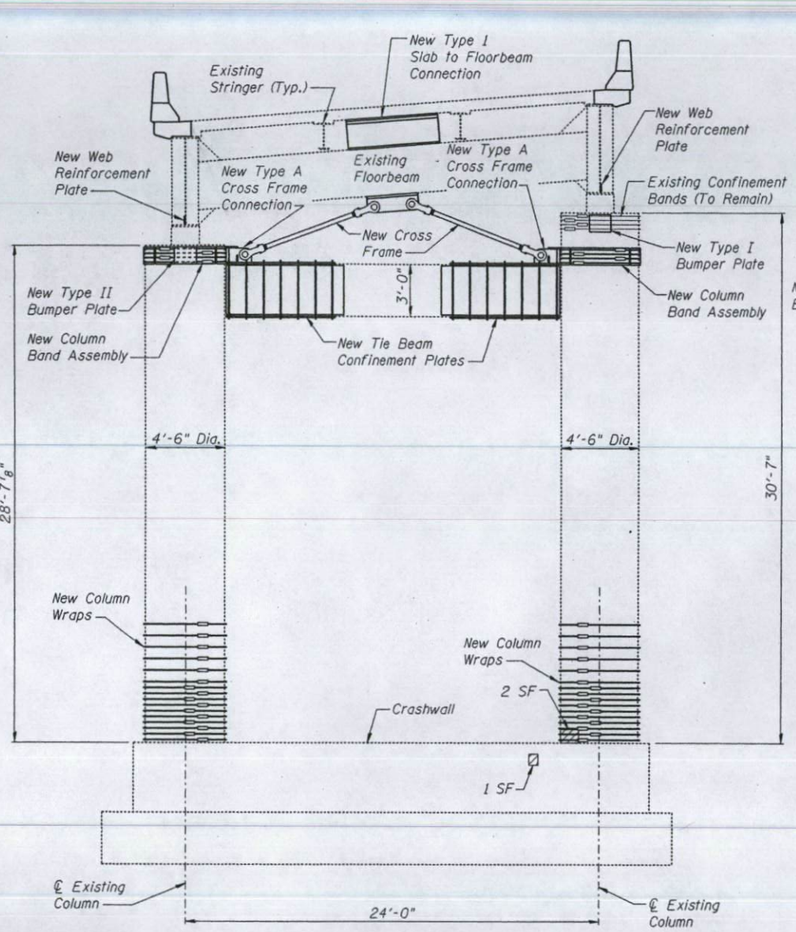
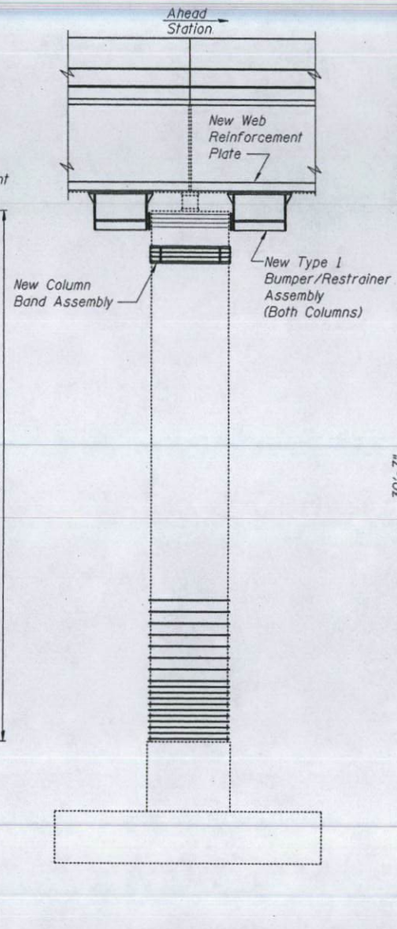
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	271
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

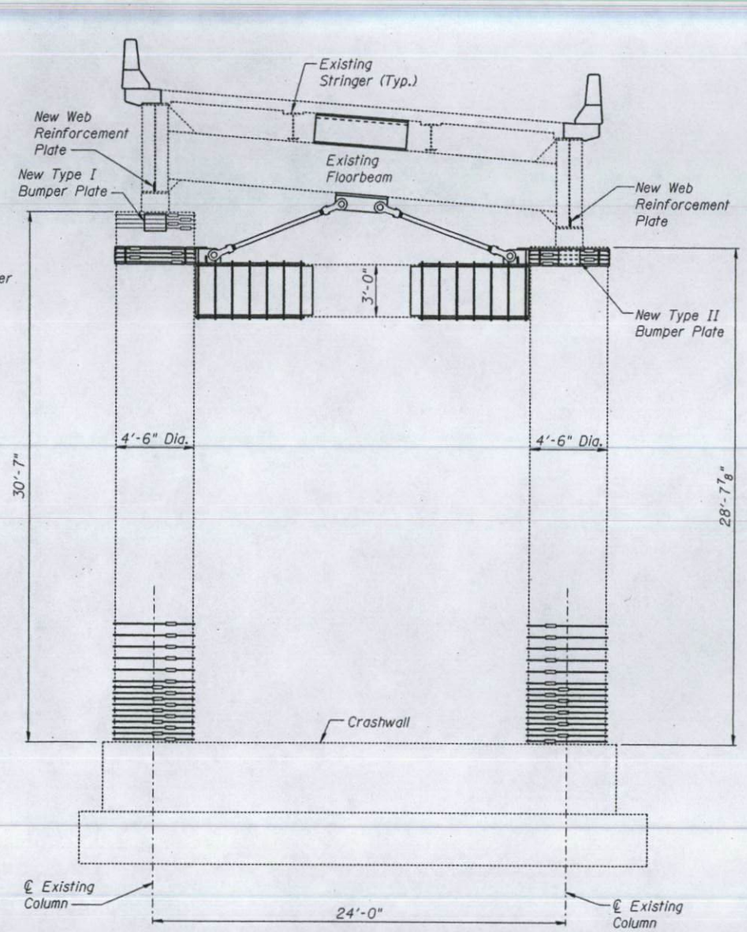
SHEET NO. 32
51 SHEETS
*(82-3HVB-2R-1)-2



ELEVATION
(Looking Ahead Station)



END VIEW



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

NOTES

1. For Formed Concrete Repairs, see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper Plate Details, see Sheet 42.
6. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
7. For Column Wrap Details, see Sheet 47.
8. For Web Reinforcement Plate Details, see Sheet 37.
9. For Tie Beam Confinement Plates, see Sheet 47.
10. SF Indicates Square Foot.

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

BILL OF MATERIAL - PIER P13		
ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	259
Expansion Bolts (Special)	EACH	10
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	3

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 P - STRUCTURE NO. 082-0203 RETROFIT AND SUBSTRUCTURE REPAIR PIER P13

(FAI-70) ST. CLAIR CO.

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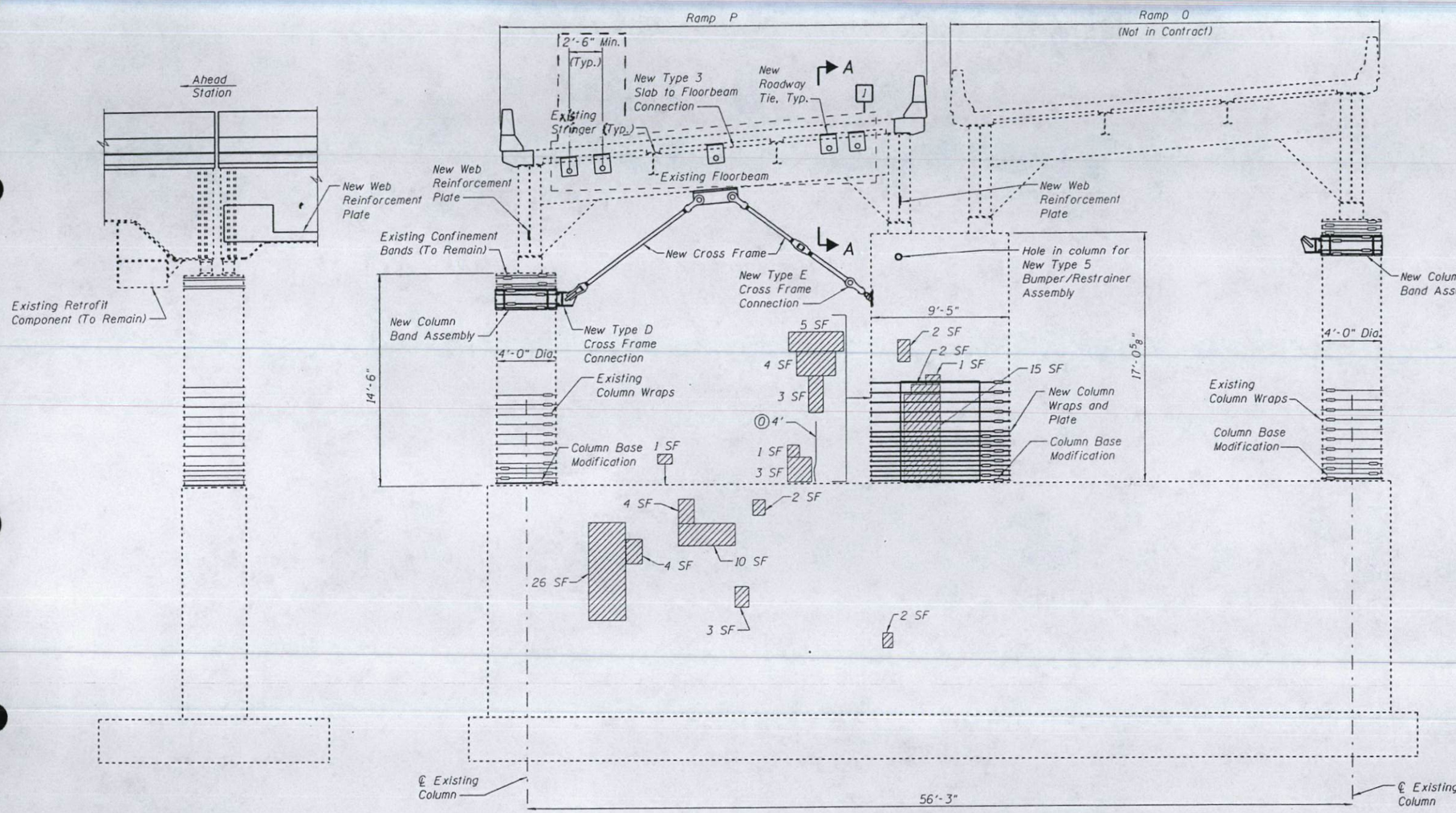
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	272
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

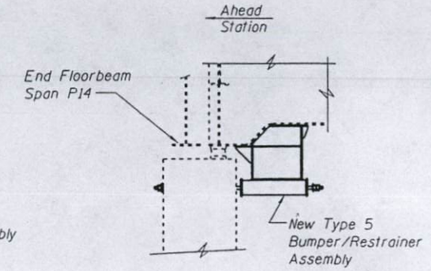
SHEET NO. 33
51 SHEETS

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



END VIEW

ELEVATION
(Looking Ahead Station)



SECTION A-A

NOTES

1. For Formed Concrete Repairs,see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
6. For Column Wrap Details, see Sheet 47.
7. For Column Base Modification Details, see Sheet 46.
8. For Roadway Tie Details, see Sheet 45.
9. For Web Reinforcement Plate Details, see Sheet 37.
10. SF Indicates Square Foot.

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

⓪ = Open Crack - Formed Concrete Repair (Depth ≤ 5")

BILL OF MATERIAL - PIER P14

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	152
Expansion Bolts (Special)	EACH	144
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	103
Foundation Wall Dowel Modification	EACH	3

[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 P - STRUCTURE NO. 082-0203 RETROFIT AND SUBSTRUCTURE REPAIR PIER P14

(FAI-70) ST. CLAIR CO.

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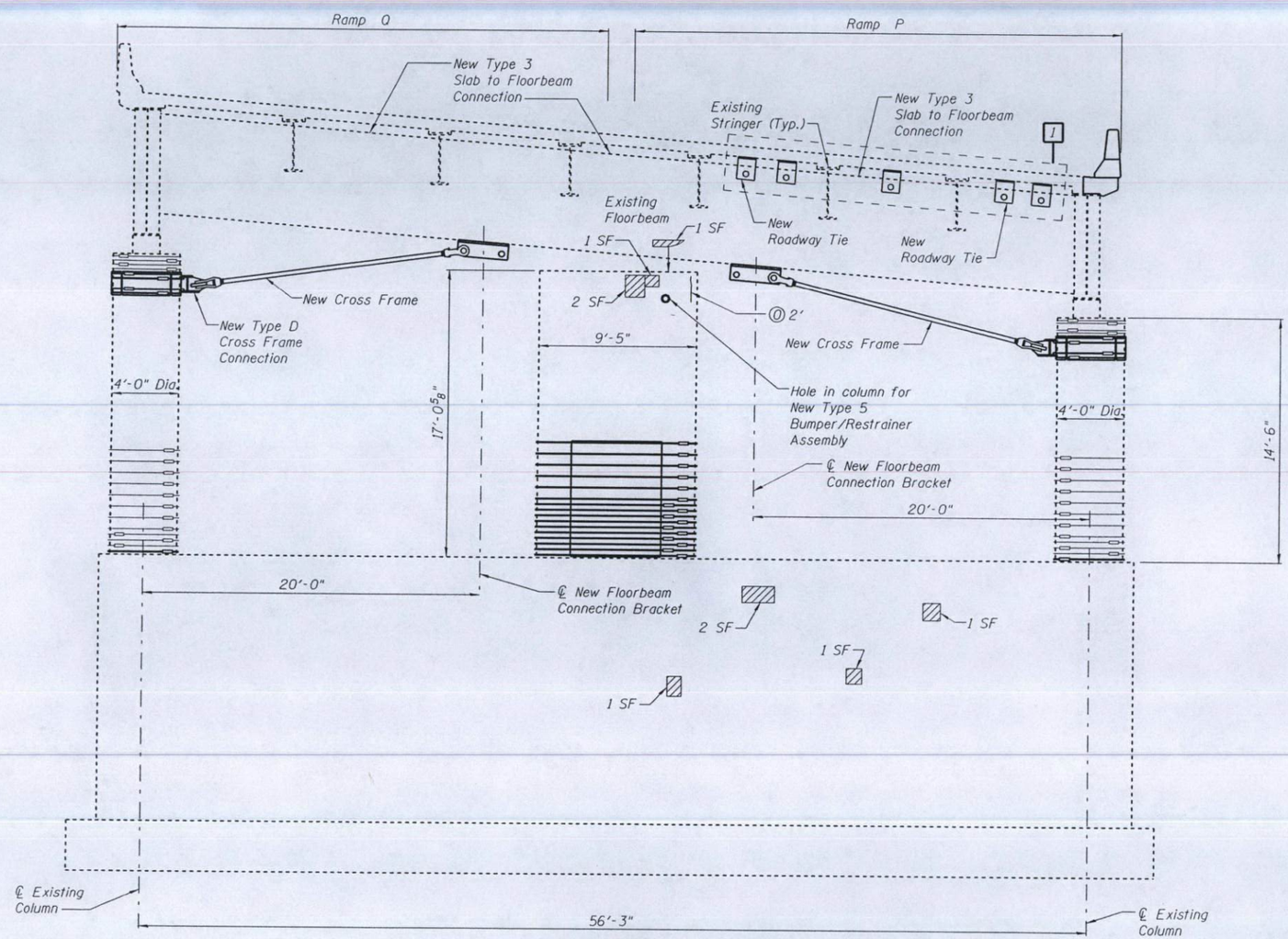
[1] REVISED 09-15-05, MRC

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	273
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 34
51 SHEETS

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



ELEVATION

(Looking Back Station)

Note: For seismic and redundancy information not shown, see "ELEVATION" on Sheet 33.

NOTES

1. For Formed Concrete Repairs, see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Column Band Assembly Details, see Sheets 43 and 44.
4. For Slab to Floorbeam Connection Details, see Sheet 45.
5. For Bumper/Restrainer Assembly Details, see Sheets 40 and 41.
6. For Column Wrap Details, see Sheet 47.
7. For Roadway Tie Details, see Sheet 45.
8. SF Indicates Square Foot.

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

Ⓞ = Open Crack - Formed Concrete Repair (Depth ≤ 5")

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

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

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REHABILITATION FOR FAI 55/70 COMPLEX RAMP P - STRUCTURE NO. 082-0203 RETROFIT AND SUBSTRUCTURE REPAIR PIER P14

(FAI-70) ST. CLAIR CO.

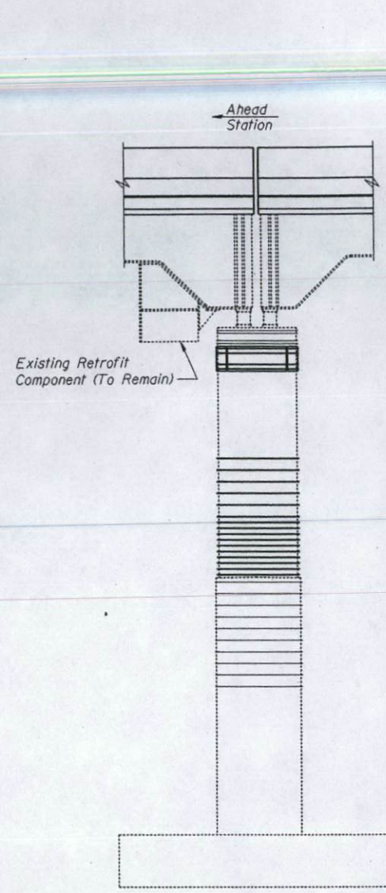
1 REVISED 09-15-05, MRC

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

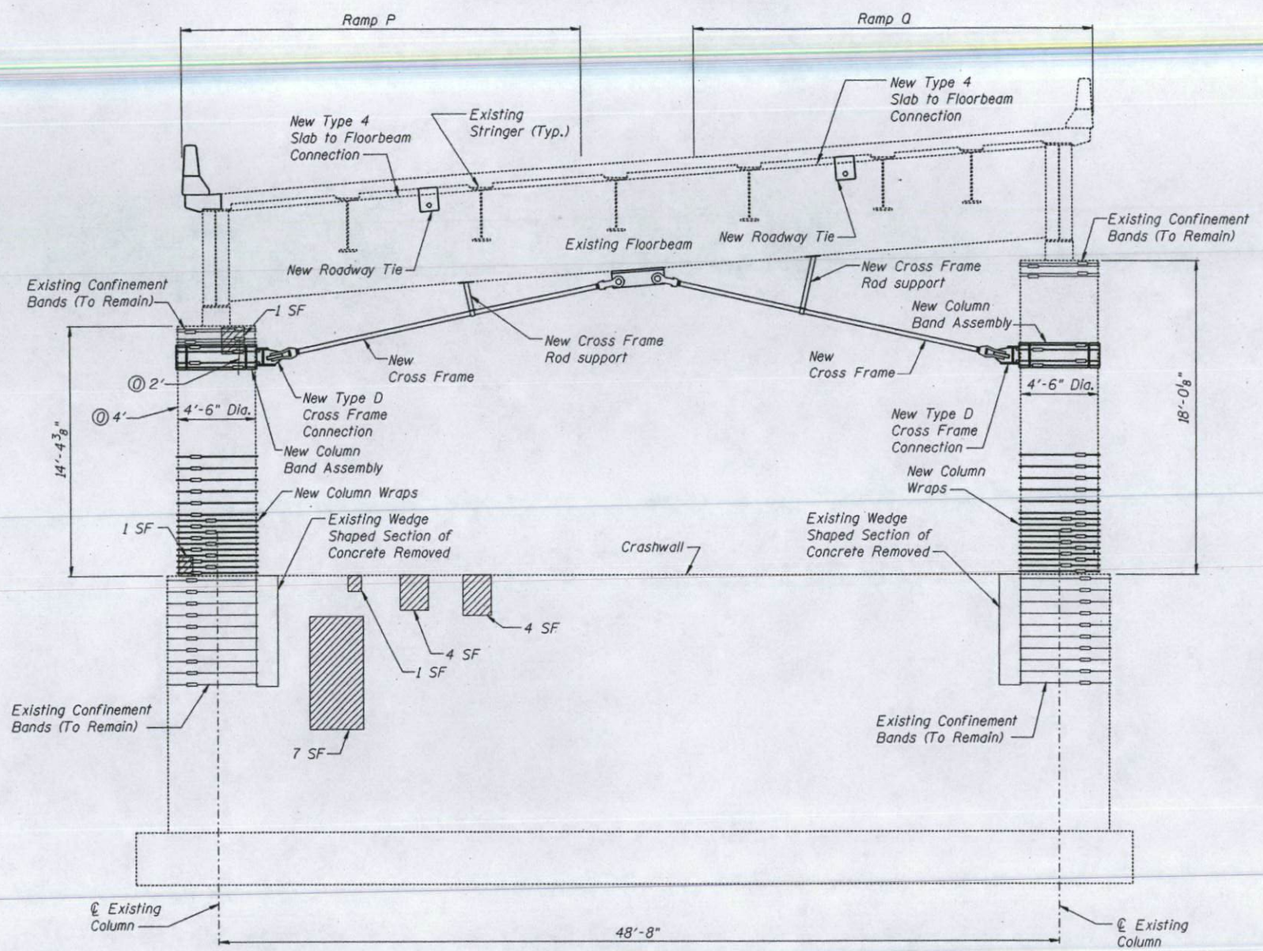
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	274
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 35
51 SHEETS

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



END VIEW



ELEVATION
(Looking Ahead Station)

LEGEND

▨ = Formed Concrete Repair (Depth ≤ 5")

Ø = Open Crack - Formed Concrete Repair (Depth ≤ 5")

NOTES

1. For Formed Concrete Repairs, see Special Provisions.
2. For Cross Frame Details, see Sheets 43 and 44.
3. For Cross Frame Rod Support Detail, see Sheet 42.
4. For Column Band Assembly Details, see Sheets 43 and 44.
5. For Slab to Floorbeam Connection Details, see Sheet 45.
6. For Roadway Tie Details, see Sheet 45.
7. For Column Wrap Details, see Sheet 47.
8. SF Indicates Square Foot.

BILL OF MATERIAL - PIER P15

ITEM	UNIT	QUANTITY
Column wrap	SQ. FT.	203
Expansion Bolts (Special)	EACH	56
Formed Concrete Repair (Depth ≤ 5")	SQ. FT.	18

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 P - STRUCTURE NO. 082-0203
RETROFIT AND SUBSTRUCTURE REPAIR
PIER P15
(FAI-70) ST. CLAIR CO.

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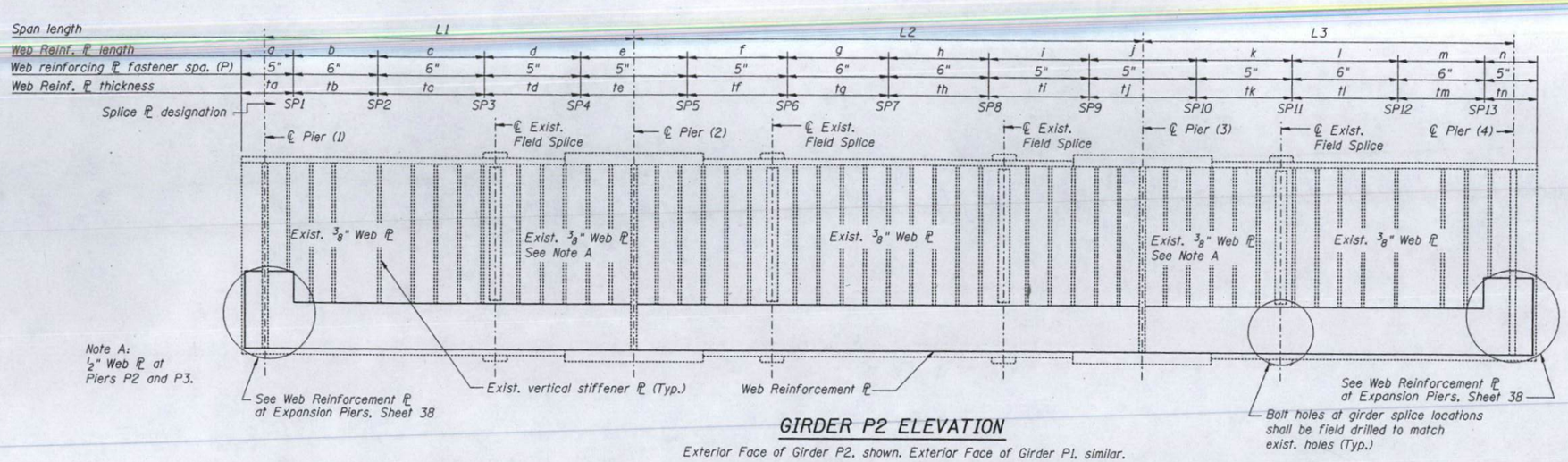
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	275
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 36
51 SHEETS

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



Note A:
1/2" Web ℄ at Piers P2 and P3.

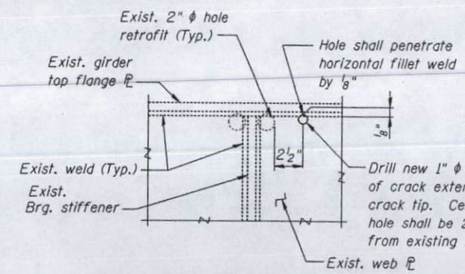
GIRDER P2 ELEVATION

Exterior Face of Girder P2, shown. Exterior Face of Girder P1, similar.

Girder	Span 1												Span 2												
	Pier (1)	L1	a	ta	b	tb	c	tc	d	td	e	te	Pier (2)	L2	f	tf	g	tg	h	th	i	ti	j	tj	Pier (3)
P1	P1	94'-4 1/8"	3'-9 1/2"	1"	29'-6"	1 1/4"	30'-6"	1 1/4"	20'-5 1/2"	1 3/4"	20'-6"	1 3/4"	P2	119'-3 7/16"	20'-5"	1 3/4"	30'-6"	1 1/4"	27'-6"	1 1/4"	20'-5"	1 3/4"	20'-6"	1 3/4"	P3
P2	P1	89'-4 1/2"	3'-9 1/2"	1"	23'-0"	1 1/4"	32'-6"	1 1/4"	20'-5 1/2"	1 3/4"	20'-6"	1 3/4"	P2	115'-4"	20'-5"	1 3/4"	30'-6"	1 1/4"	23'-6"	1 1/4"	20'-5"	1 3/4"	20'-6"	1 3/4"	P3
P1	P4	82'-6 3/4"	3'-9 1/2"	1"	20'-6"	1 1/4"	26'-6"	1 1/4"	20'-5 1/2"	1 3/4"	22'-11"	1 3/4"	P5	118'-3 1/2"	20'-5 1/2"	1 3/4"	30'-6"	1 1/4"	24'-6"	1 1/4"	20'-5 1/2"	1 3/4"	22'-11"	1 3/4"	P6
P2	P4	79'-9 1/2"	3'-9 1/2"	1"	20'-6"	1 1/4"	24'-6"	1 1/4"	20'-5"	1 3/4"	20'-6"	1 3/4"	P5	114'-4 1/8"	20'-5"	1 3/4"	29'-6"	1 1/4"	25'-0"	1 1/4"	20'-5"	1 3/4"	20'-6"	1 3/4"	P6
P1	P7	97'-11 7/8"	3'-9 1/2"	1"	30'-6"	1 1/4"	32'-6"	1 1/4"	20'-5"	1 3/4"	22'-11"	1 3/4"	P8	124'-6 1/2"	20'-5"	1 3/4"	32'-6"	1 1/4"	28'-6"	1 1/4"	20'-5"	1 3/4"	22'-11"	1 3/4"	P9
P2	P7	94'-8 7/16"	3'-9 1/2"	1"	29'-6"	1 1/4"	30'-6"	1 1/4"	20'-5 1/2"	1 3/4"	21'-8"	1 3/4"	P8	121'-5 7/8"	20'-5 1/2"	1 3/4"	30'-6"	1 1/4"	29'-0"	1 1/4"	20'-5 1/2"	1 3/4"	21'-8"	1 3/4"	P9

Girder	Span 3										
	Pier (3)	L3	k	tk	l	tl	m	tm	n	tn	Pier (4)
P1	P3	91'-9 13/16"	20'-5 1/2"	1 3/4"	30'-6"	1 1/4"	27'-6"	1 1/4"	3'-9 1/2"	1"	P4
P2	P3	88'-8 13/16"	20'-5"	1 3/4"	30'-6"	1 1/4"	24'-0"	1 1/4"	3'-9 1/2"	1"	P4
P1	P6	82'-6 3/4"	20'-5 1/2"	1 3/4"	26'-6"	1 1/4"	20'-6"	1 1/4"	3'-9 1/2"	1"	P7
P2	P6	79'-9 1/2"	20'-5"	1 3/4"	24'-6"	1 1/4"	20'-6"	1 1/4"	3'-9 1/2"	1"	P7
P1	P9	95'-3"	20'-5"	1 3/4"	30'-6"	1 1/4"	29'-0"	1 1/4"	3'-9 1/2"	1"	P10
P2	P9	95'-3"	20'-5 1/2"	1 3/4"	30'-6"	1 1/4"	29'-6"	1 1/4"	3'-9 1/2"	1"	P10

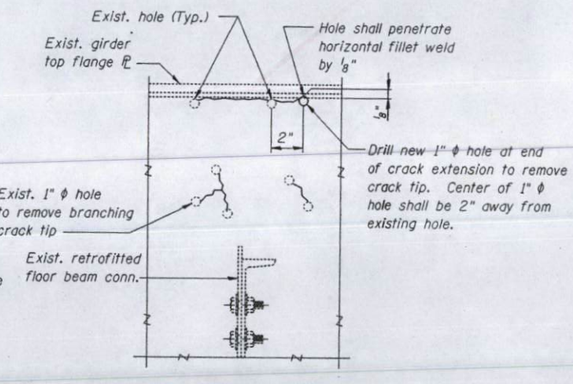
Piers	Web Reinforcement ℄ Splice Plate Lengths												
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	SP10	SP11	SP12	SP13
P1-P4	4'-8"	5'-0"	4'-8"	5'-11 1/2"	5'-11 1/2"	4'-7 1/2"	5'-0"	4'-7 1/2"	5'-11 1/2"	5'-11 1/2"	4'-8"	5'-0"	4'-8"
P4-P7	4'-8"	5'-0"	4'-8"	5'-11"	5'-11"	4'-8"	5'-0"	4'-8"	5'-11"	5'-11"	4'-8"	5'-0"	4'-8"
P7-P10	4'-8"	5'-0"	4'-7 1/2"	5'-11"	5'-11"	4'-7 1/2"	5'-0"	4'-7 1/2"	5'-11"	5'-11"	4'-7 1/2"	5'-0"	4'-8"
℄ thk.	1 1/4"	1 1/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 1/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 1/4"	1 1/4"



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 500μ in or less.
4. Re-inspect area using liquid dye penetrant or 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 P - STRUCTURE NO. 082-0203
CRACK EXTENSION RETROFIT AND
REDUNDANCY RETROFIT DETAILS
(FAI-70) ST. CLAIR CO.

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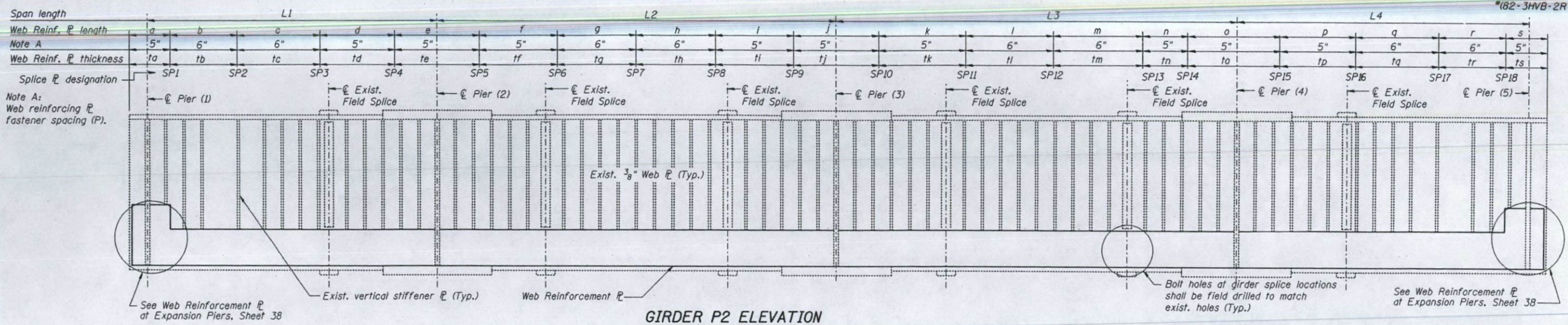
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	276
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 37
51 SHEETS

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



GIRDER P2 ELEVATION

Exterior Face of Girder P2, shown.
Exterior Face of Girder P1, similar and opposite hand.

Girder	Span 1												Span 2												
	Pier (1)	L1	a	ta	b	tb	c	tc	d	td	e	te	Pier (2)	L2	f	tf	g	tg	h	th	i	ti	j	tj	Pier (3)
P1	P10	93'-3"	3'-9½"	¾"	29'-0"	1"	30'-6"	1"	20'-5"	1½"	20'-10"	1½"	P11	121'-0"	20'-5"	1½"	30'-6"	1"	28'-6"	1"	20'-5"	1½"	20'-10"	1½"	P12
P2	P10	93'-3"	3'-9½"	¾"	28'-11½"	1"	30'-5½"	1"	20'-5"	1½"	20'-5"	1½"	P11	121'-0"	20'-5"	1½"	30'-5½"	1"	28'-11½"	1"	20'-5"	1½"	20'-10"	1½"	P12

Girder	Span 3												Span 4										
	Pier (3)	L3	k	tk	l	tl	m	tm	n	tn	o	to	Pier (4)	L4	p	tp	q	tq	r	tr	s	ts	Pier (5)
P1	P12	120'-5 9/16"	20'-5"	1½"	30'-6"	1"	27'-6"	1"	20'-5"	1½"	20'-10"	1½"	P13	94'-0 3/8"	20'-5"	1½"	30'-6"	1"	30'-0"	1"	3'-9½"	¾"	P14
P2	P12	123'-8¼"	20'-5"	1½"	30'-5½"	1"	30'-11½"	1"	20'-5"	1½"	20'-10"	1½"	P13	89'-1 9/16"	20'-5"	1½"	30'-11½"	1"	24'-6"	1"	3'-9½"	¾"	P14

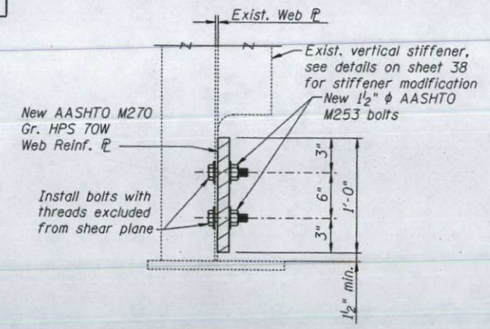
Piers	Web Reinforcement ℄ Splice Plate Lengths																	
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	SP10	SP11	SP12	SP13	SP14	SP15	SP16	SP17	SP18
P10-P13	4'-8"	5'-0"	4'-7½"	5'-1"	5'-1"	4'-7½"	5'-0"	4'-7½"	5'-1"	5'-1"	4'-7½"	5'-0"	4'-7½"	5'-1"	5'-1"	4'-7½"	5'-0"	4'-8"
℄ thk.	1"	1"	1½"	1½"	1½"	1½"	1"	1½"	1½"	1½"	1½"	1"	1½"	1½"	1½"	1½"	1"	1"

NOTES

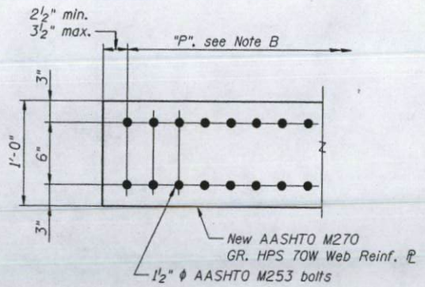
Remove paint from web of existing girder under new web reinforcement plates.

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

Note B:
For fastener spacing "P" see Girder Elevation this sheet and Sheet 36. Space bolts to clear existing floorbeam connection and vertical stiffener plates. "P" spacing not to exceed 7".



TYPICAL WEB REINFORCEMENT PLATE



WEB REINFORCEMENT PLATE ELEVATION

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 P - STRUCTURE NO. 082-0203
REDUNDANCY RETROFIT DETAILS
(FAI-70) ST. CLAIR CO.

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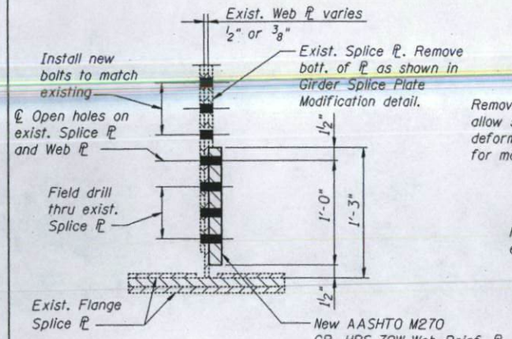
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

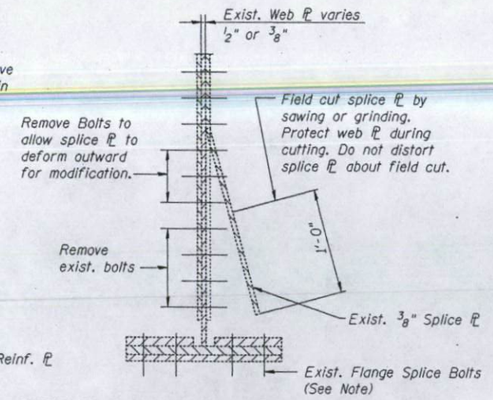
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	277
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 38
51 SHEETS

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

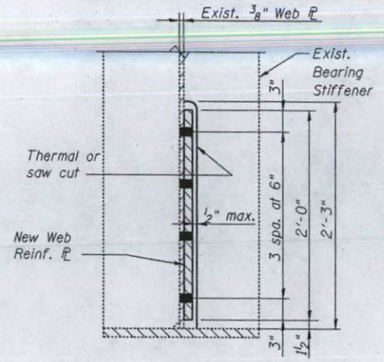


WEB REINFORCEMENT PLATE AT GIRDER WEB SPLICE

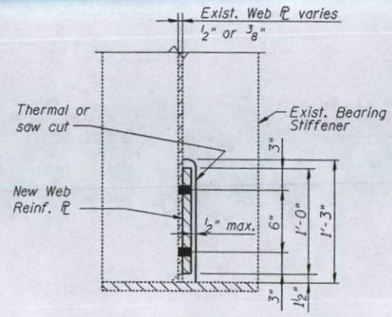


GIRDER SPLICE PLATE MODIFICATION

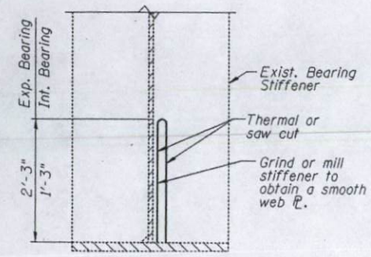
Note:
It is intended that the existing flange splice bolts remain in place during installation of the web reinforcement plate. If it is necessary to remove bolts to install web reinforcement plate, Contractor shall notify the Engineer and obtain approved sequence and procedure prior to proceeding.



TYPICAL SECTION THRU WEB REINFORCEMENT PLATE AT EXPANSION BEARING STIFFENER



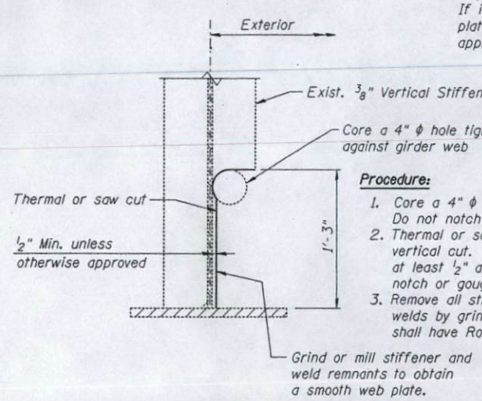
TYPICAL SECTION THRU WEB REINFORCEMENT PLATE AT INTERIOR BEARING STIFFENER



BEARING STIFFENER MODIFICATION

Procedure:

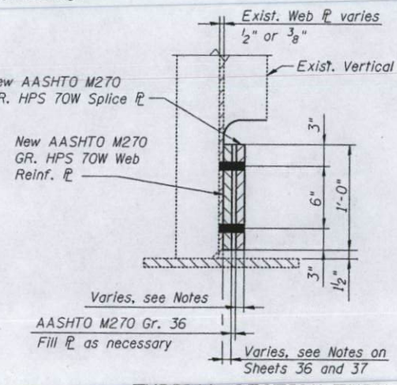
1. Thermal or saw cut horizontal cut and vertical cut. Vertical cut shall be positioned at least ½" away from girder web. Do not notch or gouge web plate.
2. Remove all stiffener remnants and connecting welds by grinding or by milling. Web plate surface shall have Roughness average (Ra) of 250 or less.



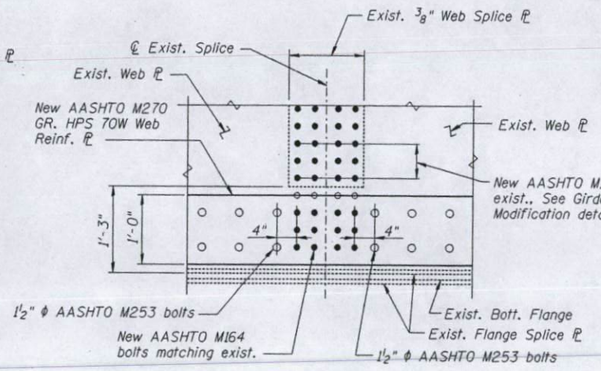
Procedure:

1. Core a 4" ϕ hole tight to girder web. Do not notch or gouge web plate.
2. Thermal or saw cut horizontal cut and vertical cut. Vertical cut shall be positioned at least ½" away from girder web. Do not notch or gouge web plate.
3. Remove all stiffener remnants and connecting welds by grinding or by milling. Web plate surface shall have Roughness average (Ra) of 250 or less.

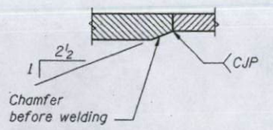
VERTICAL STIFFENER MODIFICATION



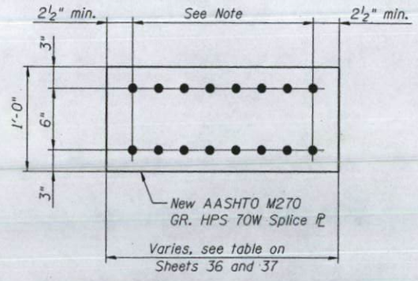
TYPICAL SECTION THRU WEB REINFORCEMENT SPLICE PLATE



ELEVATION AT GIRDER WEB SPLICE

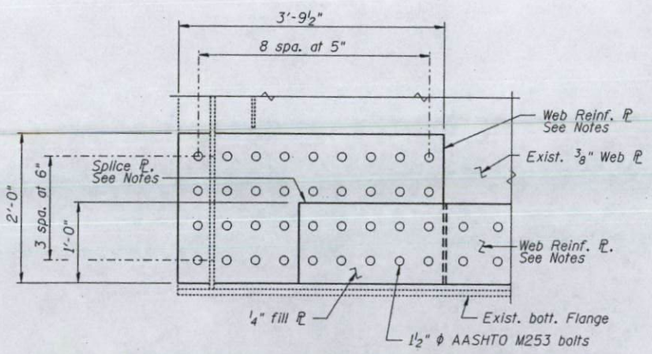


ALT. BUTT WELD SPLICE AT WEB REINF. PLATE TRANSITION



TYPICAL WEB REINFORCEMENT SPLICE PLATE

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



WEB REINFORCEMENT PLATE AT EXPANSION PIERS

NOTES

For Web Reinforcing Plate and Splice Plate size, see tables on Sheets 36 and 37.

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 P- STRUCTURE NO. 082-0203
TYPICAL REDUNDANCY RETROFIT DETAILS
(FAI-70) ST. CLAIR CO.

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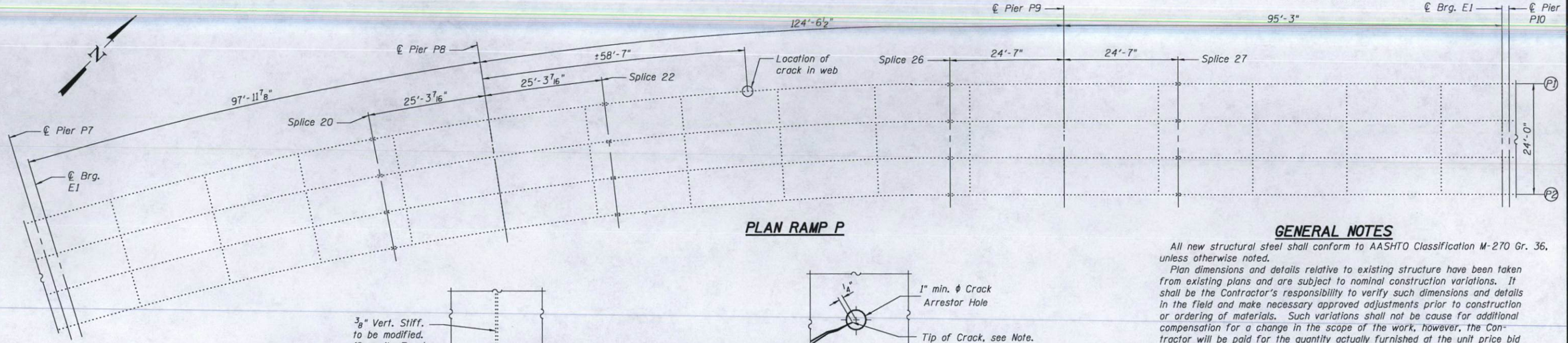
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

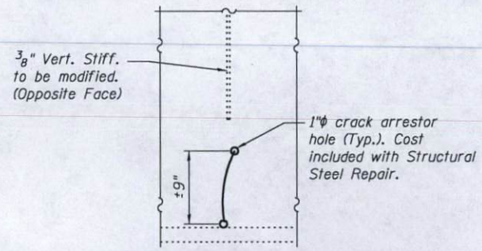
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		St. Clair		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 1
1 SHEETS

Contract Number: - - -



PLAN RAMP P



OUTSIDE WEB ELEVAITON

CRACK ARRESTOR HOLE DETAIL

Note: Locate crack tip using liquid dye penetrant or magnetic particle testing. Drill 1" min. ϕ Crack Arrestor hole at the crack tip. After crack arrestor hole has been drilled, dye penetrant or magnetic particle testing shall be used to verify that the drilled hole has captured the crack tip. Cost shall be included with Structural Steel Repair.

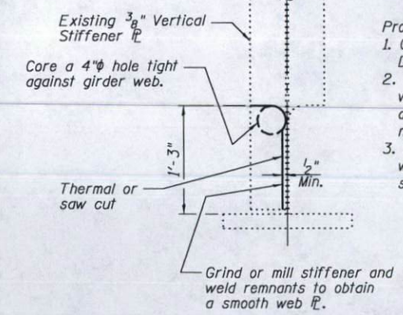
GENERAL NOTES

All new structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

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 will be paid for the quantity actually furnished at the unit price bid for the work.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

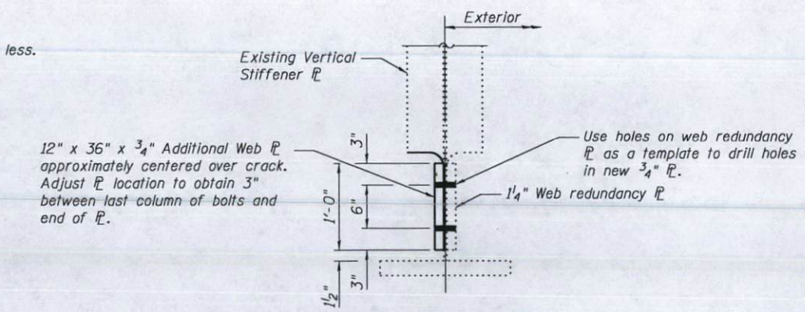
The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision "Cleaning and Painting New Metal Structures".



Procedure:
1. Core a 4"ϕ hole tight to Girder web. Do not notch or gouge web ℄.
2. 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 ℄.
3. Remove all stiffener remnants and connecting welds by grinding or by milling. Web ℄ surface shall have a Roughness average (Ra) of 250 μ in or less.

STIFFENER REMOVAL

Cost included with Structural Steel Repair



NEW WEB ℄ DETAIL

REPAIR PROCEDURE FOR GIRDER P1

1. Route traffic away from Girder P1 as much as possible.
2. Remove portion of Vertical stiffener ℄ as detailed and grind smooth all remaining welds as shown.
3. Ground surfaces shall be inspected for cracks using magnetic particle or liquid dye penetrant testing. If any cracks are found they shall be identified and reported to the Bureau of Bridges and Structures for further disposition.
4. Once it has been verified that all cracks have been arrested, install web redundancy ℄ as detailed in the contract plans with the addition of the backer ℄ as shown in the details.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Repair	Pound	90

DESIGNED	V.H.V.
CHECKED	D.C.P.
DRAWN	Drew Christopher
CHECKED	V.H.V. D.C.P.

March 1, 2005
EXAMINED John A. Morris, ENGINEER OF STRUCTURAL SERVICES
PASSED Ralph E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES

PLAN AND DETAILS
POPLAR STREET RAMP P
ST. CLAIR COUNTY
SN 082-0203

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	278
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 39
51 SHEETS

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

SUPERSTRUCTURE REPAIR TABLE

Span	Floorbeam	Condition	Repair
P2	FB-8 and FB-9	One loose bolt at stringer splice on stringer near Girder P2 and FB-8	Replace bolt
P8	FB-22	One loose bolt at girder splice in Girder P1 near FB-22	Replace bolt

Notes:

1. 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.
2. Girder P1 is on the left side of the structure looking ahead station.
3. Floorbeams are numbered sequentially, looking ahead station, as follows:
   Spans P1 thru P3 .... FB-1 thru FB-17,
   Spans P4 thru P15 .... FB-1 thru FB-59

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 P - STRUCTURE NO. 082-0203
SUPERSTRUCTURE REPAIR TABLE
(FAI-70) ST. CLAIR CO.

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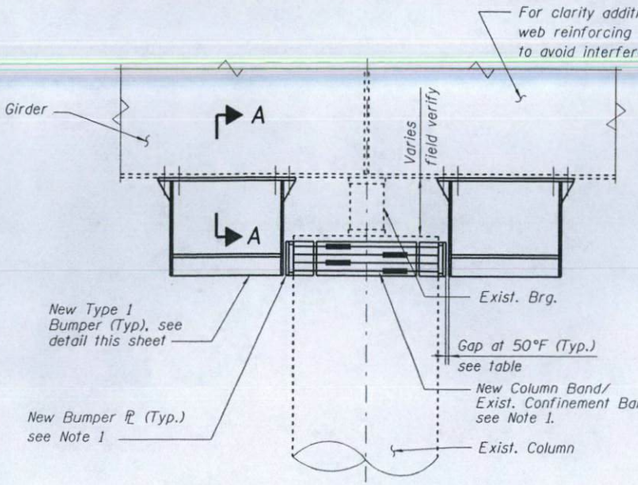
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	279
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 40
51 SHEETS
*(82-3HVB-2R-1)-2

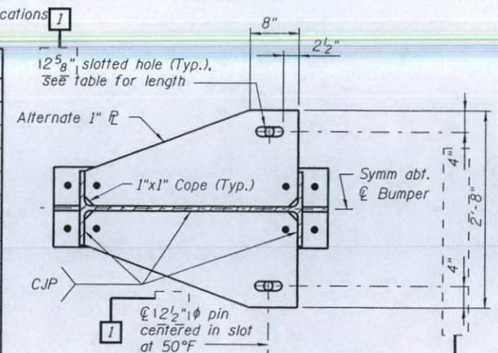


ELEVATION: TYPE 1 BUMPER/RESTRAINER ASSEMBLY

Piers P2, P3, P5, P6, P8, P9, P11, P12 and P13

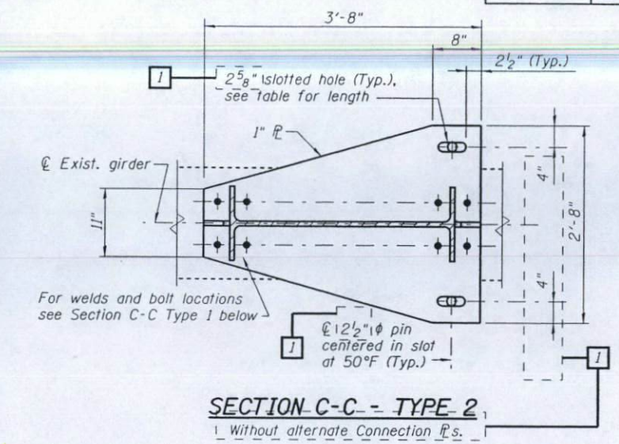
Note 1:
For new column band and bumper plate assembly details see sheets 42 thru 44.

GAP TABLE	
PIER	GAP (in)
P2	15/16"
P3	1/4"
P4 SPAN P3	13/16"
P4 SPAN P4	1 7/16"
P5	15/16"
P6	1/4"
P7 SPAN P6	3/4"
P7 SPAN P7	7/8"
P8	1/4"
P9	1"
P10 SPAN P9	1 5/8"
P10 SPAN P10	2 3/8"
P11	1 3/4"
P12	1"
P13	1/4"



SECTION D-D - TYPE 2

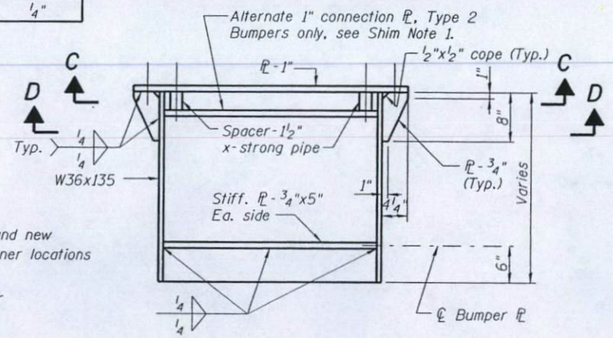
(When alternate connection ℄ is required)



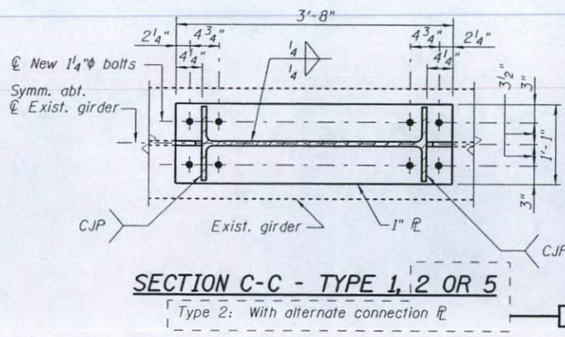
SECTION C-C - TYPE 2

Without alternate Connection ℄s.

SLOT LENGTHS	
PIER/SPAN	LENGTH
P4 Span P3	3 7/8"
P4 Span P4	5 1/4"
P7 Span P6	3 13/16"
P7 Span P7	4"
P10 Span P9	5 1/2"
P10 Span P10	7"

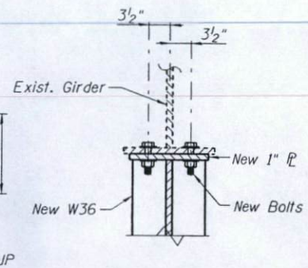


TYPE 1 OR TYPE 2 BUMPER



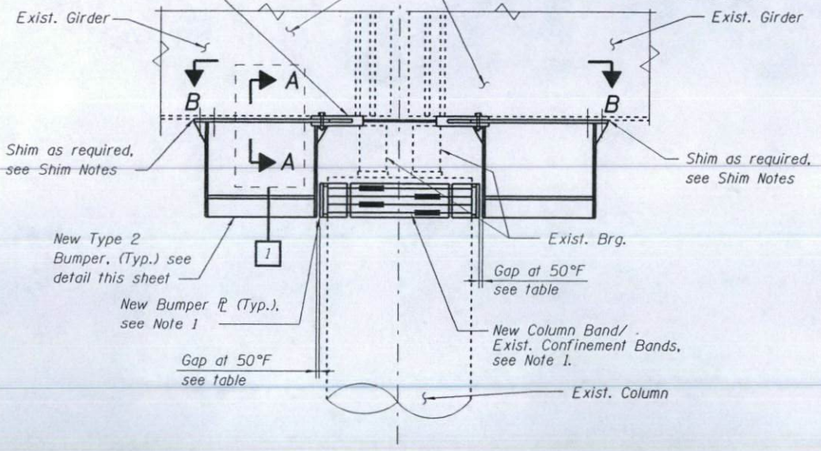
SECTION C-C - TYPE 1, 2 OR 5

Type 2: With alternate connection ℄



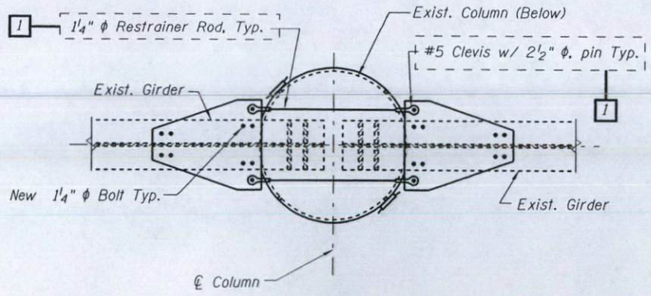
SECTION A-A

Type 1 shown.
Type 2 similar.



ELEVATION: TYPE 2 BUMPER/RESTRAINER ASSEMBLY

Piers P4, P7 and P10



SECTION B-B

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 (ϕ+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".

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

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
BUMPER/RESTRAINER DETAILS
(FAI-70) ST. CLAIR CO.

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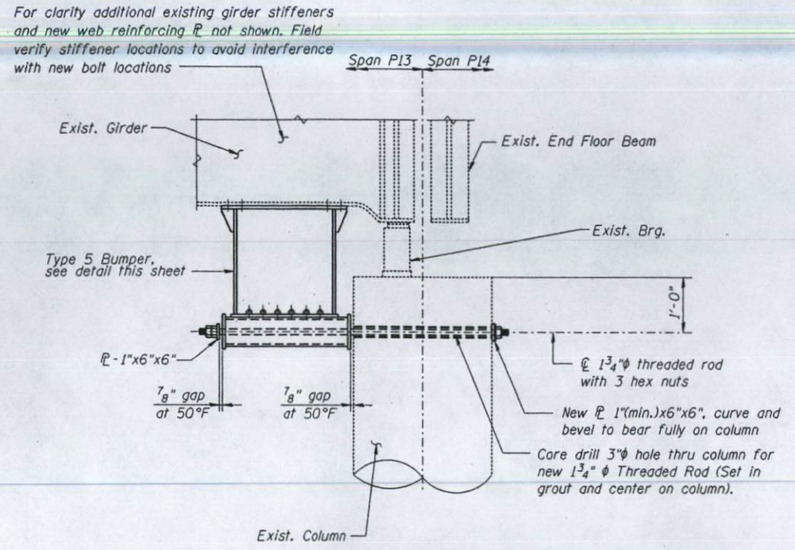
1 REVISED 09-15-05, MRC

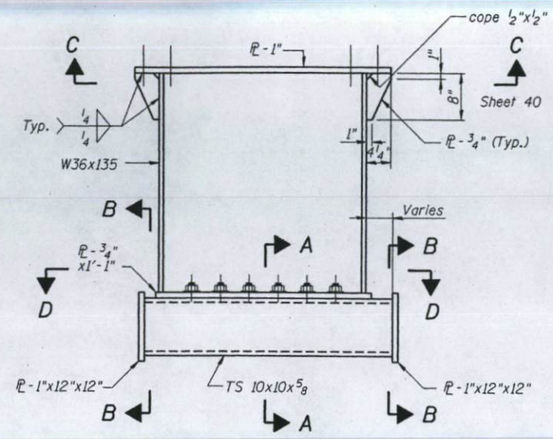
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	280
FED. ROAD DIST. NO. 9		ILLINOIS	FED. AID PROJECT-	

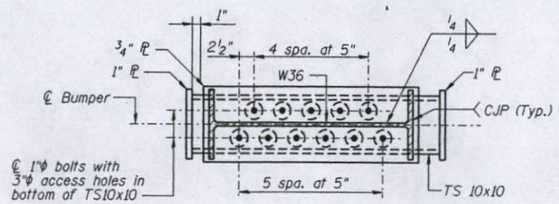
SHEET NO. 41
51 SHEETS
*(82-3HVB-2R-1)-2



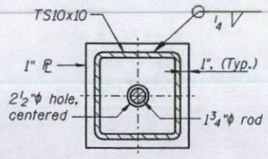
ELEVATION: TYPE 5 BUMPER/RESTRAINER ASSEMBLY
Pier P14 Girder P2



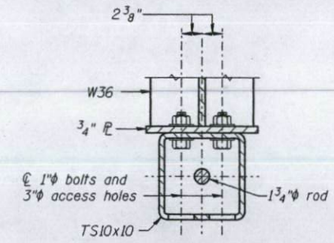
TYPE 5 BUMPER
Pier P14 Girder P2



SECTION D-D



SECTION B-B



SECTION A-A

NOTES

1. For Bumper/Restrainer Notes see sheet 40.

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

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
BUMPER/RESTRAINER DETAILS
(FAI-70) ST. CLAIR CO.

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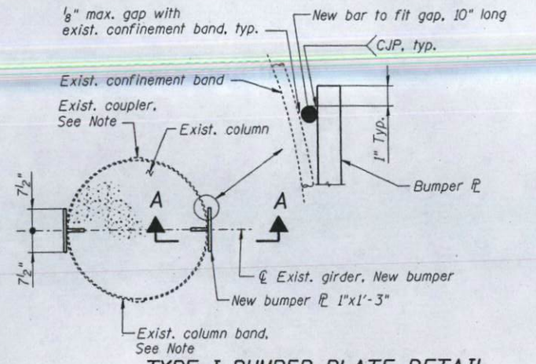
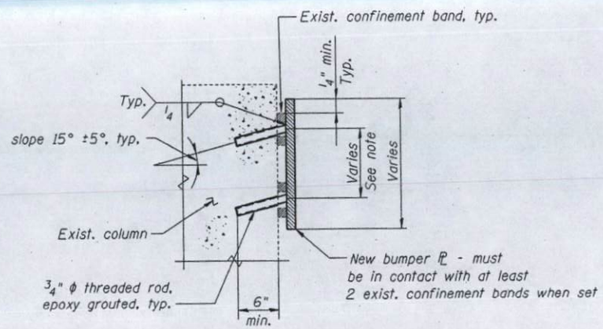
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	281
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 42
51 SHEETS
*(82-3HVB-2R-1)-2

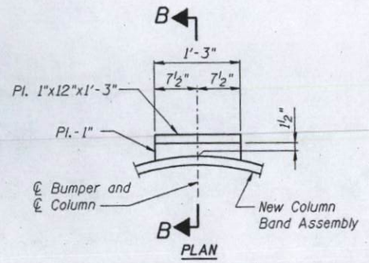


TYPE I BUMPER PLATE DETAIL

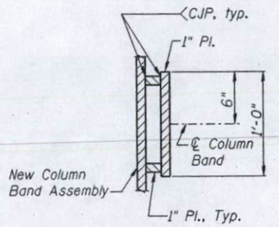


Note: Locate dowels between existing confinement bands as shown.

SECTION A-A



TYPE II BUMPER PLATE DETAIL



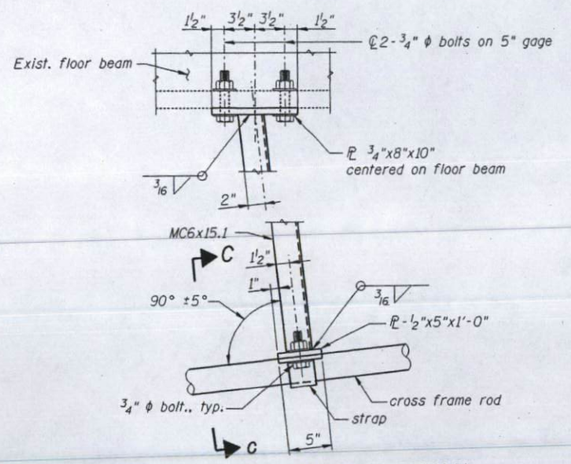
SECTION B-B

NOTE: If necessary, existing bands may be loosened and repositioned to eliminate interference between existing coupler and new bumper plate.

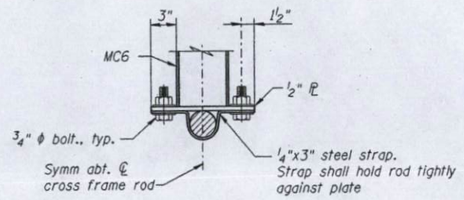
Loosened bands shall be reinstalled from bottom up. The repositioned bands shall be evenly spaced as possible and all shall be located within a spacing of 10" vertically. The top of the top band shall not be closer than 3¼" nor farther than 4" from the top of column.

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.



CROSS FRAME ROD SUPPORT DETAIL



SECTION C-C

NOTES

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

2. The cost of the Cross Frame Rod Support shall be included in the Unit Price for "Furninshing 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 P - STRUCTURE NO. 082-0203
MISCELLANEOUS SEISMIC
RETROFIT DETAILS
(FAI-70) ST. CLAIR CO.

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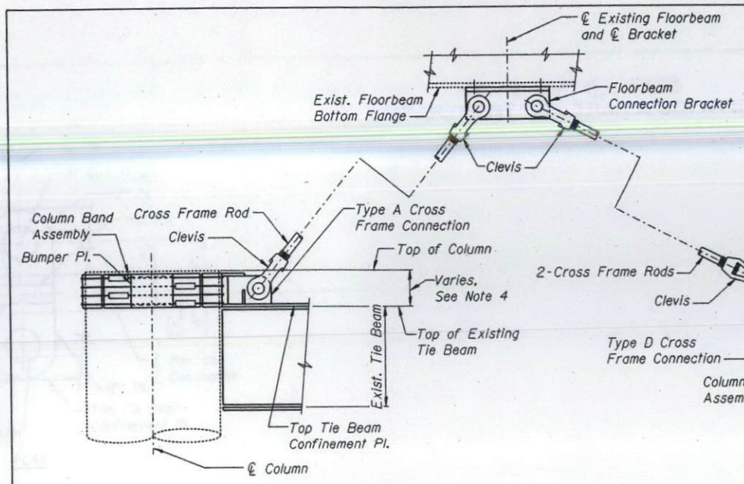
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

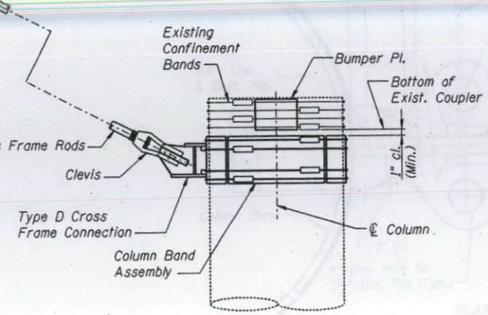
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	282
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		51 SHEETS

SHEET NO. 43

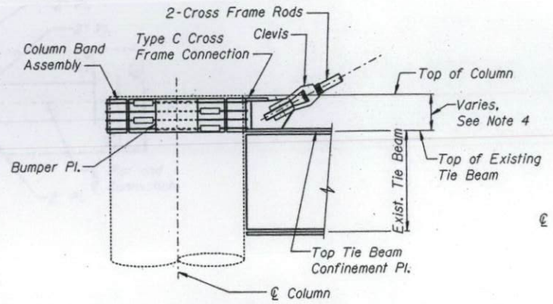
*(82-3HVB-2R-1)-2



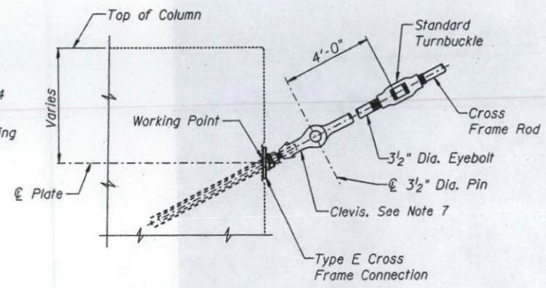
AT PIERS P2, P3, P5, P6, P8, P9, P11, P12, P13



AT PIERS P14, P15



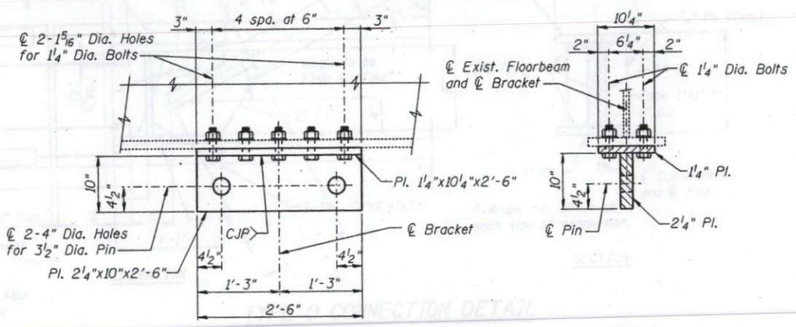
AT PIERS P4, P7, P10



AT PIER P14 OVAL COLUMN

ELEVATION - NEW CROSS FRAME CONNECTIONS

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

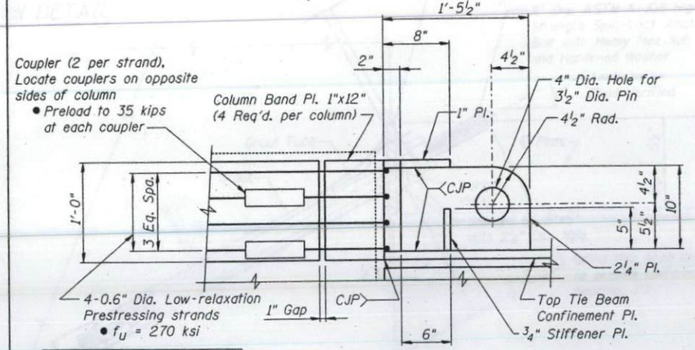


ELEVATION

SECTION

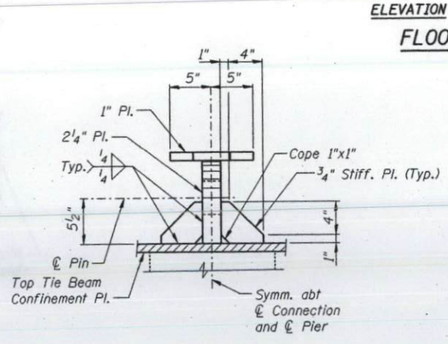
FLOORBEAM CONNECTION BRACKET

Note: Clevis' not shown for clarity.



PLAN

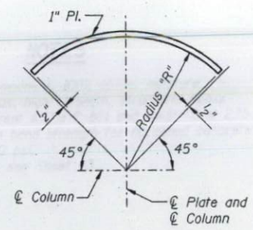
ELEVATION



END VIEW

TYPE A CONNECTION DETAIL

VARIABLES	
PIER	"R"
P2	2'-6"
P3	2'-9"
P4	2'-6"
P5	2'-3"
P6	2'-3"
P7	2'-0"
P8	2'-3"
P9	2'-0"
P10	2'-0"
P11	2'-0"
P12	2'-0"
P13	2'-3"
P14	2'-0"
P15	2'-3"



COLUMN BAND PLATE DETAIL

NOTES

1. Cross Frame Rods shall be 3" Dia. solid steel with 3½" Dia. Upset Ends.
2. Clevis shall be a #8 Clevis with an opening for a 3½" 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. Clevis for Type E Connection shall be machined to accept threads from 2" Dia. Anchor Bolt.
8. The cost of Cross Frame Rods, Column Band Assemblies, 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. Kaemmerer
CHECKED	R. Victor

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
CROSS FRAME MODIFICATIONS
(FAI-70) ST. CLAIR CO.

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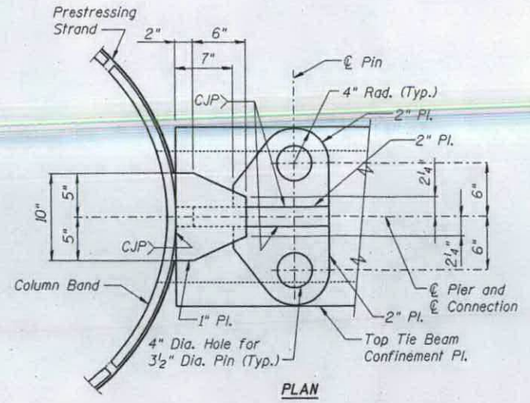
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

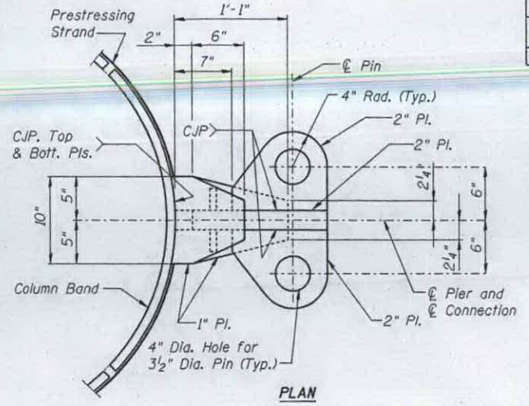
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	283
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 44
51 SHEETS

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



PLAN



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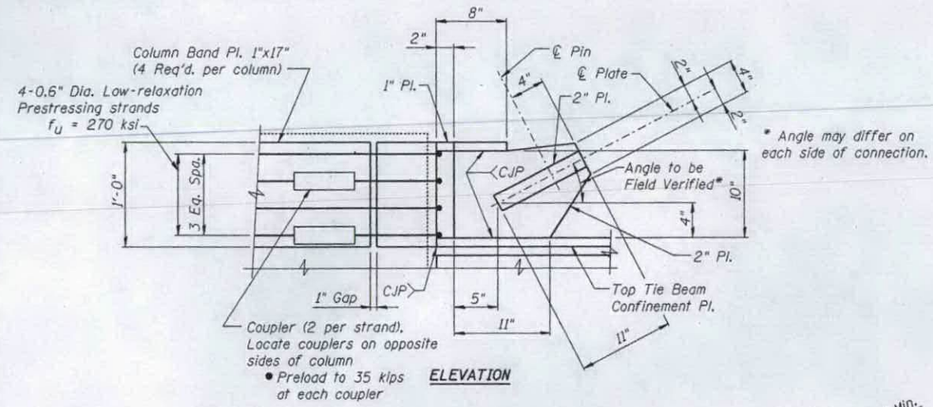
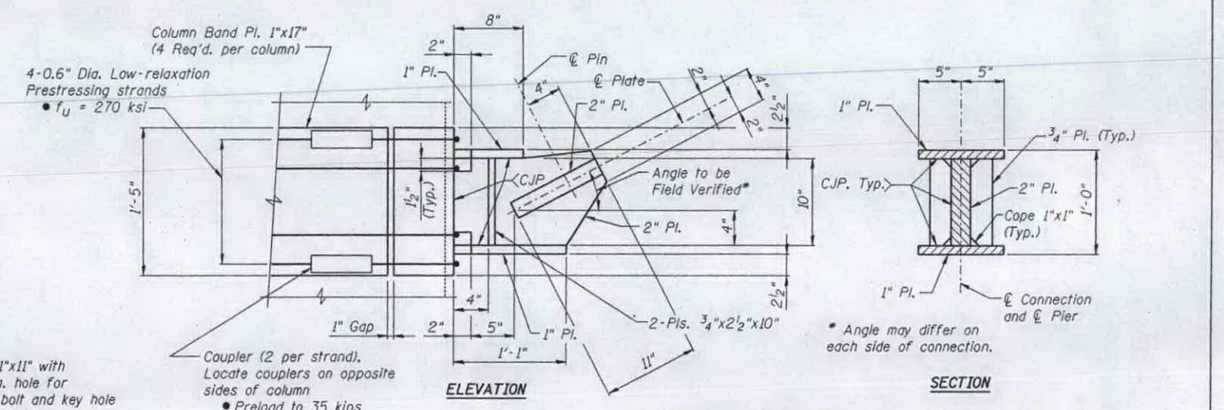


ELEVATION

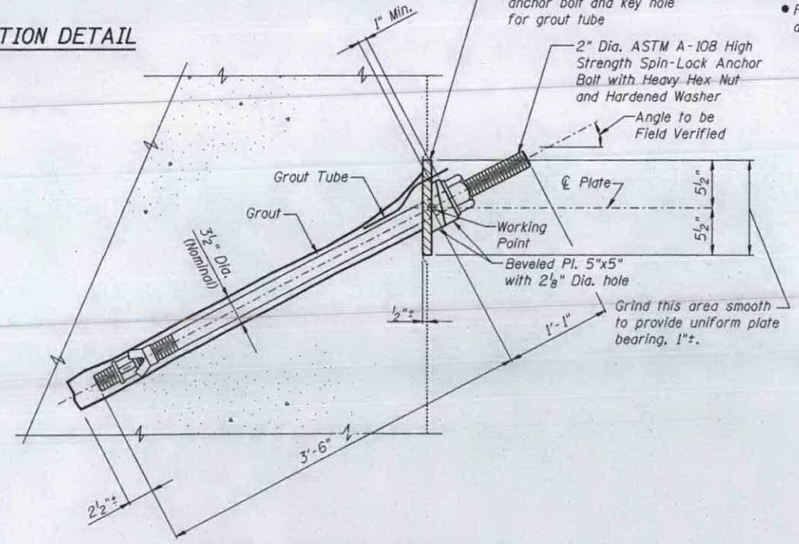
TYPE C CONNECTION DETAIL



ELEVATION

SECTION

TYPE D CONNECTION DETAIL



TYPE E CONNECTION DETAIL

NOTES

1. Grout shall be a 2-component, 100% solids, moisture insensitive, high-modulus, high-strength, structural epoxy conforming to the current ASTM C-881 and AASHTO M-235 specifications. Minimum bond strength for hardened concrete to steel shall be 2,600 psi.
2. For Additional Notes see Sheet 43.

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

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
CROSS FRAME MODIFICATIONS
(FAI-70) ST. CLAIR CO.

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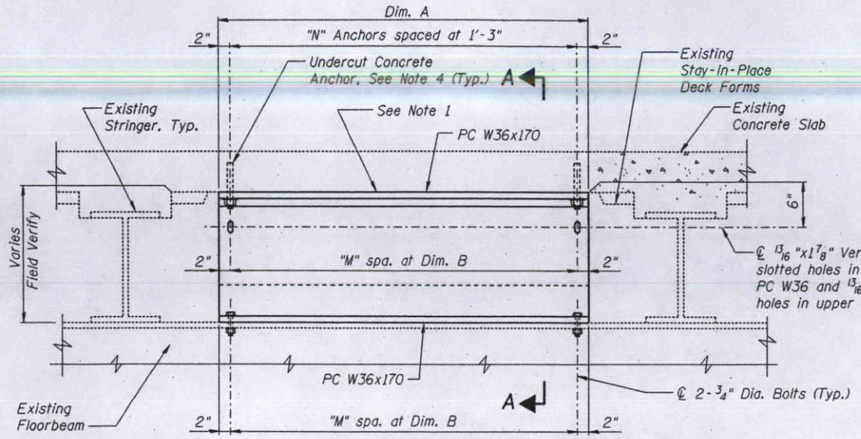
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

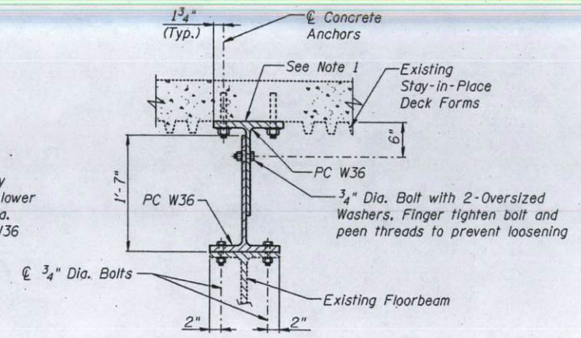
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	284
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 45
51 SHEETS

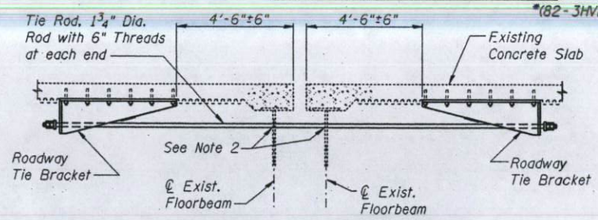
*(82-3HVB-2R-1)-2



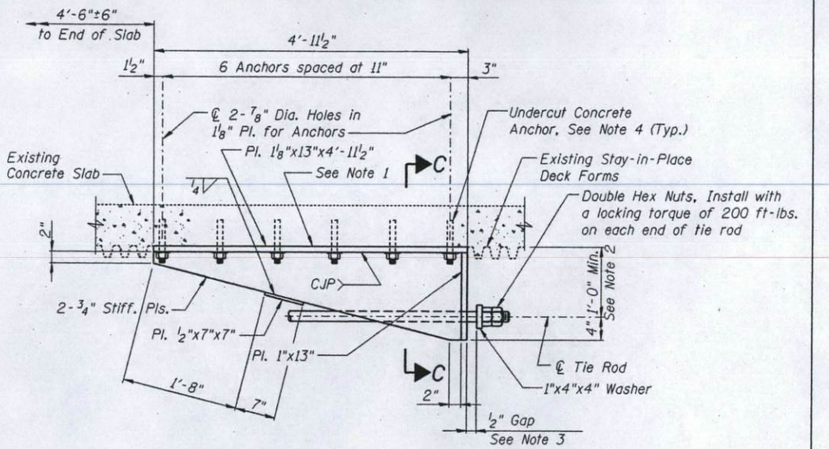
SLAB TO FLOORBEAM CONNECTION DETAIL - TYPES 1 & 2



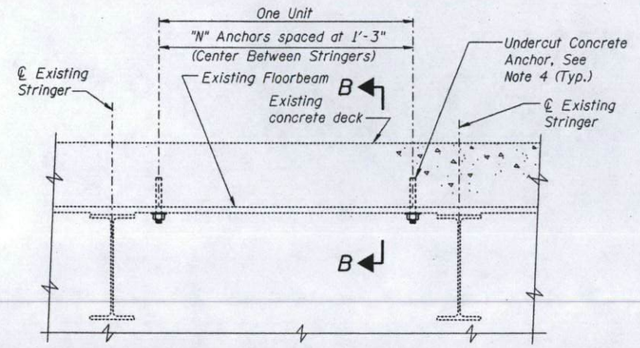
SECTION A-A



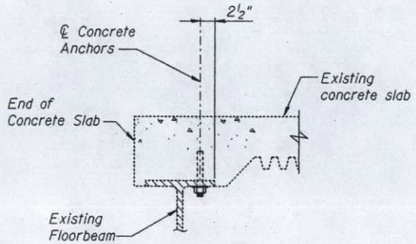
ELEVATION - ROADWAY TIE



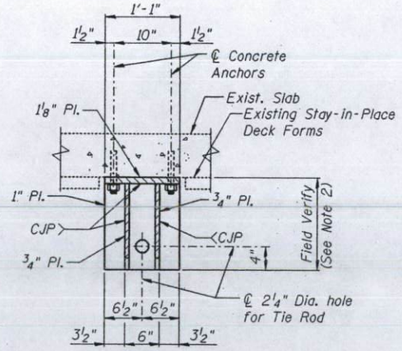
ROADWAY TIE BRACKET DETAIL



SLAB TO FLOORBEAM CONNECTION DETAIL - TYPES 3 & 4



SECTION B-B



SECTION C-C

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. Core drill 3" Dia. holes in floorbeam web to permit passage of rod. Centerline of hole shall be 4"± below top of web of the lowest adjacent Existing Floorbeam.
3. Gap at end of tie rod was developed for an installation temperature of 50° F.
4. 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).
5. The cost of the Slab to Floorbeam connection shall be included in the Unit Price for "Furnishing And Erecting Structural Steel".
6. The cost of Undercut Concrete Anchors shall be included in the Unit Price for Expansion Bolts (Special).

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

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
PIER SEISMIC RETROFIT DETAILS
(FAI-70) ST. CLAIR CO.

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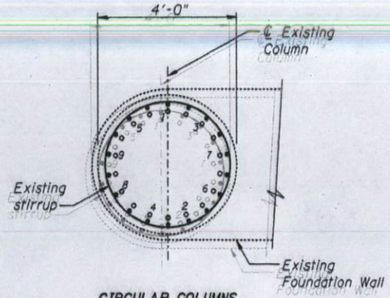
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

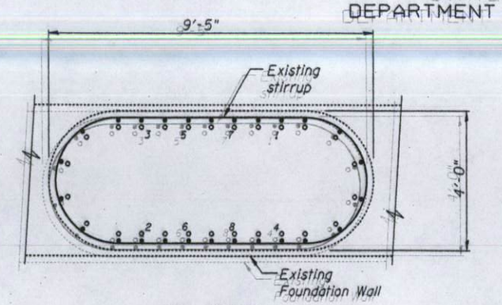
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	-*	St. Clair	388	285
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 46
51 SHEETS
*(82-3NVB-2R-1)-2



CIRCULAR COLUMNS

Notes: Numbers indicate locations of foundation wall dowel bars to be cut (9 Total). See Detail 1.

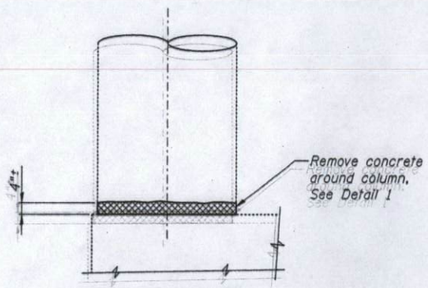


OVAL COLUMN

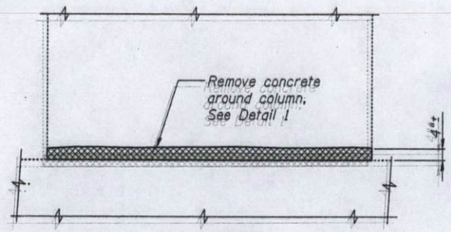
Note: Numbers indicate locations of foundation wall dowel bars to be cut (8 Total). See Detail 1.

SECTIONS THRU COLUMNS

- ○ Indicates Foundation Wall Dowel Bar
- • Indicates Column Longitudinal Bar



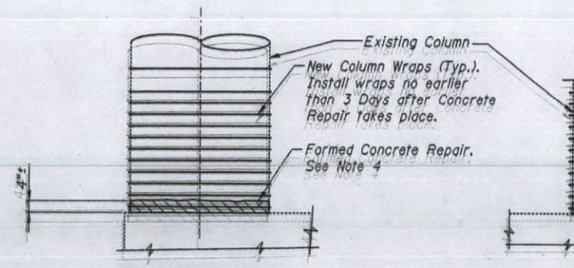
CIRCULAR COLUMNS



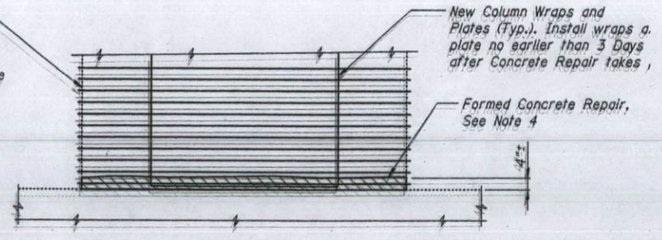
OVAL COLUMN

Note: Remove the existing column wraps as required for fuse bars installation.

ELEVATION - DEMOLITION

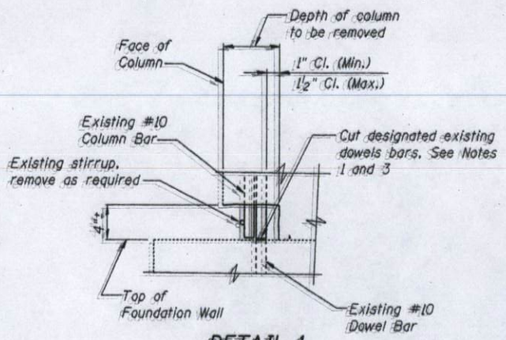


CIRCULAR COLUMNS



OVAL COLUMN

ELEVATION - FINAL CONDITION



DETAIL 1

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 47.

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

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

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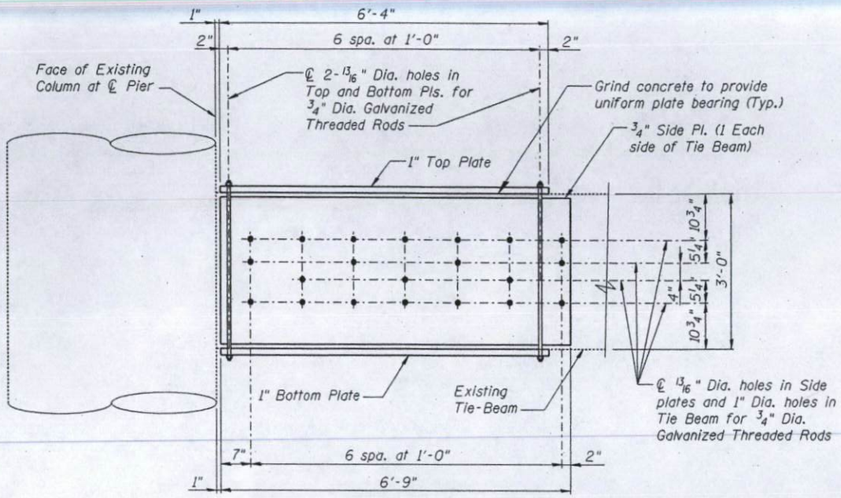
REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
PIER COLUMN BASE MODIFICATIONS
PIER P14
(FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

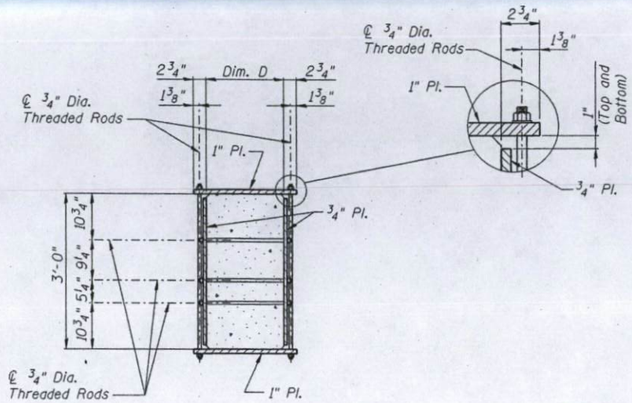
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	286
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 47
51 SHEETS

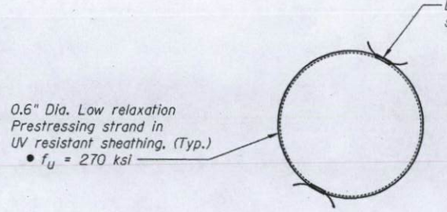
*(82-3HVB-2R-1)-2



ELEVATION



SECTION



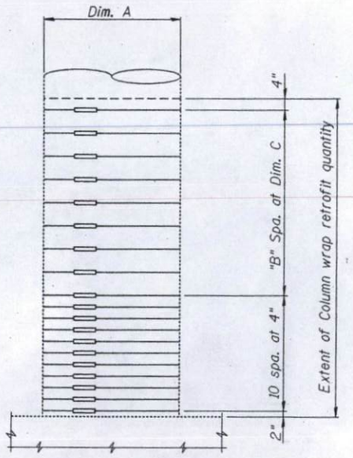
PLAN

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 Rod holes.

TABLE OF VARIABLES								
PIER	NO. COLS.	DIM. A	"B"	Dim. C	Dim. D	TOP/BOTTOM PLATES	SIDE PLATES	COMMENTS
P2	2	5'-0"	15	8"	1'-6"	Pl. 1"x23 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P3	2	5'-6"	15	8"	1'-6"	Pl. 1"x23 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P4	2	5'-0"	15	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P5	2	4'-6"	15	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P6	2	4'-6"	15	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P7	2	4'-0"	10	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P8	2	4'-6"	10	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P9	2	4'-0"	10	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P10	2	4'-0"	10	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P11	2	4'-0"	8	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P12	2	4'-0"	5	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P13	2	4'-6"	8	8"	1'-3"	Pl. 1"x20 1/2"x6'-4"	Pl. 3/4"x34"x6'-9"	
P14	1	OVAL	----	----	----	----	----	See Note 1
P15	2	4'-6"	5	8"	----	----	----	See Note 2

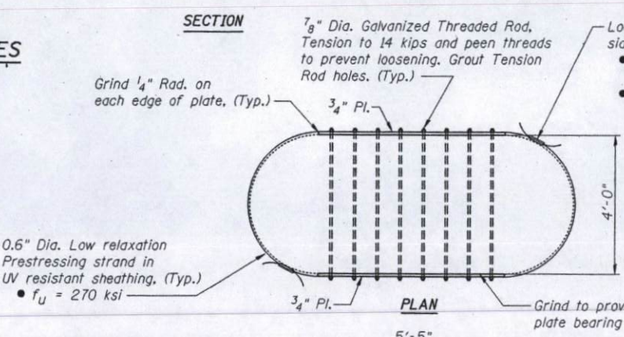
Notes:
1. Circular Columns of Pier P14 were wrapped under a previous retrofit. Wrap oval column only.
2. Pier P15 was modified under a previous retrofit with saw cuts down the crash wall. This area in the crashwall was wrapped. The contractor shall now wrap columns as shown on this sheet.



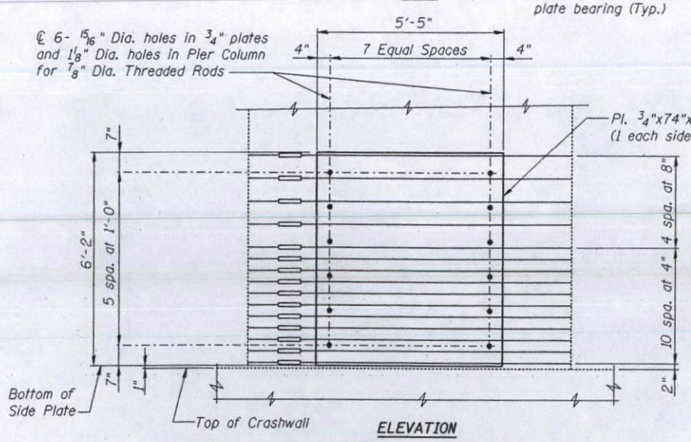
ELEVATION

CIRCULAR COLUMN WRAP

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



PLAN



ELEVATION

PIER P14 OVAL COLUMN WRAP

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

NOTES

1. The cost of Tie Beam Confinement Plates and Threaded Rods shall be included in the Unit Price for "Furnishing And Erecting Structural Steel".
2. The cost of Side Plates and Threaded Rods for Pier 14 shall be included in the unit price for "Column Wraps".

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

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
PIER SEISMIC MODIFICATIONS
(FAI-70) ST. CLAIR CO.

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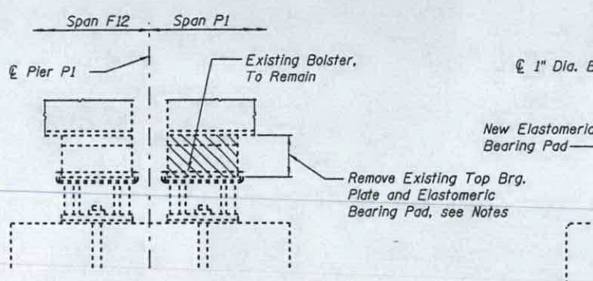
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

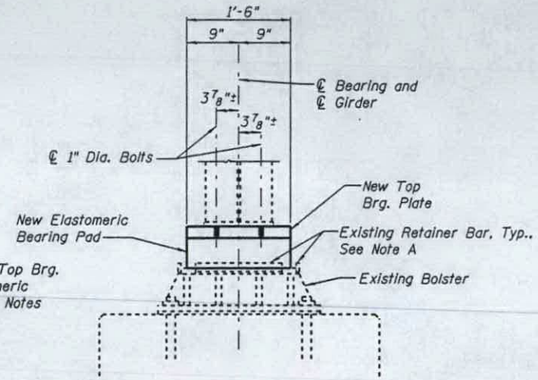
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	286A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT*		

SHEET NO. 47A
51 SHEETS

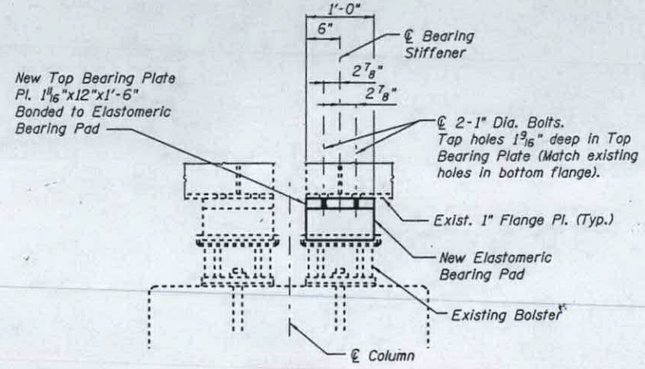
*(82-3HVB-2R-1)-2



AT PIER P1



END VIEW

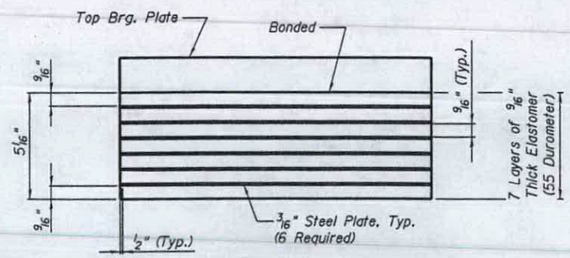


SIDE VIEW

BEARING REMOVAL

BEARING REPLACEMENT

Note A: Remove existing retainer bar on one side for bearing replacement. Care shall be taken not to damage existing bolster during the removal. Grind smooth all weld metal remaining before installing new retainer bar. The Contractor shall provide a new retainer bar of the same size as existing and attach using a 5/16" fillet weld at the bottom edge only. Cost included with Elastomeric Bearing Assemble Type I.



TYPE I ELASTOMERIC BEARING ASSEMBLY

THEORETICAL JACKING LOADS			
Span	Pier	Jacking Load per Bearing	
		Dead Load	Live Load + Impact
P1	P1	90 k	58 k

Note: The theoretical jacking loads listed above were taken from the design drawings for the original structure. See Special Provision "Jack and Remove Existing Bearings" for requirements and limitations for jacking the structure.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	2

NOTES

See Sheet 33 of Structure No. 082-0204 for Elevation of Pier P1.

Minimum Jack Capacity:

1. The capacity of the jacks used to lift the bridge shall be at least 50% to 100% greater than the theoretical jacking loads shown in the table.

Bearing Demolition:

1. After jacking the structure off the bearing assembly, remove existing high-strength bolts that secure the existing bearing assembly to the girder bottom flange.
2. Existing Elastomeric Bearing Pad and Top Bearing Plate, shall be removed.

Bearing Installation:

1. Bearings to be replaced are for both girders at locations shown.
2. If the portion of the bottom flange above the new bearing is bent, the flange should be straightened using continuous pressure applied to both faces of the plate simultaneously before installation of the new bearing.
3. After New Bearing Assembly is attached to the bottom flange and after Superstructure Final Positioning, the area between retainer bars and elastomeric bearing to be filled with an Elastomeric Polymer type sealer, 1" thick, and sloped to drain.

DESIGNED	M. Capron
CHECKED	D. James
DRAWN	F. Camba
CHECKED	D. James

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
BEARINGS
(FAI-70) ST. CLAIR CO.

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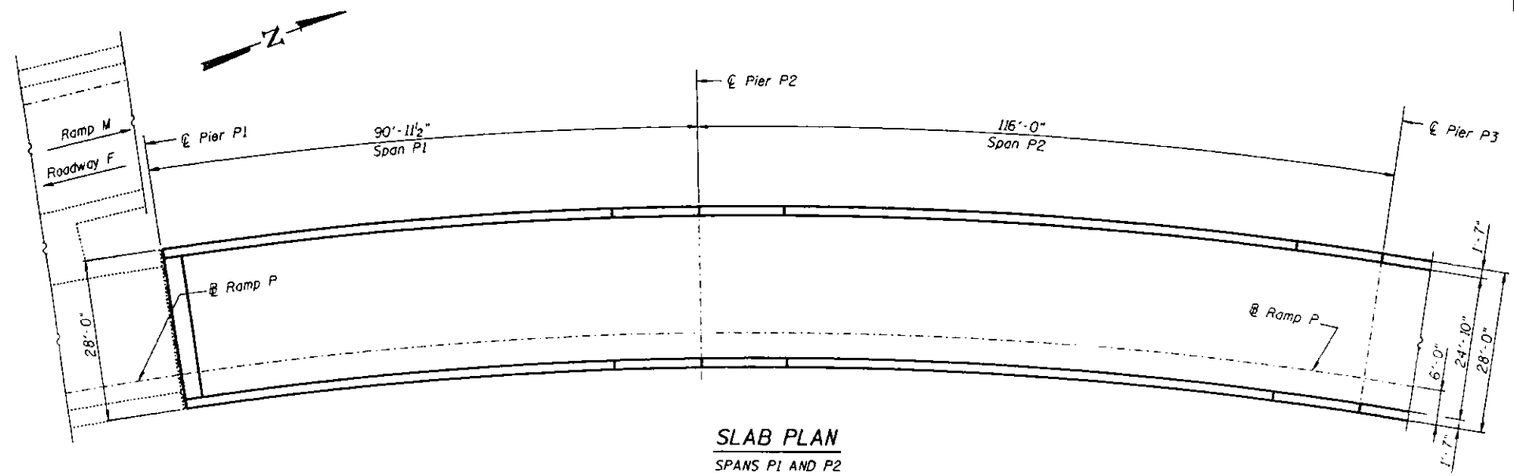
1 NEW SHEET ADDED 7-29-04. MRC

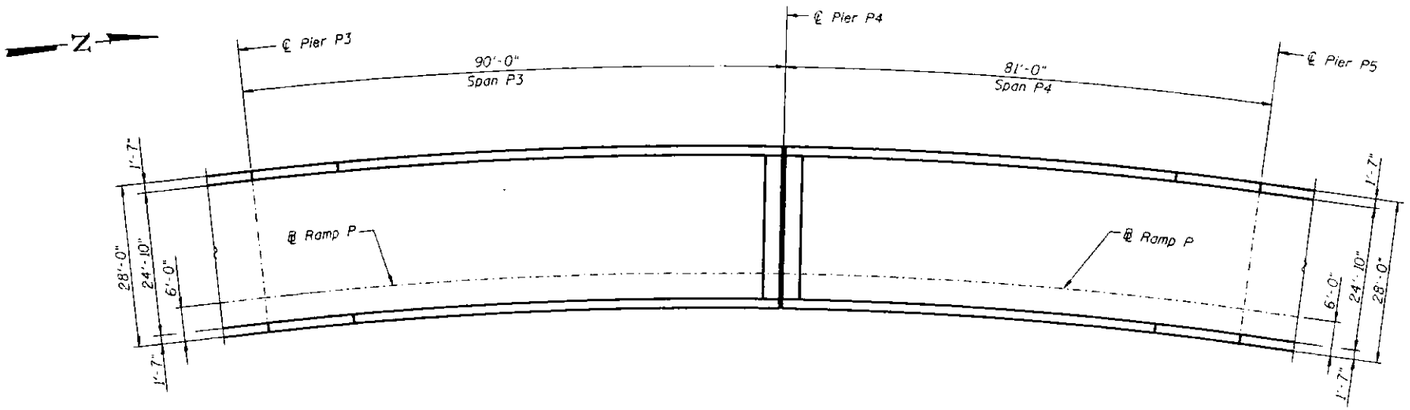
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
FAI-70	*	St. Clair	388	2.87
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 48
51 SHEETS
*(82-3HVB-2R-1)-2



SLAB PLAN
SPANS P1 AND P2



SLAB PLAN
SPANS P3 AND P4

DESIGNED
CHECKED
DRAWN
CHECKED

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
AS-BUILT DECK REPAIR LOCATIONS
SPANS P1 THRU P4
(FAI-70) ST. CLAIR CO.

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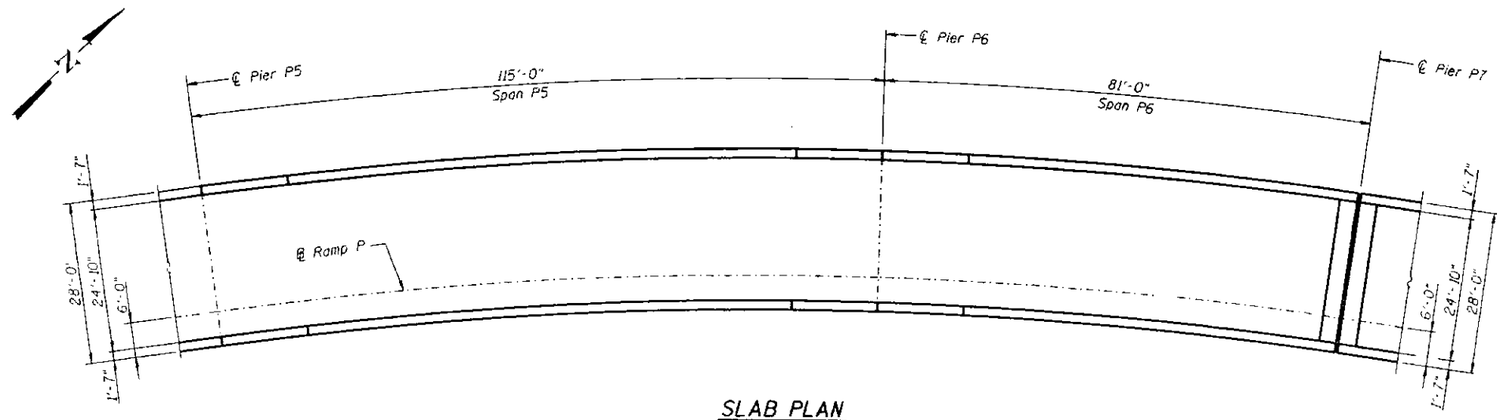
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

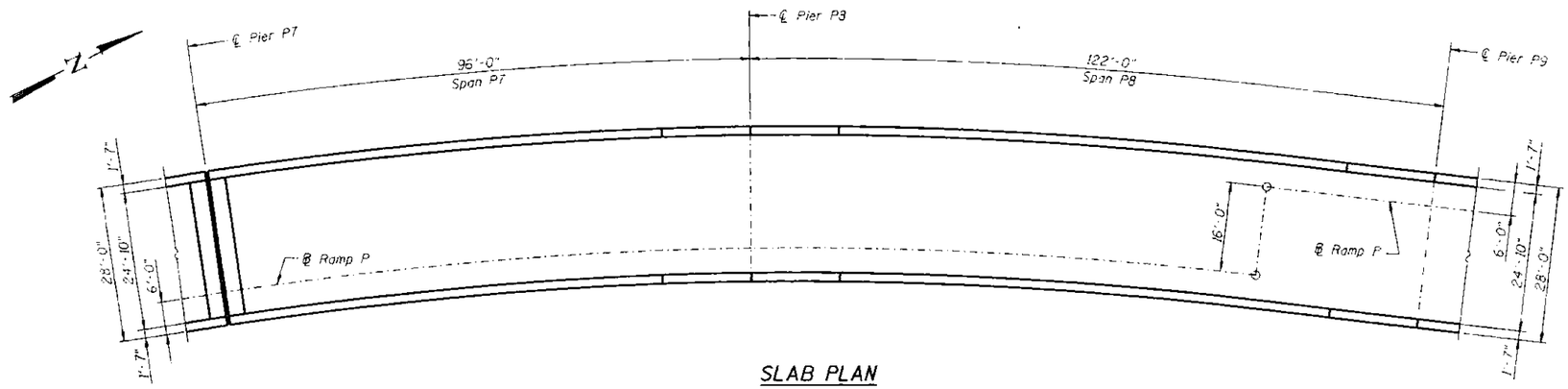
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	288
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 49
51 SHEETS

*182-3HNB-2R-1)-2



SLAB PLAN
SPANS P5 AND P6



SLAB PLAN
SPANS P7 AND P8

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
AS-BUILT DECK REPAIR LOCATIONS
SPANS P5 THRU P8

(FAI-70) ST. CLAIR CO.

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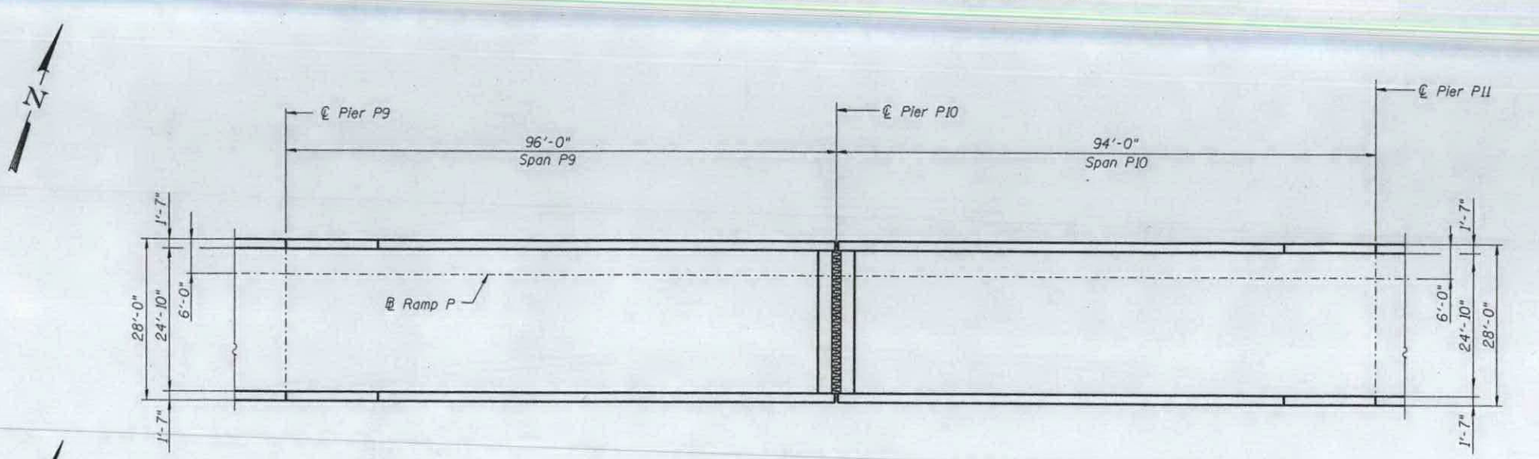
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	289
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

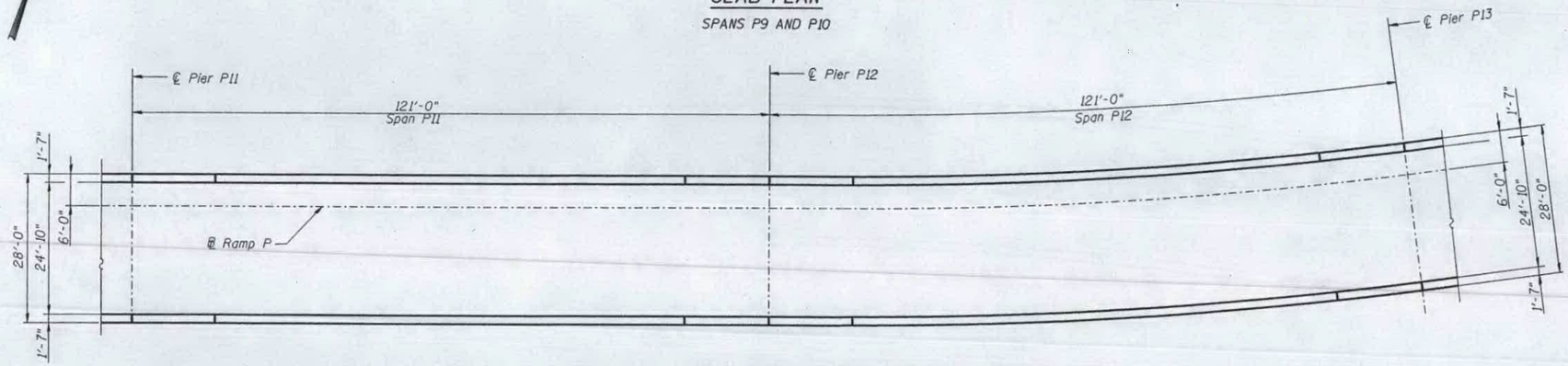
SHEET NO. 50
51 SHEETS

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



SLAB PLAN

SPANS P9 AND P10



SLAB PLAN

SPANS P11 AND P12

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
AS-BUILT DECK REPAIR LOCATIONS
SPANS P9 THRU P12

(FAI-70) ST. CLAIR CO.

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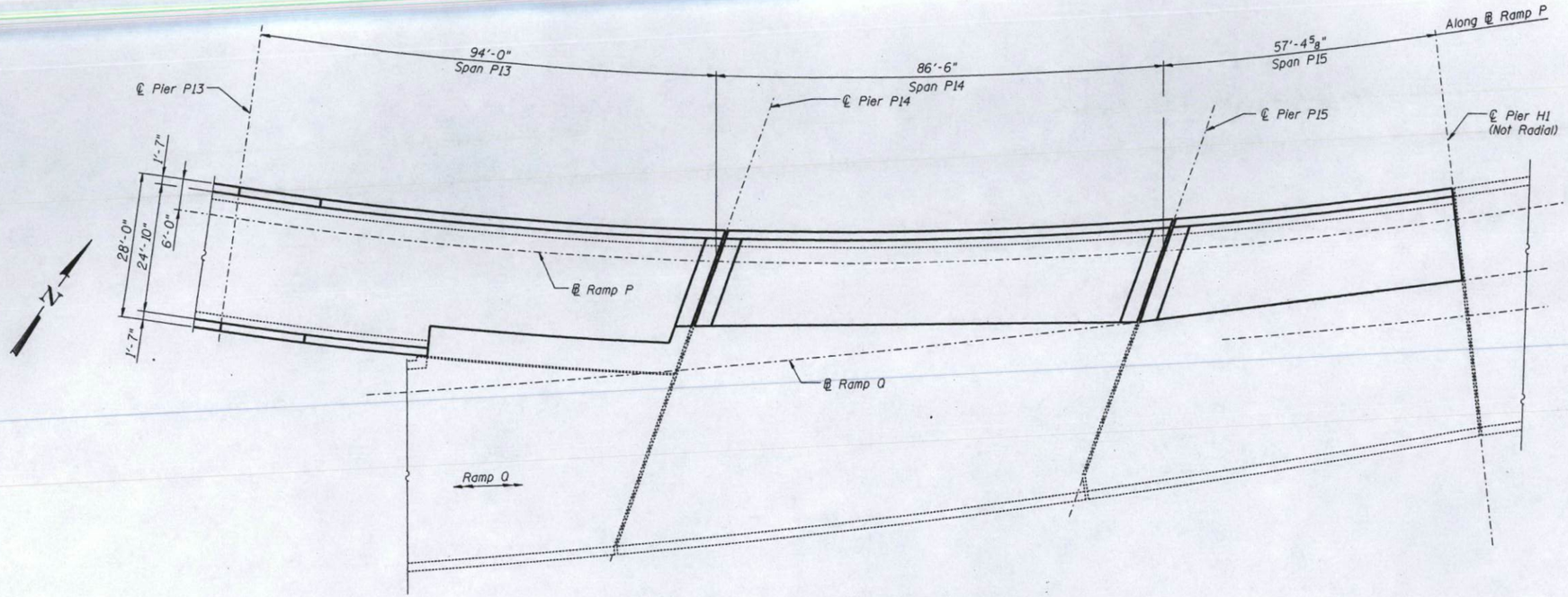
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	St. Clair	388	290
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 51
51 SHEETS

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



PLAN

DESIGNED
CHECKED
DRAWN
CHECKED

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

REHABILITATION FOR FAI 55/70 COMPLEX
RAMP P - STRUCTURE NO. 082-0203
SLAB
SPANS P13 THRU P15
(FAI-70) ST. CLAIR CO.

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96680 #143 7-31-98 F.A.I. RTE. 70 (I-55/70) ST. CLAIR CO. SEC. 82-3HVB-2R-1-I I&R COPY #143

143

95%
6-17-2000

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	0	ST. CLAIR	91	1

SHEET NO. S-1
SHEETS

82-3HVB-2R-1-I **ACIM-70-1(171)1

D-98-012-85

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED SEISMIC AND REDUNDANCY RETROFIT REPAIRS

FAI ROUTE 70

SECTION 82-3HVB-2R-1-I

POPLAR STREET BRIDGE APPROACHES

PROJECT ACIM-70-1(171)1

ST. CLAIR COUNTY

C-98-083-97

THIS CONTRACT CONSISTS OF 4 SETS

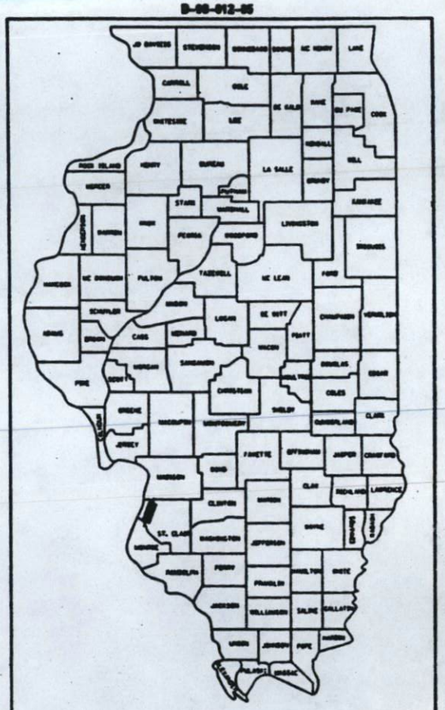
SET 1 OF 4
- STRUCTURE NO. 082-0141 (ROADWAY A)
- STRUCTURE NO. 082-0253 (RAMP R)
- STRUCTURE NO. 082-0201 (RAMP O)
- STRUCTURE NO. 082-0254 (ROADWAY G)

SET 2 OF 4
- STRUCTURE NO. 082-0144 (ROADWAY D)
- STRUCTURE NO. 082-0255 (RAMP Q)
- STRUCTURE NO. 082-0203 (RAMP P)
- STRUCTURE NO. 082-0256 (ROADWAY H)

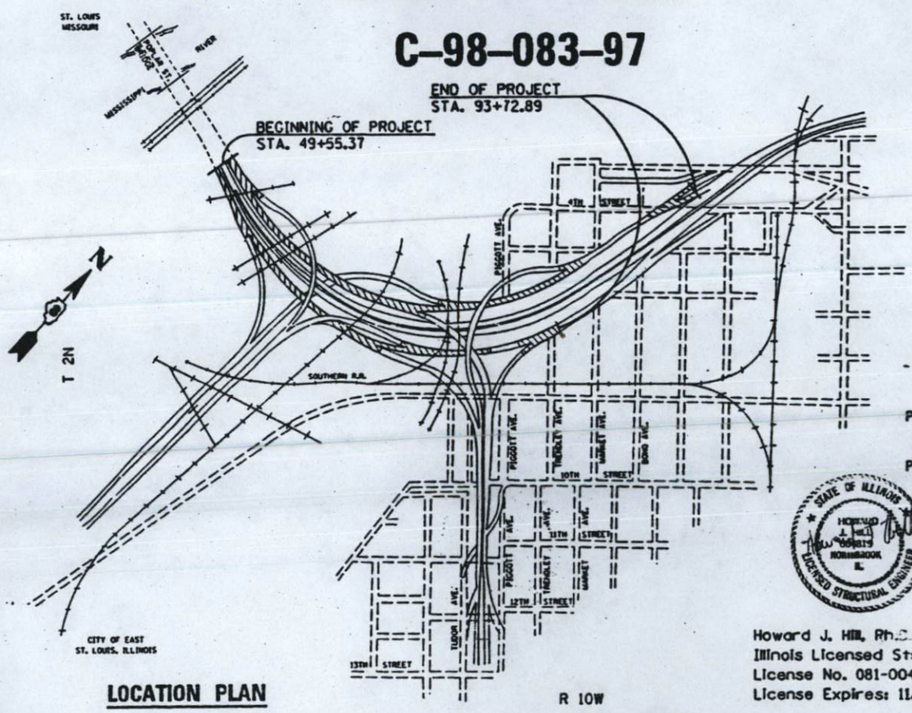
SET 3 OF 4
- STRUCTURE NO. 082-0206 (RAMP G OVER 4TH ST.)

SET 4 OF 4
- STRUCTURE NO. 082-0140 (RAMP H OVER TRENDLEY AVE.)

STANDARDS
701406
702001



Ramp P (Piers P14 & P15)
S.N. 082-0203 8-231



LOCATION PLAN

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PROJECT NET LENGTH :
0.79 MI. = 4178.58 FT.
PROJECT GROSS LENGTH :
0.84 MI. = 4417.52 FT.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Feb 5 19 98
James Easterly (MCL)
DISTRICT ENGINEER

19
ENGINEER OF PROJECT DEVELOPMENT AND IMPLEMENTATION

June 26 19 98
Bill Sunday
ENGINEER OF DESIGN AND ENVIRONMENT

June 26 19 98
James C. Stefan
DIRECTOR, DIVISION OF HIGHWAYS

STATE OF ILLINOIS HOWARD J. HILL 004819 NORTHBROOK IL LICENSED STRUCTURAL ENGINEER

Howard J. Hill, Ph.D. SE
Illinois Licensed Structural Engineer
License No. 081-004819
License Expires: 11/30/98

WJE Wiss, Janney, Elstner Associates, Inc.
Engineers, Architects, Material Scientists
330 Pfingsten Road, Northbrook, Illinois 60062
(847) 272-7400 FAX (847) 291-4813

CONTRACT NO. 96680 082-0203

DEC 02 1997

ST. CLAIR COUNTY SECTION 82-3HVB-2R-1-I F.A.I. ROUTE 70

PROJECT LEADER: BILL SULIVI (618)346-[illegible]16
LOCATED LEADER: STEVE JINES (618)346-[illegible]19

URBAN

90% FED.
10% STATE
SFTY-2A

F.A.I. 70	4	ST. CLAIR	91	2	SHEET NO.
					SHEETS

* 82-3WVS-29-1-1

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
50102400	Concrete removal	CU YD	810
50200200	STRUCTURE EXCAVATION (SPECIAL)	CU YD	70
50500405	Furnish & erect structural steel	LBS.	230760
50301245	Formed concrete repair (depth equal to less than 5")	SQ.FT.	570
X0322549	Column wrap	SQ.FT.	10303
X0322550	Wire rope	FT.	206.3
X0322551	Epoxy grouted dowels	EACH	1099
X0322552	Embankment protection	SQ.FT.	150
X0322553	Foundation wall dowel modification	EACH	544
X0322554	Foundation wall modification	SQ.FT.	191.5
X0322555	Cross frame removal	EACH	23
X0322556	Stiffener intersection modification	EACH	1920
X0322557	Long span floor beam retrofit	EACH	64
X0322558	Bottom flange splice - bolt replacement	EACH	22
X0322559	Bolt replacement	EACH	18
X0322560	Crack extension modifications	EACH	6
X0322561	Cross beam retrofit	EACH	10
X0322562	Steel girder web reinforcement plate	LBS.	~~807900~~ 998,300
X0322563	Vertical web stiffener removal	EACH	2797
X0322564	Column wrap protection	EACH	4
70101800	Traffic Control and Protection, Special	L. Sum	1
7008600	Railroad Protective Liability Insurance	L. Sum	1
X4010300	CHANGEABLE MESSAGE SIGN	CALMO	12
66700400	ENGINEER'S FIELD OFFICE, TYPE A	CALMO	12

△ * Sheet 2A & 2B
Traffic Control and Protection, Special

540

△ ** Sheets 21A & 61A
Redundancy Retrofit Details

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2 *	QUANTITIES AND INDEX OF SHEETS
3	SET 1 - TITLE SHEET
4	GENERAL NOTES
5	SCOPE OF WORK
6	PROJECT PLAN
7	KEY PLAN ROADWAYS A, G, R & O
8	ELEVATION ROADWAYS A, G, R & O
9	TYPICAL SUBSTRUCTURE DETAILS
10	SEISMIC RETROFIT DETAILS
11	SEISMIC RETROFIT DETAILS
12	SEISMIC RETROFIT DETAILS
13	SEISMIC RETROFIT DETAILS
14	SEISMIC RETROFIT DETAILS
15	SEISMIC RETROFIT DETAILS
16	SEISMIC RETROFIT DETAILS
17	SEISMIC RETROFIT DETAILS
18	STIFFENER INTERSECTION MODIFICATION DETAIL
19	LONG SPAN FLOOR BEAM RETROFIT & BOLT REPLACEMENT
20	CRACK EXTENSION RETROFITS
21**	REDUNDANCY RETROFIT DETAILS
22	REDUNDANCY RETROFIT DETAILS
23	REDUNDANCY RETROFIT DETAILS
24	CONCRETE REPAIR DETAILS
25	SEISMIC RETROFIT DETAILS
26	TEMPORARY EMBANKMENT PROTECTION
27	PIER A2 RETROFIT
28	PIER A5 RETROFIT
29	PIERS A7 & A8 RETROFIT
30	PIERS A9 & A11 RETROFIT
31	PIERS A12 & A15 RETROFIT
32	PIERS A16 & A18 RETROFIT
33	PIER A19 RETROFIT
34	PIER A21 RETROFIT
35	PIERS R1-1 & R2-1 RETROFIT
36	PIER R3-1 RETROFIT
37	PIERS R4-1 & O1-R RETROFIT
38	PIER G1 RETROFIT
39	PIERS G2 & G5 RETROFIT
40	PIERS G9 & G11 RETROFIT
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73	PIER D24 RETROFIT
74	PIER D26 RETROFIT
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

SCALE: NONE — DRAWN BY JN
DATE 1-23-98 — CHECKED BY MH

△ Revised 10/21/98 JCM

△ Revised 7-9-98 R.S.

* ENCOMPASSING THE FOLLOWING ROADWAYS

- ROADWAY O. STRUCTURE NO. 082-0144
- RAMP Q. STRUCTURE NO. 082-0255
- RAMP P. STRUCTURE NO. 082-0203
- ROADWAY H. STRUCTURE NO. 082-0256

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SET 2 OF 4 SETS

PLANS FOR PROPOSED SEISMIC AND REDUNDANCY RETROFIT REPAIRS *

FAI ROUTE 70

SECTION 82-3HVB-2R-1-I

POPLAR STREET BRIDGE APPROACHES

ST. CLAIR COUNTY

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S-4	PROJECT PLAN
S-5	KEY PLAN ROADWAYS D, H, Q & P
S-6	ELEVATION ROADWAYS D, H, Q & P
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S-8	SEISMIC RETROFIT DETAILS
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S-22	NOT USED
S-23	NOT USED
S-24	NOT USED
S-25	NOT USED
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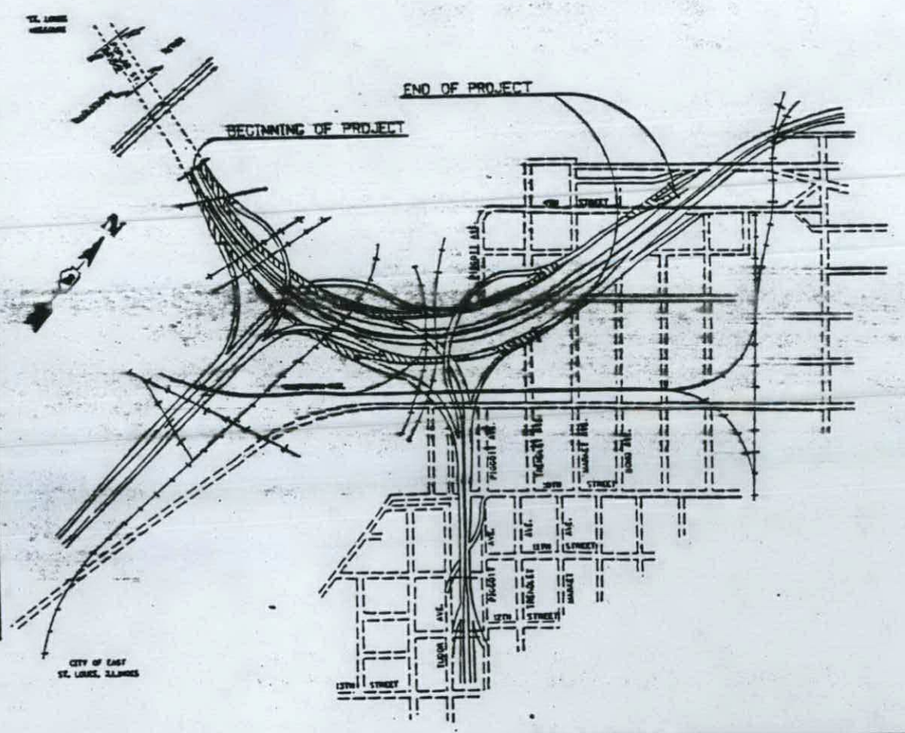
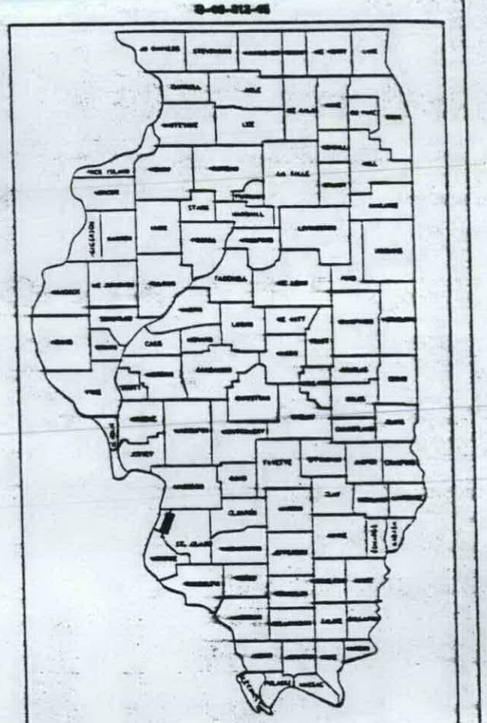
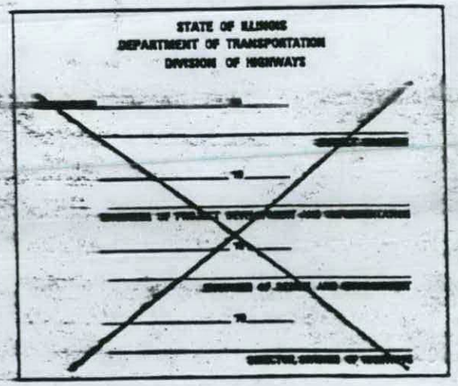
S-41	PIERS H2 & H3 RETROFIT
S-42	PIER H4 RETROFIT

** S-19A: Redundancy Retrofit Details







CONTRACT NO. 96680

Revised 10/21/98 JCM

GENERAL NOTES:

1. 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 materials. Such variations shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

2. This project addresses selected seismic, redundancy and fatigue issues related only to those structures that are listed on the drawings. Related hazards associated with nearby structures or roadways that pass over the subject structures were not considered.

3. Unless noted otherwise, all materials and workmanship shall conform to :
   a. The Illinois Department of Transportation, "Standard Specifications for Road and Bridge Construction", January 1, 1997.
   b. Bridge Welding Code, American Welding Society, AWS D1.5-95.
   c. Surface Texture, American Society of Mechanical Engineers, ANSI B46.1-Latest Edition.

STEEL NOTES:

1. Actual dimensions may vary slightly from the design drawings. The Contractor shall field verify existing dimensions prior to starting work. Dimensions of new members shall be adjusted as required to fit as-built conditions.

2. All new steel assemblies and pieces shall be shop painted with inorganic zinc rich primer/ Acrylic/ Acrylic paint system. The color of the final finish coat shall be Interstate Green, Munsell No. 7.5 G 4/8. Locations to receive field welding shall be masked off prior to shop painting and field painted after welding.

3. Unless noted otherwise, all bolts shall be high strength bolts (AASHTO M164). All threaded rods and dowels shall conform to the mechanical properties and thread configuration of AASHTO M164 bolts. All bolts, threaded rods, wire rope and hardware shall be galvanized according to IDOT galvanized bolt provisions. In bolted applications, threads shall not be permitted in shear planes, unless noted otherwise. AASHTO M253 bolts shall not be galvanized.

4. Unless noted otherwise, all new steel shall be AASHTO M270 Grade 36 and have a minimum CVN impact toughness of 25 ft.-Lb. at 40° F. All rods with upset ends shall have a maximum yield strength of 45 ksi.

5. ~~Welding electrodes shall be low hydrogen E70XX, unless noted otherwise. Weld metal shall have a minimum CVN of 25 ft. Lb. at 20° F.~~

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

7. ~~All wire ropes shall be galvanized and shall have a minimum effective modulus~~ of elasticity of 10,000 ksi. All wire rope fittings shall be capable of developing the ultimate strength of the corresponding rope.

8. Threads on all bolts, rods, and dowels, not installed per AISC specifications shall be peened.

9. Turnbuckles located in cross frame retrofits shall be tightened to achieve a torque of 1000 Ft.-Lbs. in the turnbuckle.

10. The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project. Lead based paint will not be removed from the structure except as necessary to remove transverse stiffeners and perform fatigue retrofits.

11. At locations of transverse stiffener removal, existing girder webs shall be primed with an inorganic zinc rich primer and painted with a paint system compatible with the existing paint.

12. No welding, flame cutting or carbon-arc cutting is permitted unless specified in a repair detail or approved by the Engineer.

13. Alternative procedures for the structural modifications will be considered by the Engineer if submitted in writing for approval. The work shall be performed in the sequence listed in the Procedures unless otherwise approved by the Engineer. Where a procedure calls for approval of an Engineer before acceptance, it is anticipated that visual examinations or non-destructive tests will be conducted, and that additional grinding or other work may be required.

14. Where magnetic particle (MT) inspection is called for on the drawings, the minimum qualifications of the inspector shall meet ASNT Level II requirements. The Engineer will observe the final test acceptance.

15. To avoid bolt clearance installation difficulties, the bumper assemblies shall be installed prior to the installation of the web reinforcement plate(s).

CONCRETE NOTES:

1. The Engineers' intent is to repair only large areas of unsound concrete or unsound areas receiving column wraps. The contract quantities do not include all of the unsound concrete on the piers. Areas of unsound concrete to be repaired shall be approved by the Engineer.

2. The extent of deteriorated concrete in columns and walls shall be determined by hammer tapping. The concrete removal shall extend a minimum of 4 in. beyond the edge of the unsound area, be as nearly rectangular as possible, and conform to the concrete repair details included in the drawings.

3. Concrete removal equipment consisting of pneumatic chipping hammers shall not exceed a maximum nominal weight of 30 lb. and shall be equipped with a cutting edge not less than ¾ in. or greater than 2½ in. in width. During concrete removal, exercise reasonable care to avoid cracking of underlying sound concrete.

SHEET NO. S-2
SHEETS

REVISIONS	
NAME	DATE
JCM	10/21/98

GENERAL NOTES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

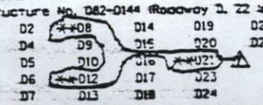
STRUCTURE NO. 082-0244 (ROADWAY B) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP Q)
SCALE: NONE DRAWN BY JM

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. S-3
F.A.I. 70	-	ST. CLAIR	91	45	SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	TOTAL AND PROJECT			

- 82-3HVB-2R-1-1

SCOPE OF WORK

SEISMIC RETROFIT



1. Install column wraps on the following piers.
   - Structure No. 082-0144 (Roadway D. 22 locations)
     D2 **D8 D14 D19 D25
     D4 D9 D15 D20 D26
     D5 D10 D16 **D21
     D6 **D12 D17 D23
     D7 D13 D18 D24
   - Structure No. 082-0255 (Ramp Q. 2 locations)
     D1-1 D2-1
   - Structure No. 082-0203 (Ramp P. 2 locations)
     P14 P15
   - Structure No. 082-0256 (Roadway H. 3 locations)
     H1 H3 H4
2. Install tie beam wraps on the following piers (excluding piers with cross frames)
   - Structure No. 082-0144 (Roadway D. 6 locations)
     D4 D7 D16
     D6 D10 D19
3. Install cross frame assembly including: tie beam wraps, column bands and slab/floor beam connections on the following piers.
   - Structure No. 082-0144 (Roadway D. 6 locations)
     D2 D13 D23
     D9 D17 D24
   - Structure No. 082-0256 (Ramp H. 2 locations)
     H3 H4
4. Install slab/floor beam connections on the following piers (excluding piers with cross frames).
   - Structure No. 082-0144 (Roadway D. 12 locations)
     D3 D7 D14 D20
     D4 D10 D16 D22 (East)
     D6 D11 (West) D19 D25
5. Remove existing cross frames and install new cross frames at the following piers.
   - Structure No. 082-0255 (Ramp D. 2 locations)
     D1-1 D2-1
6. Install bumper/tie assembly on the following piers.
   - Structure No. 082-0144 (Roadway D. 7 locations)
     D5 D11 D15 D21
     D8 D12 D18
   - Structure No. 082-0203 (Ramp P. 1 location)
     P15
   - Structure No. 082-0256 (Roadway H. 1 location)
     H1
7. Install foundation wall dowel modifications on the following piers.
   - Structure No. 082-0144 (Roadway D. 13 locations)
     D4 D9 D18 D26
     D5 D13 D19
     D6 D15 D24
     D8 D17 D25
   - Structure No. 082-0203 (Ramp P. 1 location)
     P14
   - Structure No. 082-0256 (Roadway H. 2 locations)
     H1 H4
8. Install shear transfer assembly at the following piers.
   - Structure No. 082-0144 (Roadway D. 2 locations)
     D11 D22
9. Install bumper assembly on the following piers.
   - Structure No. 082-0144 (Roadway D. 2 locations)
     D9 D24
   - Structure No. 082-0203 (Ramp P. 1 location)
     P14
10. Install girder tie assembly on the following piers.
    - Structure No. 082-0144 (Roadway D. 2 locations)
      D22 D26
    - Structure No. 082-0256 (Roadway H. 1 location)
      H2
11. Install roadway tie assembly on the following piers.
    - Structure No. 082-0144 (Roadway D. 2 locations)
      D11 D26
    - Structure No. 082-0203 (Ramp P. 1 location)
      P14
12. Install bumper column bands on the following piers.
    - Structure No. 082-0144 (Roadway D. 6 locations)
      D5 D9 D18
      D8 D15 D24
13. Install foundation wall saw cut on the following piers.
    - Structure No. 082-0144 (Roadway D. 2 locations)
      D12 D21
    - Structure No. 082-0203 (Ramp P. 1 location)
      P15

FATIGUE & REDUNDANCY RETROFIT

1. Perform stiffener intersection modifications on the structures.
   - Structure No. 082-0144 (Roadway D. 23 spans)
     D1 thru D10, D12 thru D20 & D22 thru D25
   - Structure No. 082-0256 (Roadway H. 3 spans)
     H2 H3 H4
2. Perform long span floor beam retrofits on the following structures.
   - Structure No. 082-0144 (Roadway D. 4 spans)
     D9 D10 D24 D25
3. Perform bottom flange splice - bolt replacement on the following structures.
   - Structure No. 082-0144 (Roadway D. 6 spans)
     D1 D3 D9
     D2 D4 D22
4. Perform bolt replacement retrofits on the following structures.
   - Structure No. 082-0144 (Roadway D. 3 spans)
     D22 D23 D24
   - Structure No. 082-0256 (Roadway H. 1 span)
     H3
5. Perform crack extension retrofits on the following structures.
   - Structure No. 082-0256 (Roadway H. 2 spans)
     H3 H4
6. Perform cross beam retrofits on the following structures.
   - Structure No. 082-0144 (Roadway D. 1 span)
     D21
   - Structure No. 082-0203 (Ramp P. 1 span)
     P15
   - Structure No. 082-0256 (Roadway H. 1 span)
     H1
7. Install redundancy web plates on the following structures.
   - Structure No. 082-0144 (Roadway D. 23 locations)
     D1 thru D10, D12 thru D20 & D22 thru D25
   - Structure No. 082-0256 (Roadway H. 3 locations)
     H2 H3 H4

**Wrapping of these columns by others (PTP Research Project) [illegible] part of this contract. See Special provisions.

SCOPE OF WORK

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP Q)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

Revised 7-9-98 R.S.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	--	ST. CLAIR	91	46
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-4
SHEETS

-- 82-3HVB-2R-1-I

SEISMIC DATA

Bedrock acceleration coefficient (A) = 0.12g
Site coefficient (S) = 1.0
Seismic performance requirements:
- Use of roadways without long delay or major repair.

DESIGN SPECIFICATIONS

1996 AASHTO Standard Specifications for Highway Bridges
1995 FHWA Seismic Retrofit Manual

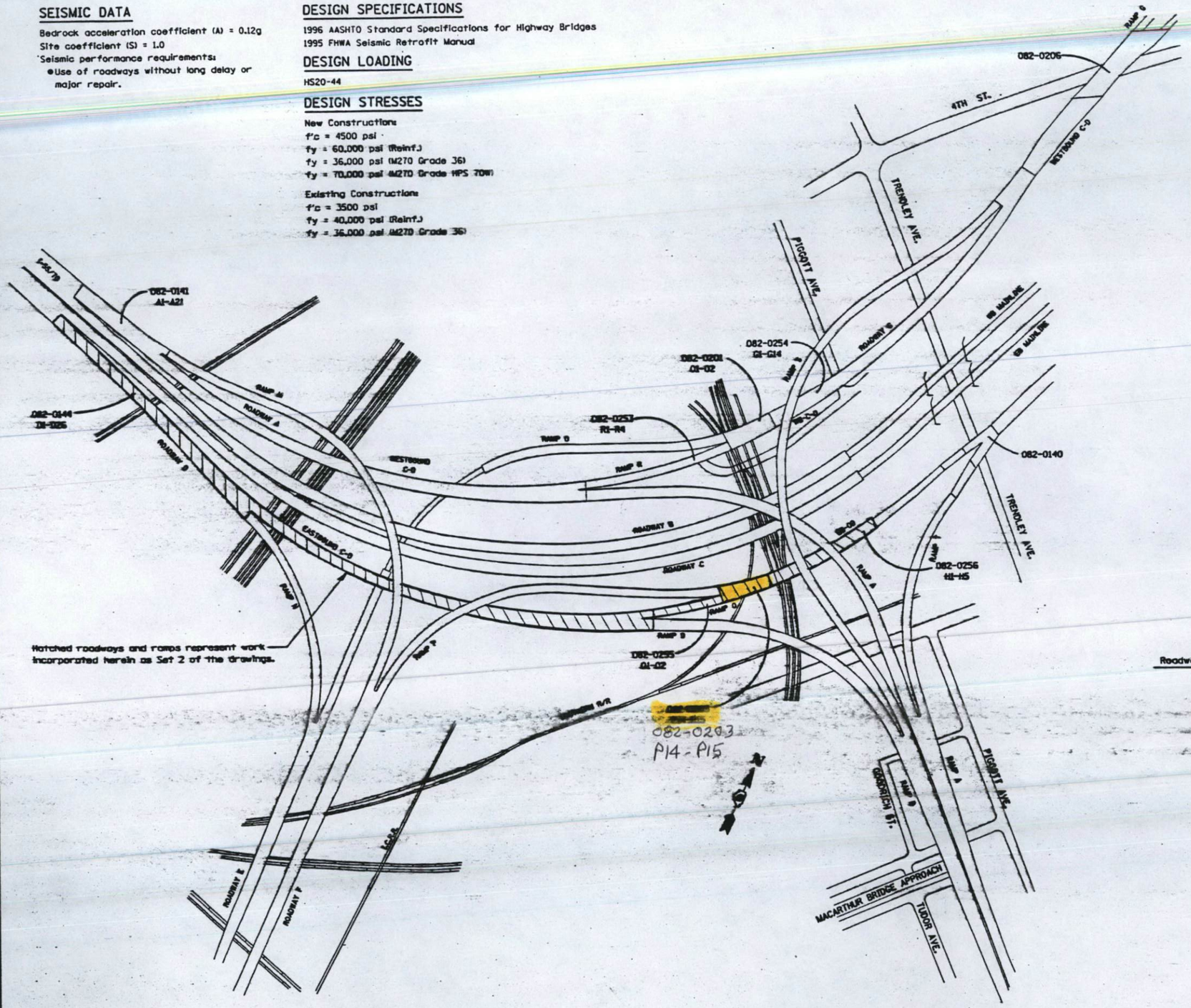
DESIGN LOADING

HS20-44

DESIGN STRESSES

New Construction:
f'c = 4500 psi
fy = 60,000 psi (Reinf.)
fy = 36,000 psi (M270 Grade 36)
fy = 70,000 psi (M270 Grade HPS 70W)

Existing Construction:
f'c = 3500 psi
fy = 40,000 psi (Reinf.)
fy = 36,000 psi (M270 Grade 36)



LOCATION SKETCH



OVERALL PROJECT PLAN

Roadway / Ramp	Segment / Pier Nos.	Structure No.	Year / Structure Type
D	D1-D26	082-0144	1967 Two Girder System
H	H1-H5	082-0256	1967 Two Girder System
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

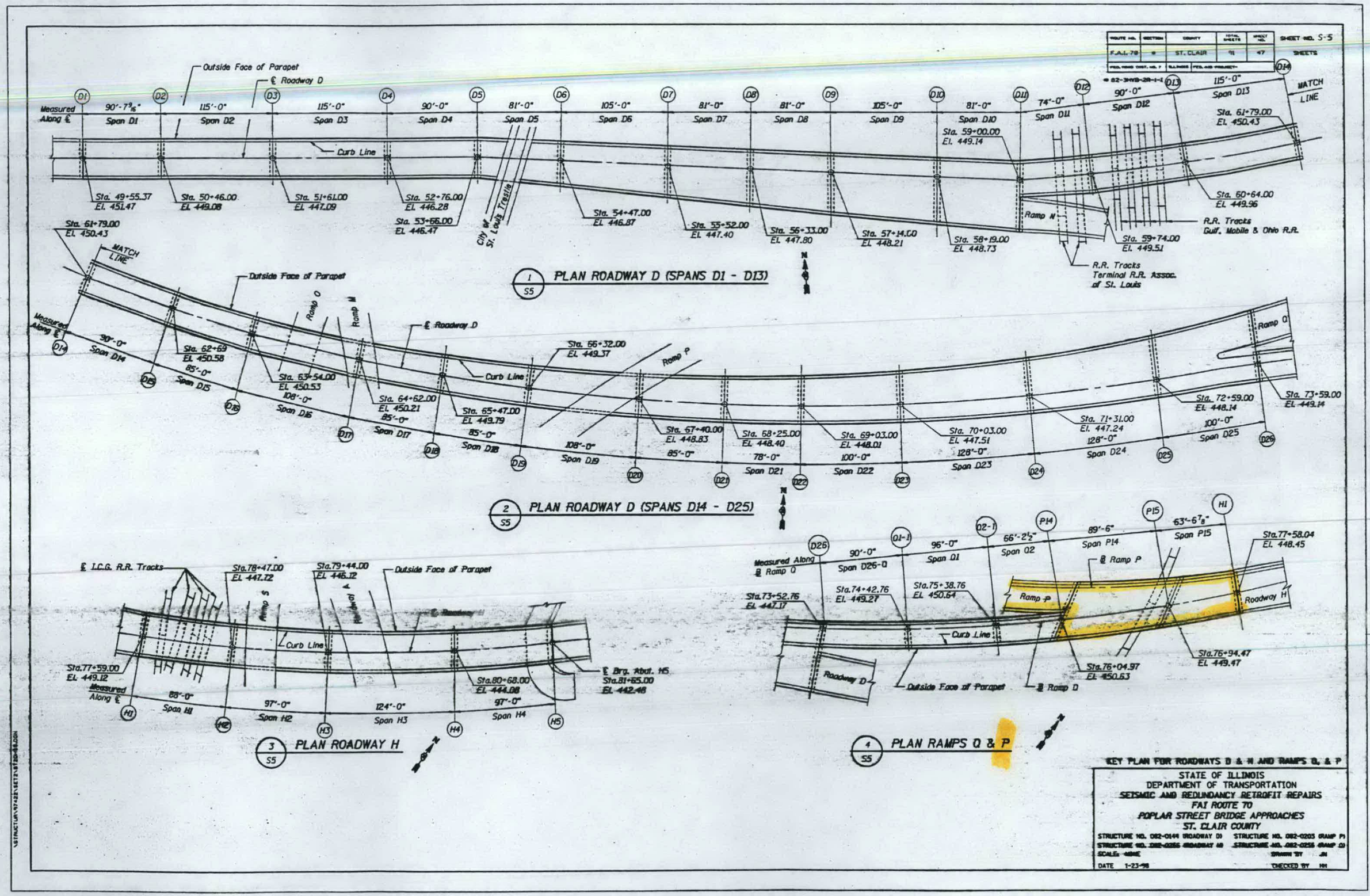
*East side of span

PROJECT PLAN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. [redacted] (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP J)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY MH

\STRUCTURE\97422-SET2\S12PPL84.DGN

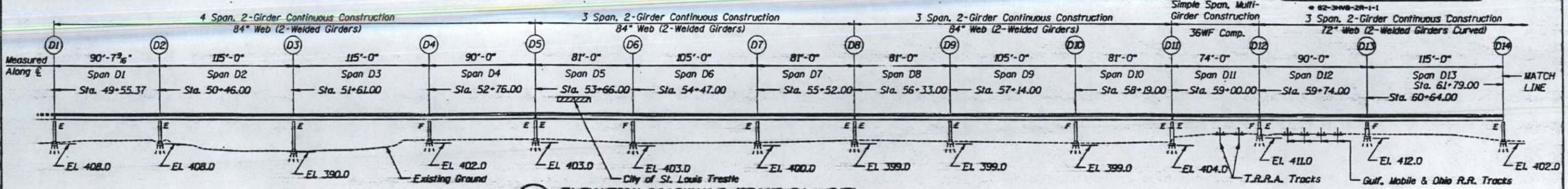


SHEET NO. S-5
F.A.I. 70
ST. CLAIR
91
47
SHEETS
Outside Face of Parapet
℄ Roadway D
Measured Along ℄
90'-7 9/16"
Span D1
115'-0"
Span D2
115'-0"
Span D3
90'-0"
Span D4
81'-0"
Span D5
105'-0"
Span D6
81'-0"
Span D7
81'-0"
Span D8
105'-0"
Span D9
81'-0"
Span D10
74'-0"
Span D11
90'-0"
Span D12
115'-0"
Span D13
MATCH LINE
Curb Line
Sta. 49+55.37
El. 451.47
Sta. 50+46.00
El. 449.08
Sta. 51+61.00
El. 447.09
Sta. 52+76.00
El. 446.28
Sta. 53+66.00
El. 446.47
City of St. Louis Trestle
Sta. 54+47.00
El. 446.87
Sta. 55+52.00
El. 447.40
Sta. 56+33.00
El. 447.80
Sta. 57+14.00
El. 448.21
Sta. 58+19.00
El. 448.73
Sta. 59+00.00
El. 449.14
Sta. 59+74.00
El. 449.51
Sta. 60+64.00
El. 449.96
Sta. 61+79.00
El. 450.43
Ramp N
R.R. Tracks
Gulf, Mobile & Ohio R.R.
R.R. Tracks
Terminal R.R. Assoc. of St. Louis
1 S5 PLAN ROADWAY D (SPANS D1 - D13)
Sta. 61+79.00
El. 450.43
MATCH LINE
Outside Face of Parapet
Ramp O
Ramp M
℄ Roadway D
Measured Along ℄
90'-0"
Span D14
85'-0"
Span D15
108'-0"
Span D16
85'-0"
Span D17
85'-0"
Span D18
108'-0"
Span D19
85'-0"
78'-0"
Span D21
100'-0"
Span D22
128'-0"
Span D23
128'-0"
Span D24
100'-0"
Span D25
Sta. 62+69
El. 450.58
Sta. 63+54.00
El. 450.53
Sta. 64+62.00
El. 450.21
Sta. 65+47.00
El. 449.79
Sta. 66+32.00
El. 449.37
Curb Line
Ramp P
Sta. 67+40.00
El. 448.83
Sta. 68+25.00
El. 448.40
Sta. 69+03.00
El. 448.01
Sta. 70+03.00
El. 447.51
Sta. 71+31.00
El. 447.24
Sta. 72+59.00
El. 448.14
Sta. 73+59.00
El. 449.14
Ramp Q
2 S5 PLAN ROADWAY D (SPANS D14 - D25)
℄ I.C.G. R.R. Tracks
Sta. 78+47.00
El. 447.72
Sta. 79+44.00
El. 446.12
Outside Face of Parapet
Ramp S
Roadway A
℄ Roadway H
Curb Line
Sta. 77+59.00
El. 449.12
Measured Along ℄
88'-0"
Span H1
97'-0"
Span H2
124'-0"
Span H3
97'-0"
Span H4
Sta. 80+68.00
El. 444.08
℄ Brg. Abut. H5
Sta. 81+65.00
El. 442.48
3 S5 PLAN ROADWAY H
Measured Along ℄ Ramp Q
90'-0"
Span D26-Q
96'-0"
Span Q1
66'-2 1/2"
Span Q2
89'-6"
Span P14
63'-6 7/8"
Span P15
Sta. 77+58.04
El. 448.45
℄ Ramp P
Sta. 73+52.76
El. 447.17
Sta. 74+42.76
El. 449.27
Sta. 75+38.76
El. 450.64
Ramp P
Roadway H
Curb Line
Roadway D
Outside Face of Parapet
℄ Ramp D
Sta. 76+04.97
El. 450.63
Sta. 76+94.47
El. 449.47
4 S5 PLAN RAMPS Q & P
KEY PLAN FOR ROADWAYS D & H AND RAMPS Q, & P
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY
STRUCTURE NO. 082-0144 (ROADWAY D)
STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0266 (ROADWAY H)
STRUCTURE NO. 082-0256 (RAMP Q)
SCALE: NONE
DRAWN BY JN
DATE 1-23-98
CHECKED BY HH

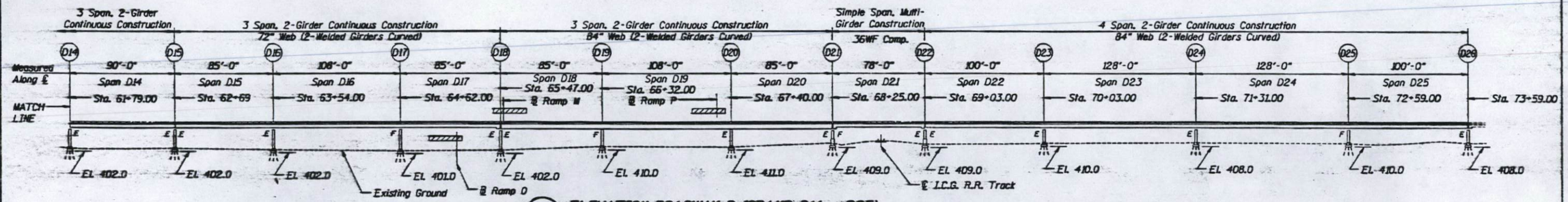
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	41	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-6
SHEETS

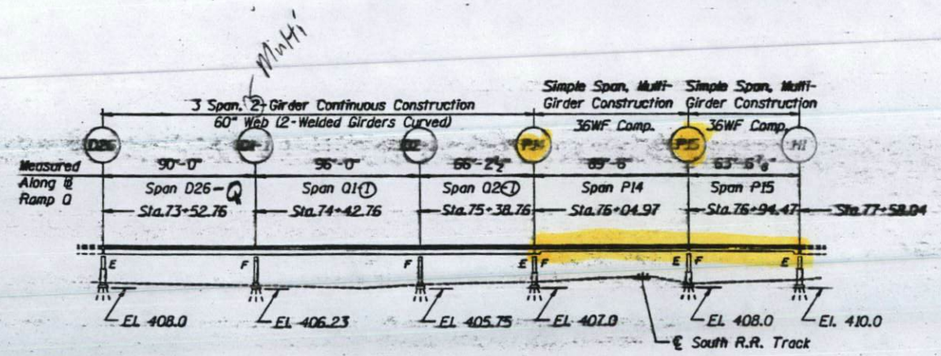
- 82-3HVB-2R-1-1



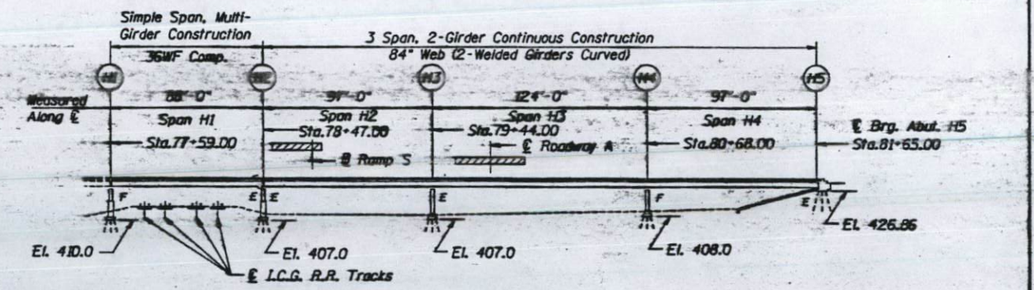
1/S6 ELEVATION ROADWAY D (SPANS D1 - D13)



2/S6 ELEVATION ROADWAY D (SPANS D14 - D25)



3/S6 ELEVATION RAMPS O & P



4/S6 ELEVATION ROADWAY H

ELEVATION OF SPAN UNITS FOR ROADWAYS D & H AND RAMPS O & P

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

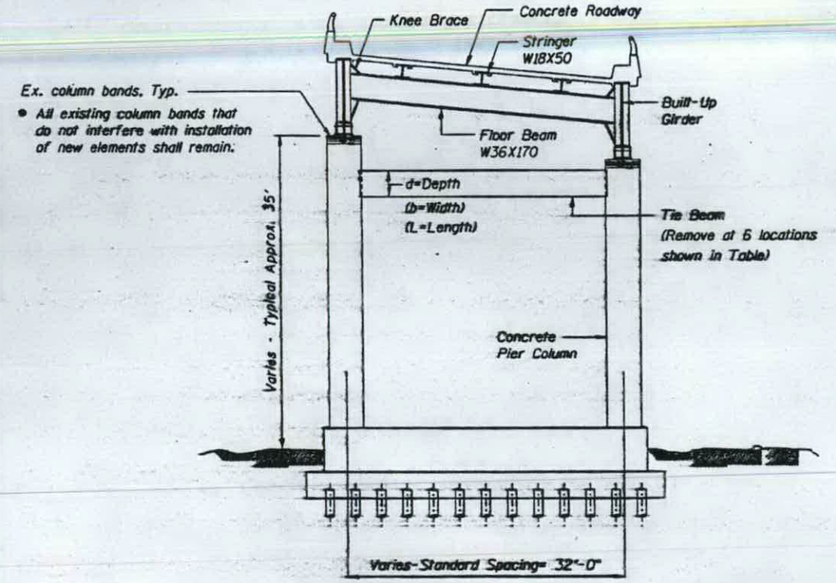
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0206 (ROADWAY H) STRUCTURE NO. 082-0258 (RAMP O)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

\STRUCTURE\97-82-1661\2-1661.DGN

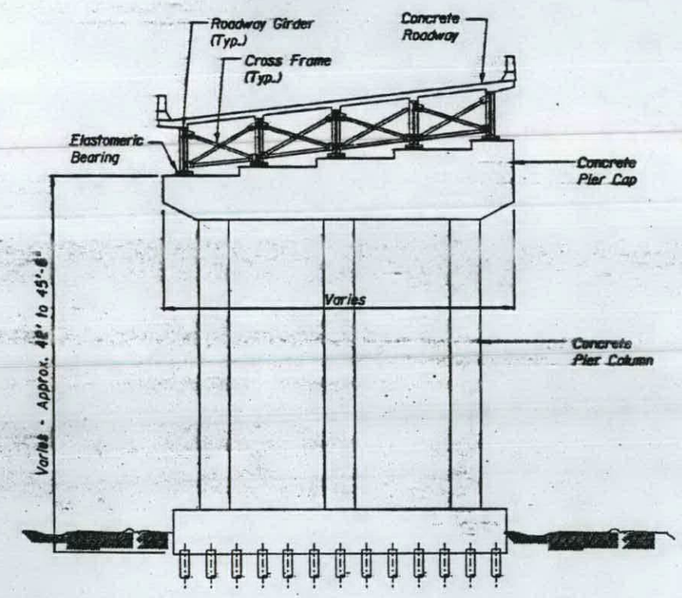
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	19	ST. CLAIR	91	49
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT=		

SHEET NO. S-7
SHEETS

= 82-3HNB-2R-1-I



1/S7 TYPICAL SECTION THROUGH TWO GIRDER ROADWAY
(Section through Ramp Similar)



2/S7 TYPICAL SECTION THROUGH MULTI - GIRDER ROADWAY

TIE BEAM REMOVAL PARAMETERS

Pier	d (in.)	b (in.)	L (Ft,-in.)	Comments
D5	36	15	28'-0"	
D8	36	21	40'-2"	
D15	36	15	28'-0"	
D18	36	15	28'-1"	
D26	36	15 & 24	57'-0"	See Note 4
PH	36	15	42'-10"	See Note 3

Notes:

1. Cut tie beam ends flush with inside faces of columns, such that horizontal ledge is eliminated.
2. Coat exposed ends of reinforcement bars with IDOT approved epoxy. Epoxy shall overlap a minimum of 1" onto surrounding concrete.
3. Length (L) includes 2 tie beams to be removed.
4. Includes 9'-0" of 24" x 36" tie beam and 48'-0" of 15" x 36" tie beam, in 3 sections.

TYPICAL SUBSTRUCTURE DETAILS

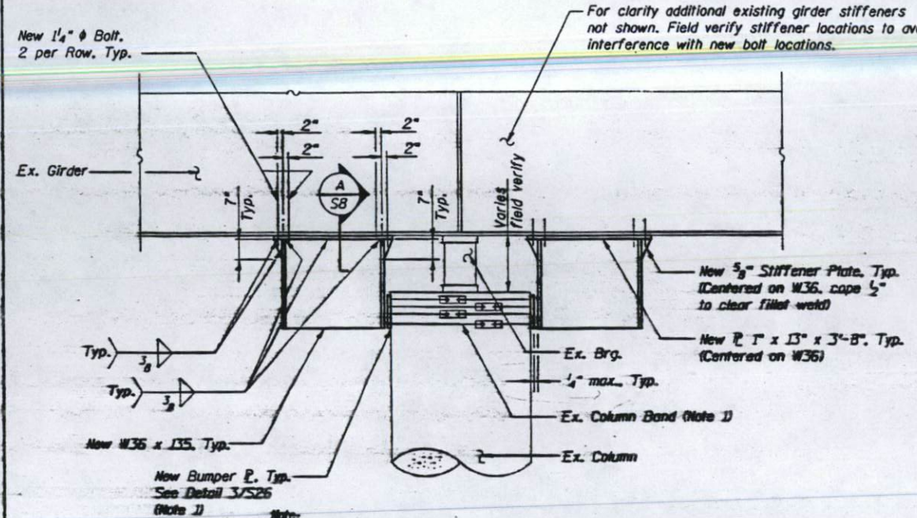
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0255 (ROADWAY G) STRUCTURE NO. 082-0256 (RAMP Q)
SCALE: NONE DRAWN BY JN
DATE 1-23-98 CHECKED BY HH

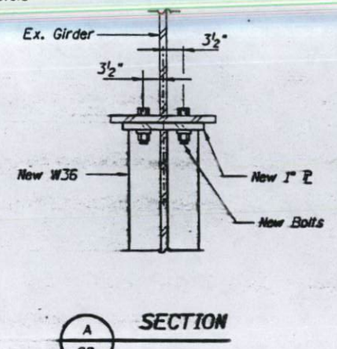
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	91	58
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. S-8
SHEETS

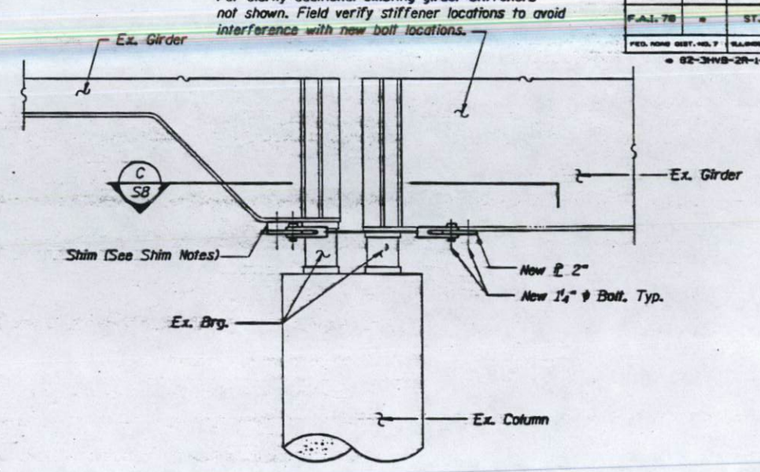
⊕ 82-3HVB-2R-1-I



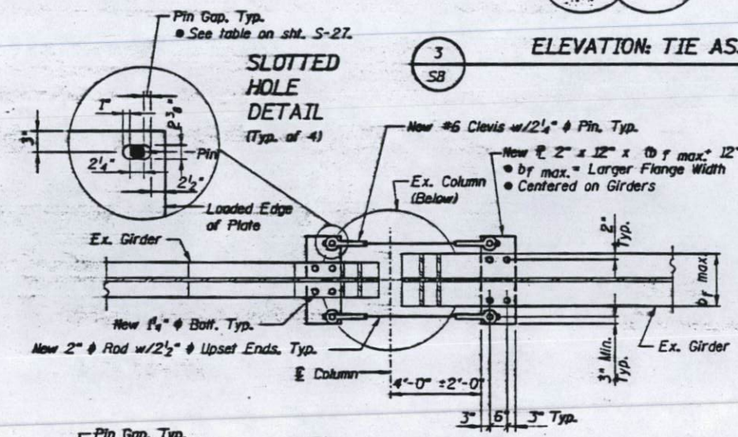
1 S8 ELEVATION: BUMPERS AT CONTINUOUS GIRDER



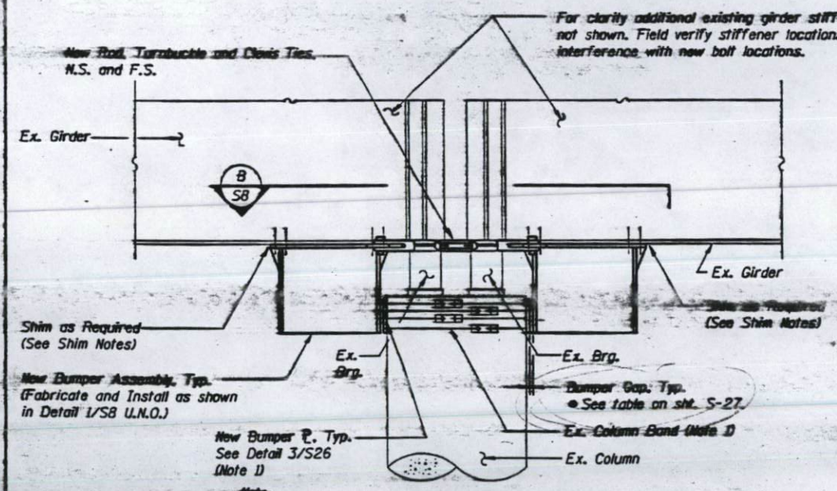
A S8 SECTION



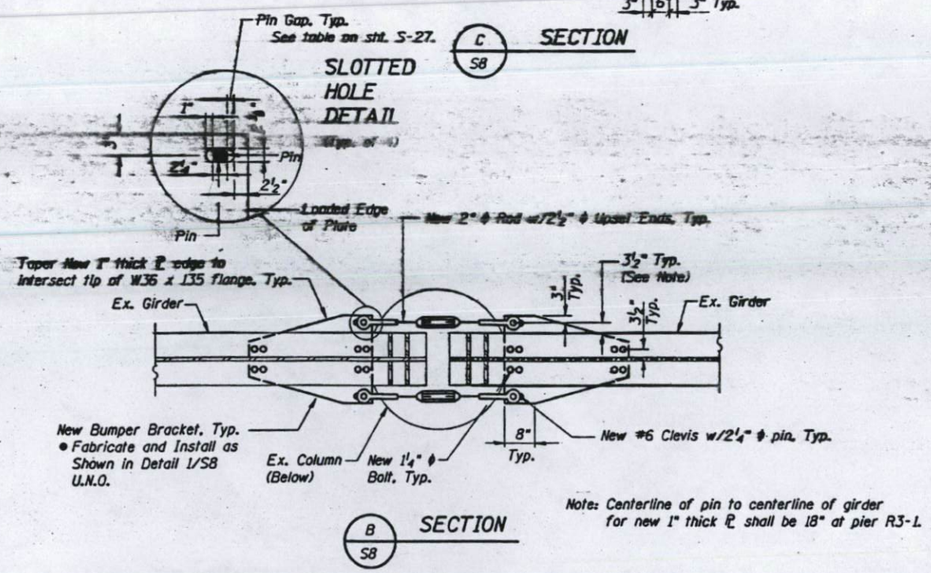
3 S8 ELEVATION: TIE ASSEMBLY



C S8 SECTION



2 S8 ELEVATION: BUMPER/TIE ASSEMBLY



B S8 SECTION

Note: Centerline of pin to centerline of girder for new 1" thick ℄ shall be 18" at pier R3-L

SHIM NOTES:

1. Shim higher flange so that elevation difference between ends of rod is no more than ½".
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/TIE ROD NOTES:

1. All bolt holes shall be standard round holes (ϕ+1/16") Unless Noted Otherwise.
2. All bumpers and tie rod connection plates shall be centered on the existing girder.
3. Tie Rods may be multiple bar sections with turnbuckles or single rods without turnbuckles.
4. The total length of the unthreaded portion of each tie rod assembly shall not be less than 1'-8".
5. Tie rods may extend 0" min. to ¾" max. into clevis and turnbuckle openings U.N.O.

SEISMIC RETROFIT DETAILS

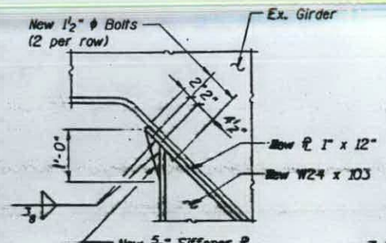
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP D)
SCALE: NONE DRAWN BY AM
DATE 1-23-98 CHECKED BY HH

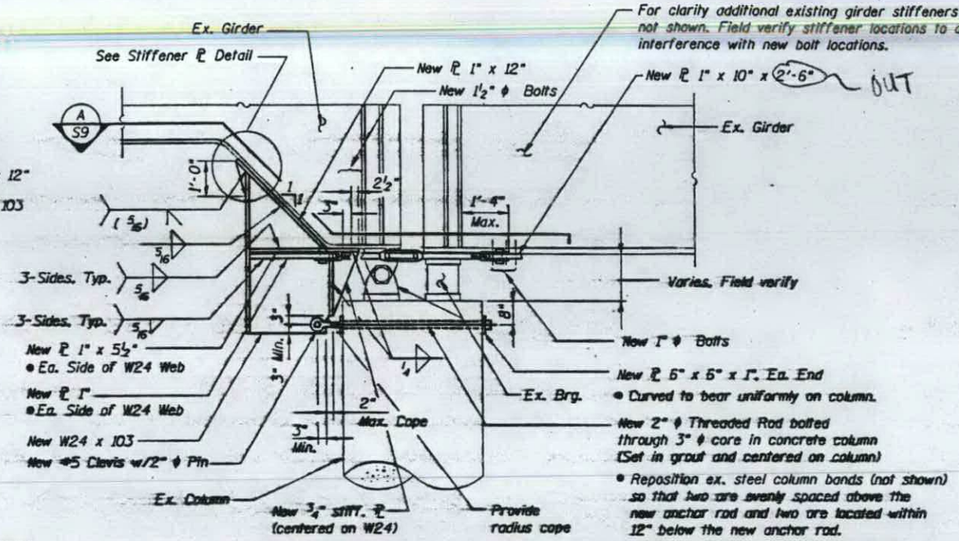
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	91	51
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-9
SHEETS

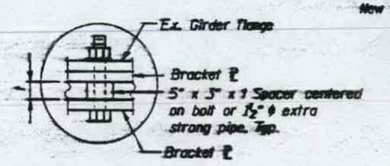
- 82-3HVB-2R-1-1



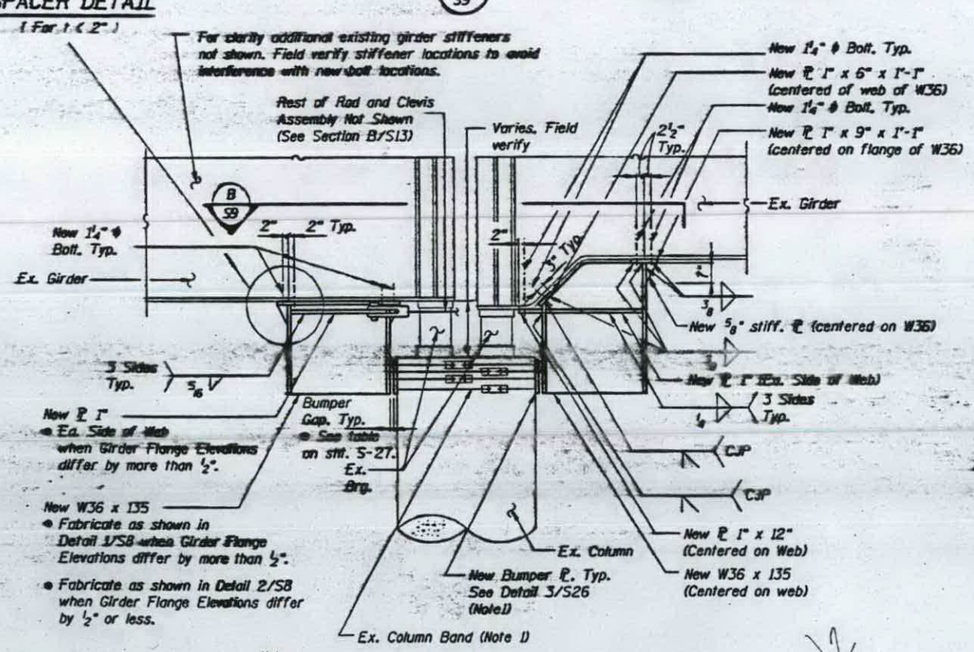
STIFFENER ℄ DETAIL



1 / S9 ELEVATION: BUMPER/TIE AT HAUNCHED GIRDER WITH FIXED BEARING



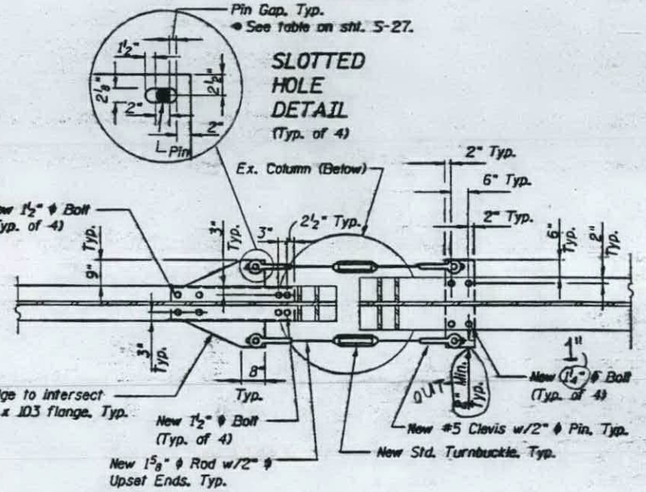
SPACER DETAIL
(For t < 2")



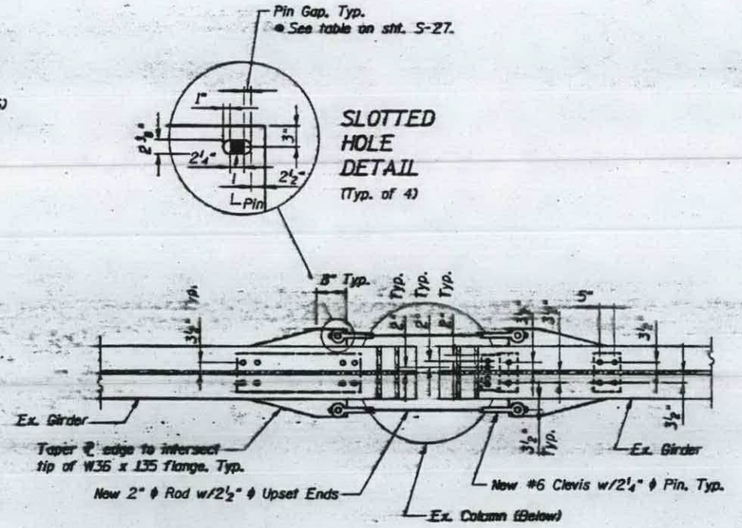
Note:

1. Some locations will require new band and bumper ℄ assembly. Appropriate details are called out on elevations of affected piers.

2 / S9 ELEVATION: BUMPER/TIE AT HAUNCHED GIRDER



A / S9 SECTION



B / S9 SECTION

BUMPER/TIE ROD NOTES:

1. All bolt holes shall be standard round holes (ϕ+1/16") Unless Noted Otherwise.
2. All bumpers and tie rod connection plates shall be centered on the existing girder.
3. Tie Rods may be multiple bar sections with turnbuckles or single rods without turnbuckles.
4. The total length of the unthreaded portion of each tie rod assembly shall not be less than 1'-8".
5. Tie rods may extend 0" min. to ¾" max. into clevis and turnbuckle openings (1.5 Ø

SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

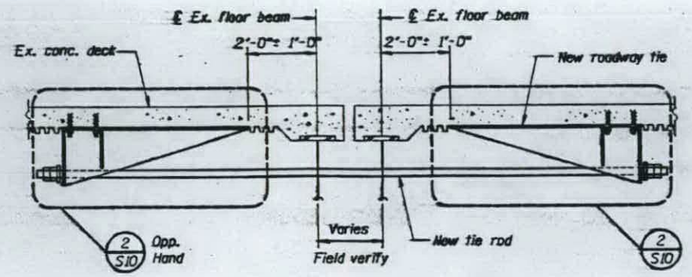
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP G)
SCALE: NONE DRAWN BY JM
DATE 1-23-98 CHECKED BY HH

\STRUCTURE\97422\SET2\S7201SA.DGN

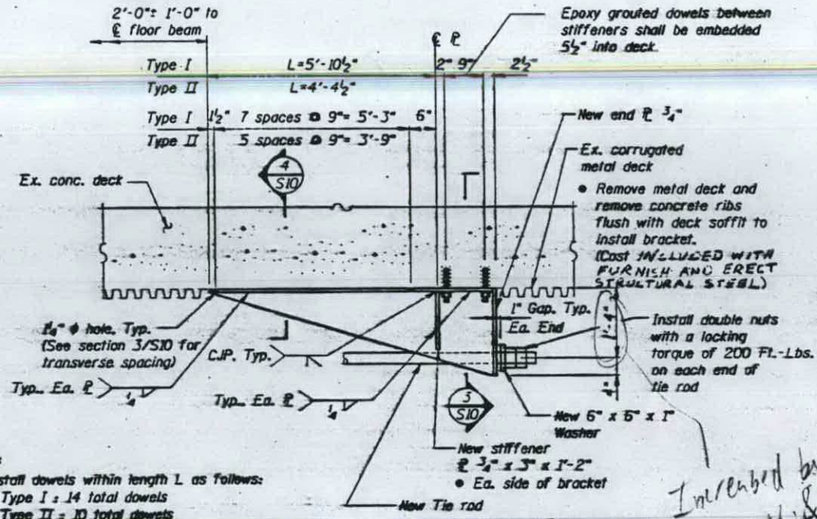
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-0-	ST. CLAIR	91	52
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT -		

SHEET NO. S-10
SHEETS

82-3HVB-2R-1-1



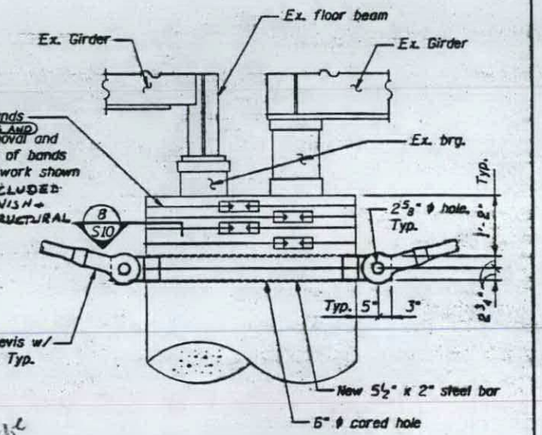
1 S10 ELEVATION - ROADWAY TIE



Notes:

1. Install dowels within length L as follows:
   Type I : 14 total dowels
   Type II : 10 total dowels
   Any hole within length L may be used provided dowels are evenly distributed about longitudinal axis of bracket.
2. Unless noted otherwise, all dowels shall consist of 1" ϕ epoxy grouted dowels, embedded 4½" into deck.
3. Core drill 4" ϕ holes in floor beam webs to permit passage of rod.
4. Gap at end of tie rod was developed for an installation temperature of 50° F. For other installation temperatures decrease the gap by 0.05" for every 5° F below 50° F and increase the gap by 0.05" for every 5° F above 50° F.
5. Epoxy grouted dowel embedment shall be measured from the embedded end of the dowel to the smooth surface on the bottom of the concrete deck created by removing the concrete ribs.

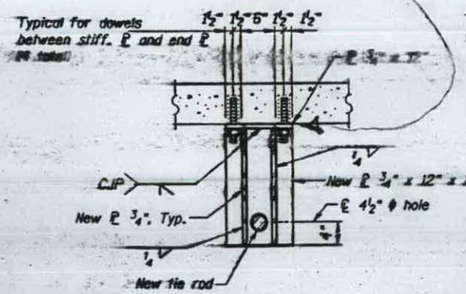
2 S10 ELEVATION - ROADWAY TIE



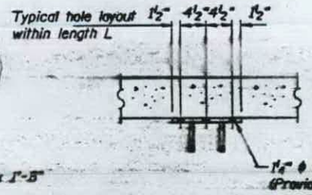
7 S10 ELEVATION

Added 1" x 12" x 7'-2" PL to tie rod due to interference of top flange of floor beam

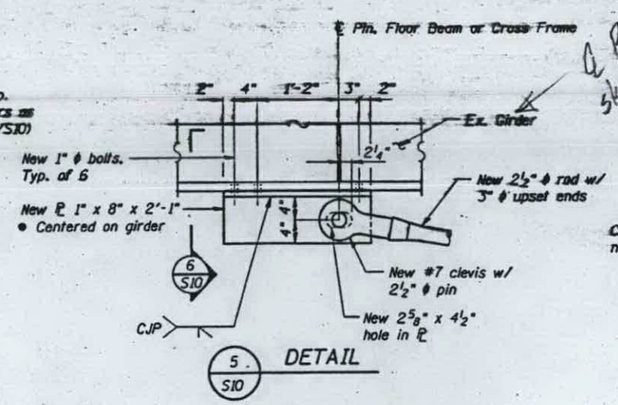
Increased by 4" at P. 14 & 5" at D12 due to interference of tie rod w/ top flange at floor beam. Bracket length & number of dowels increased from Type I to Type II at D11. Bracket & Rod may be ℄ bracket & Rod skewed to ℄ girder.



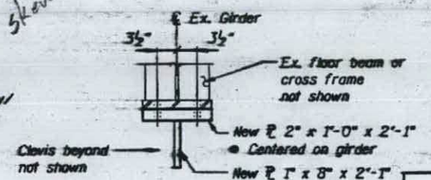
3 S10 SECTION



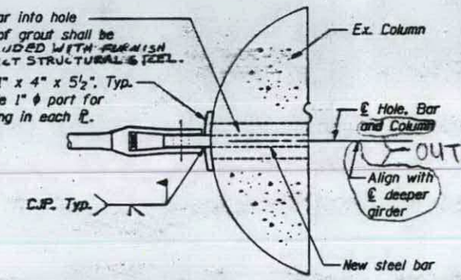
4 S10 SECTION



5 S10 DETAIL



6 S10 SECTION



8 S10 SECTION

SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0256 (ROADWAY E) STRUCTURE NO. 082-0255 (RAMP C)
SCALE: NONE DRAWN BY JN
DATE 1-23-98 CHECKED BY MH

\STRUCTURE\97-282\SET 2\S1020.dgn

TABLE OF COLUMN WRAP AND TIE BEAM WRAP PARAMETERS

Pier	No. Cols.	D (in.)	N	M	b (in.)	d (in.)	Comments
D2	2	48	7	9	15	36	See Note 5
D4	2	54	8	9	15	36	
D5	2	48	7	—	—	—	
D6	2	48	7	9	18	36	
D7	2	48	7	9	21	36	
D8	2	48	7	—	—	—	
D9	2	48	7	9	24	36	See Note 5
D10	2	54	8	9	27	36	See Note 7
D12	2	48	—	—	—	—	See Note 4
D13	2	48	7	9	15	36	See Note 5
D14	2	48	7	—	—	—	See Note 5
D15	2	48	7	—	—	—	
D16	2	48	7	9	15	36	
D17	2	54	8	9	15	36	See Note 5
D18	2	48	7	—	—	—	
D19	2	48	7	9	15	36	
D20	2	48	7	—	—	—	
D21	2	48	—	—	—	—	See Note 4
D23	2	54	8	9	21	36	See Note 5
D24	2	54	8	9	24	36	See Note 5, 6 and 7
D25	2	54	8	—	—	—	See Note 7
D26	1	48	7	—	—	—	Wrap North Col. only
Q1-1	2	48	7	—	—	—	
Q2-1	2	48	7	—	—	—	
P14	2	48	7	—	—	—	Wrap Outside Cols. only
P15	2	54	—	—	—	—	See Note 4
H1	2	48	7	—	—	—	
H3	2	48	7	9	21	36	See Note 5
H4	2	48	7	9	18	36	See Note 5

Notes:
1. Complete all specified dowel bar modifications and concrete repairs at least 3 days before wrapping any member.
2. See detail 1/S11 for column wrap U.N.O.
3. See detail 2/S11 for tie beam wrap U.N.O.
4. See detail 6/S12 for column wrap.
5. See detail 2/S13 for modifications to the tie beam wrap.
6. Existing dead conduit along face of column interferes with installation of column wrap. Remove conduit (approximate length of 30'). Removal cost shall be incidental to column wrap installation.
7. Existing live conduit along face of column interferes with installation of column wrap. Conduit shall be rerouted over the length of the wrap by a qualified electrician such that column wrap may be installed (approximate length of 5'-2"). Note that electrical service may only be interrupted between the hours of 8:00 AM and 4:00 PM. Relocation cost shall be incidental to column wrap installation.
8. See Special Provisions for column wrap exemptions.

0.6" ϕ Prestressing strand. Typ.
- f_u = 270 ksi
- Low relaxation

Locate couplers on opposite sides of column
- Preload to 35 kips at each coupler

PLAN

Cable Coupler 2 per wrap. Typ.

Ex. Column

0.6" ϕ Prestressing strand. Typ.

N Spa. @ 8"

Extent of column wrap. Field quantity

4" Spa. @ 4"

Ex. Wall

Note:
1. See table for dimensions not shown and additional notes.
2. Alternative column wraps may be used. See Special Provisions.

1/S11 ELEVATION - TYPICAL COLUMN WRAP

Scale : NTS

Ex. Column

2" 4 Spa. @ 8" 2"

New ¾" ϕ Top

4/S11

New ¾" ϕ Galv. Threaded Rod. N.S. & F.S. Typ.
- Torque Nuts to 200 Ft.-Lbs. and peen threads to prevent loosening.

New ¾" ϕ Bolt.

Concrete grinding cost, if required to provide uniform ℄ bearing, shall be INCLUDED WITH FURNISH - ERECT STRUCTURAL STEEL

Notes: 1. See table for dimensions not shown and additional notes.
2. Wrap each end as shown.

2/S11 ELEVATION - TYPICAL TIE BEAM WRAP

Scale : NTS

b=4"

℄ Width

1-3" Typ.

¼" Max. Gap

b

¼" Max. Gap

A/S11 SECTION

Scale : ½"=1'-0"

New 1" ϕ Threaded epoxy grouted dowel w/4½" Embedment. Typ. May cut slab Reinf. Bars to install dowels

Ex. Conc. Deck

Varies. Field verify

Ex. Stringer W18. Typ.

Ex. Floor Beam

One "Unit"

2" N Spa. @ 5" 2"

B/S11

New 1" ϕ AASHTO M164 bolts @ 1'-0" max. O.C.
- Total of M bolts

Ex. Metal Form Deck

5" Min. Overlap

2" min. Typ.

New L 8x4x½ L.L.V.

New ½" ℄ Bracket

Notes: 1. See table for number of "units" per pier.
2. See table for N.

3/S11 ELEVATION - SLAB FLOOR BEAM CONNECTION

New bar stock $n_T \times w_T \times 6N - 4"$
- w_T = width of corrugation at concrete surface

Ex. Deck

5/8" 2-6

New dowel. Typ.

New 1" ϕ AASHTO M164 bolt. Typ.
- In short slotted hole oriented vertically.
- Finger tighten bolt and peen threads to prevent loosening.

Ex. stay-in-place deck forming corrugation dimensions vary. Field verify dimensions.

2½" min.

C/P

2"

New ℄ ½"

New ℄ ½" x 3"

Ex. Floor Beam
- Flange thickness varies.

New 1" ϕ AASHTO M164 bolt. Typ.

½" min.

Notes:
1. Orientation of angle and/or plate assembly may be opposite hand to that shown.
2. Epoxy grouted dowel embedment length (d) shall be measured from the embedded end of the dowel to the bottom of the corrugation (excludes rib height).

B/S11 SECTION

New 1" ϕ Threaded epoxy grouted dowel w/4½" Embedment. Typ. May cut slab Reinf. Bars to install dowels

Ex. Conc. Deck

Ex. Stringer W18. Typ.

Ex. Floor Beam

One "Unit"

N Spa. @ 5" 6" min.

C/S11

Notes: 1. See table for number of "units" per pier.
2. See table for N.

4/S11 ELEVATION - SLAB FLOOR BEAM CONNECTION

TABLE OF SLAB/FLOOR BEAM CONNECTION

Pier	No. of Units: N Per Unit	M Per Unit	Ref. Detail	Comments
D2	2	9	5	3/S-11	
D3	1	5	3	3/S-11	
D4	2	8	5	3/S-11	
D6	2	8	5	3/S-11	
D7	2	5	3	3/S-11	
D9	2	7	4	3/S-11	
D10	2	7	4	3/S-11	
D11	1	7	4	4/S-11	See Note 1
D13	2	8	5	3/S-11	
D14	1	8	5	3/S-11	
D16	1	9	5	3/S-11	
D17	2	7	4	3/S-11	
D19	2	9	5	3/S-11	
D20	1	10	6	3/S-11	
D22	1	7	4	4/S-11	See Note 2
D23	4	7	4	3/S-11	
D24	4	7	4	3/S-11	
D25	2	8	5	3/S-11	
H3	2	8	5	3/S-11	
H4	2	10	6	3/S-11	

Notes:
1. West side expansion joint only.
2. East side expansion joint only.

Per Howard Hill on 6/27/2005 These dowels can be placed in adjacent bays on the opposite side of the stringer (interference w/ finger R) stools at D-22.

½" Min.

Fillet Height

C/S11 SECTION

Note: Epoxy grouted dowel embedment length shall be measured from the bottom of the concrete slab to the end of the dowel excluding the fillet height.

SEISMIC RETROFIT DETAILS

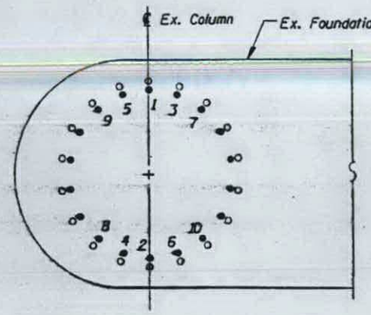
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 ROADWAY EB — STRUCTURE NO. 082-0203 RAMP F1
STRUCTURE NO. 082-0256 ROADWAY WB — STRUCTURE NO. 082-0255 RAMP G1
SCALE: AS NOTED — DRAWN BY JH
DATE 1-23-98 — CHECKED BY HH

F.A.I. 70	-	ST. CLAIR	78	33

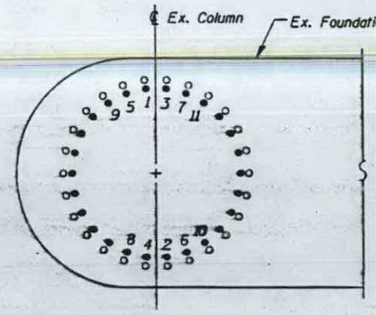
SHEET NO. S-11
SHEETS

Revised 7-9-98 R.S.



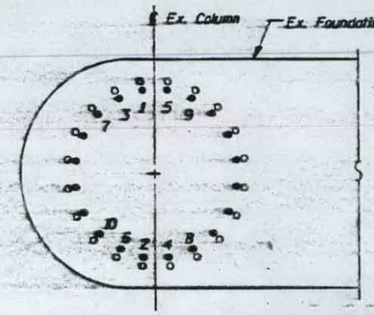
● Foundation Wall dowel bar (#10 or #11 bar)
○ Outline of column bar

1/S12 SECTION - FOUNDATION WALL DOWELS
(18 Bar Layout)



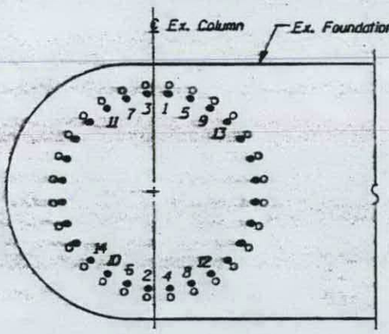
● Foundation Wall dowel bar (#11 bar)
○ Outline of column bar

4/S12 SECTION - FOUNDATION WALL DOWELS
(26 Bar Layout)



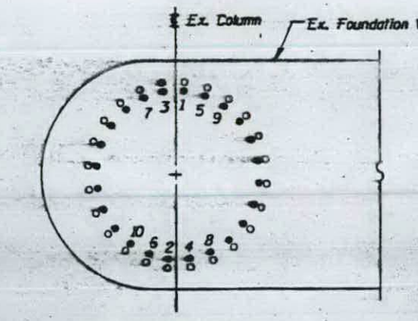
● Foundation Wall dowel bar (#10 or #11 bar)
○ Outline of column bar

2/S12 SECTION - FOUNDATION WALL DOWELS
(20 Bar Layout)



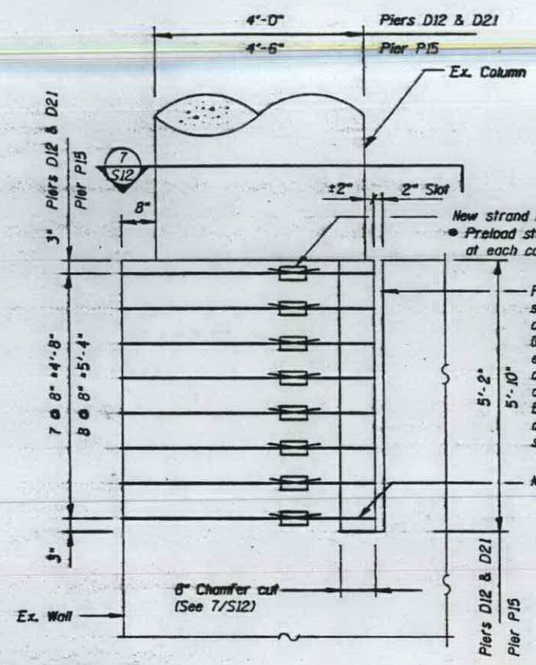
● Foundation Wall dowel bar (#11 bar)
○ Outline of column bar

5/S12 SECTION - FOUNDATION WALL DOWELS
(28 Bar Layout)

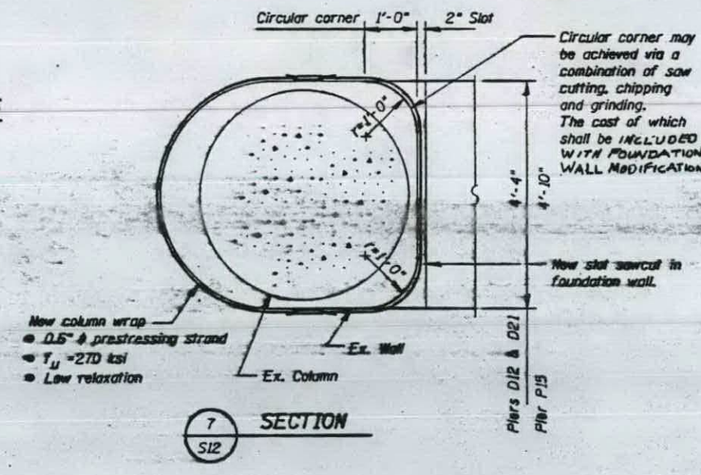


● Foundation Wall dowel bar (#11 bar)
○ Outline of column bar

3/S12 SECTION - FOUNDATION WALL DOWELS
(24 Bar Layout)



6/S12 ELEVATION - PIERS D12, D21 & P15



7/S12 SECTION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	91	54
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT=		

= 82-3HVB-2R-1-1

SHEET NO. S-12
SHEETS

FOUNDATION WALL DOWEL MODIFICATION TABLE

Pier	Modifications per pier	Ref. Detail	No. of bars cut per modification	Comments
D4	2	1/S12	2	
D5	2	1/S12	8	
D6	2	1/S12	4	
D8	2	1/S12	8	
D9	2	1/S12	6	
D13	2	1/S12	6	
D15	2	1/S12	8	
D17	2	3/S12	6	
D18	2	1/S12	8	
D19	2	1/S12	4	
D24	2	1/S12	6	
D25	2	2/S12	6	
D26	(2)	1/S12	4	See Note 7
P14	2	1/S12	2	See Note 8
H1	2	2/S12	10	
H4	2	1/S12	4	

Notes:

1. Cut number of foundation dowel bars indicated. To determine which bars to cut, see reference detail and cut bars starting with number 1 and finishing with the number shown in the table.

   Example: Pier D6 cut dowel bars 1, 2, 3 and 4 as labeled in detail 1/S12.

2. The contractor shall positively discern between column longitudinal reinforcing bars and foundation wall dowel bars prior to cutting any bars.
3. Dowel bars to be cut must be cut within 2" of top of foundation wall. Corresponding column bars may also be cut at the same location.
4. Concrete removal areas shall be limited to 1'-6" in height and shall be no deeper than 1½" clear inside the vertical bars.
5. Concrete removal and repair costs shall be incidental to the foundation wall dowel modification. All unsound concrete caused by bar cutting shall be removed prior to concrete repair. See sheet S-26 for concrete removal and repair details.
6. Excavation required to perform foundation wall dowel modifications. See sheet S-28 for additional information.
7. Modify dowels for north column only.
8. Modify dowels for south two columns only.

SEISMIC RETROFIT DETAILS

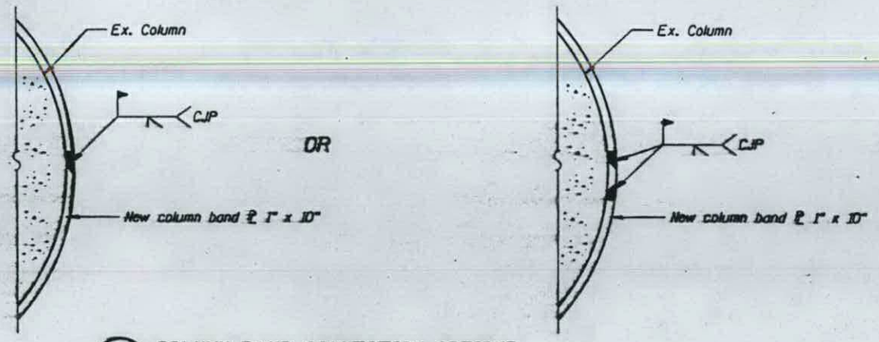
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY B) STRUCTURE NO. 082-0256 (RAMP B)
SCALE: NONE DRAWN BY JM
DATE 1-23-98 CHECKED BY ***

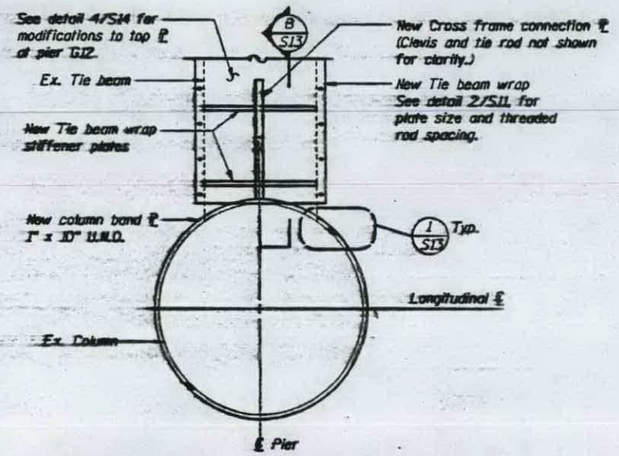
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	91	55
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-13
SHEETS

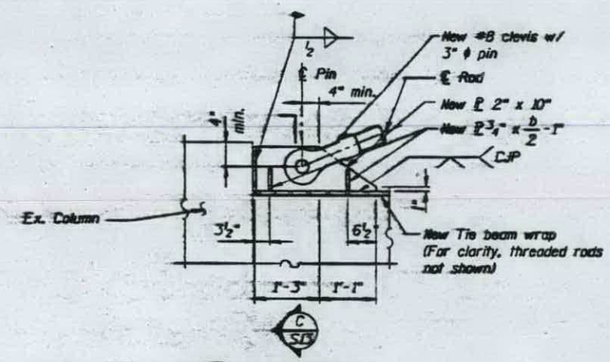
* 82-3HVB-2R-1-1



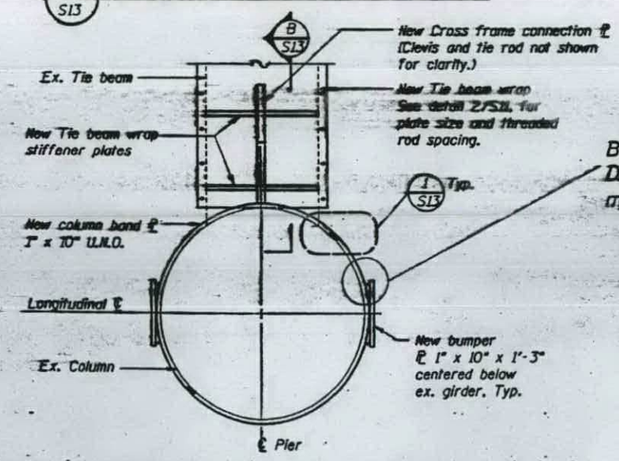
1/S13 COLUMN BAND CONNECTION OPTIONS



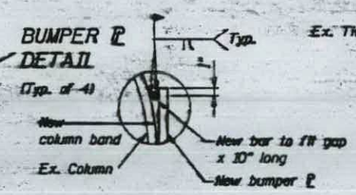
2/S13 CROSS FRAME COLUMN BAND DETAIL

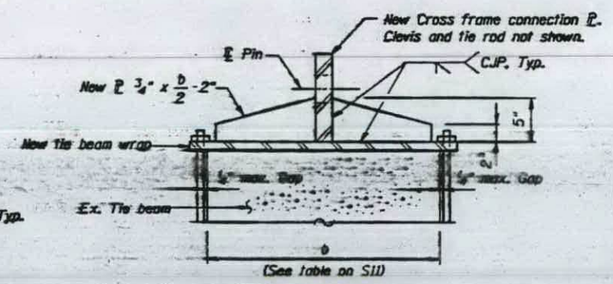


B/S13 DETAIL



3/S13 COLUMN BAND DETAIL AT PIERS WITH BUMPERS & CROSS FRAMES





C/S13 SECTION

Notes:

1. Ex. Column wraps at the top of the columns shall be removed prior to the installation of the new column bands. REMOVAL OF EX. WRAPS SHALL BE INCLUDED WITH *
2. Inject epoxy between the column band and concrete column surface to assure uniform bearing of the band. The cost shall be INCLUDED WITH FURNISH + ERECT STRUCTURAL STEEL.
3. Prior to shop painting, mask off area of column band and cross frame connection plate interface. Field touch-up of paint shall be INCLUDED WITH FURNISH + ERECT STRUCTURAL STEEL.

* FURNISH + ERECT STRUCTURAL STEEL.

SEISMIC RETROFIT DETAILS

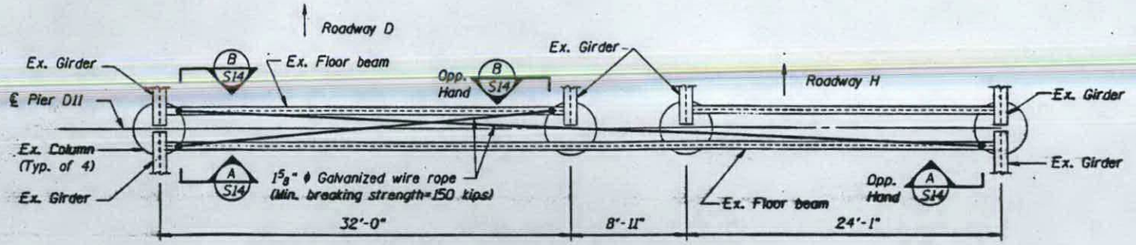
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0255 (ROADWAY M) STRUCTURE NO. 082-0255 (RAMP Q)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

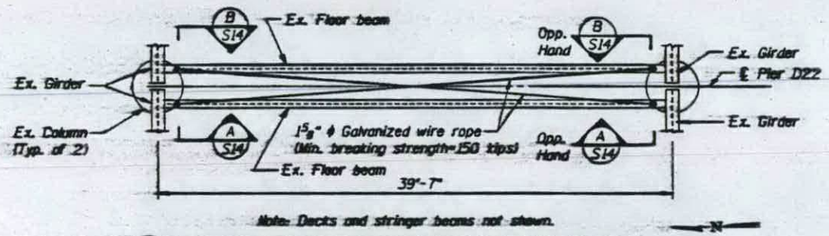
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	98	56
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. S-14
SHEETS

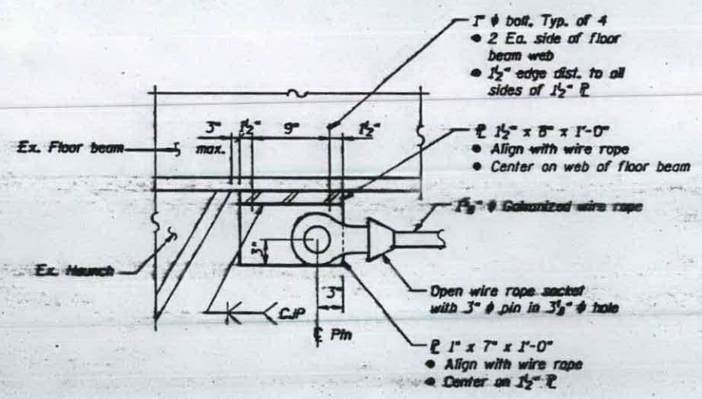
ID 82-3WB-2R-1-1



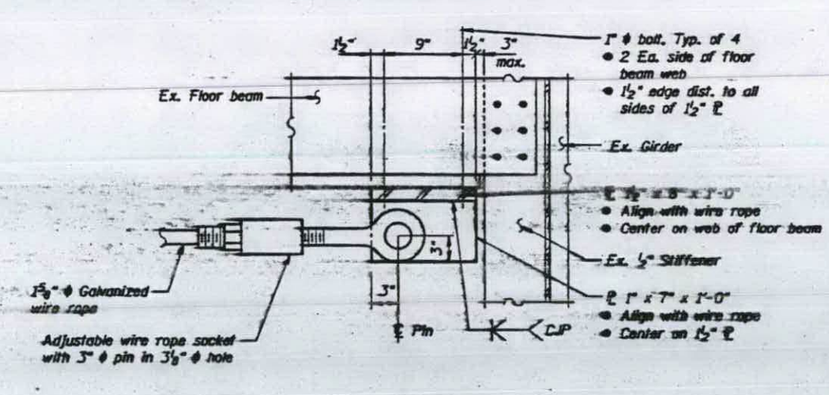
1 S14 SHEAR TRANSFER ASSEMBLY AT PIER D11



2 S14 SHEAR TRANSFER ASSEMBLY AT PIER D22



A S14 SECTION



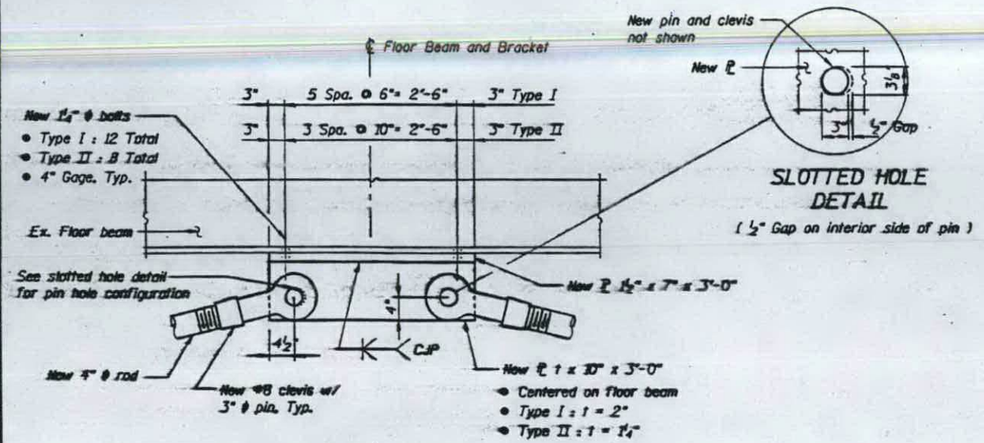
B S14 SECTION

SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0255 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP D)
SCALE: 1-23-98 DRAWN BY JM
DATE AS NOTED CHECKED BY HH

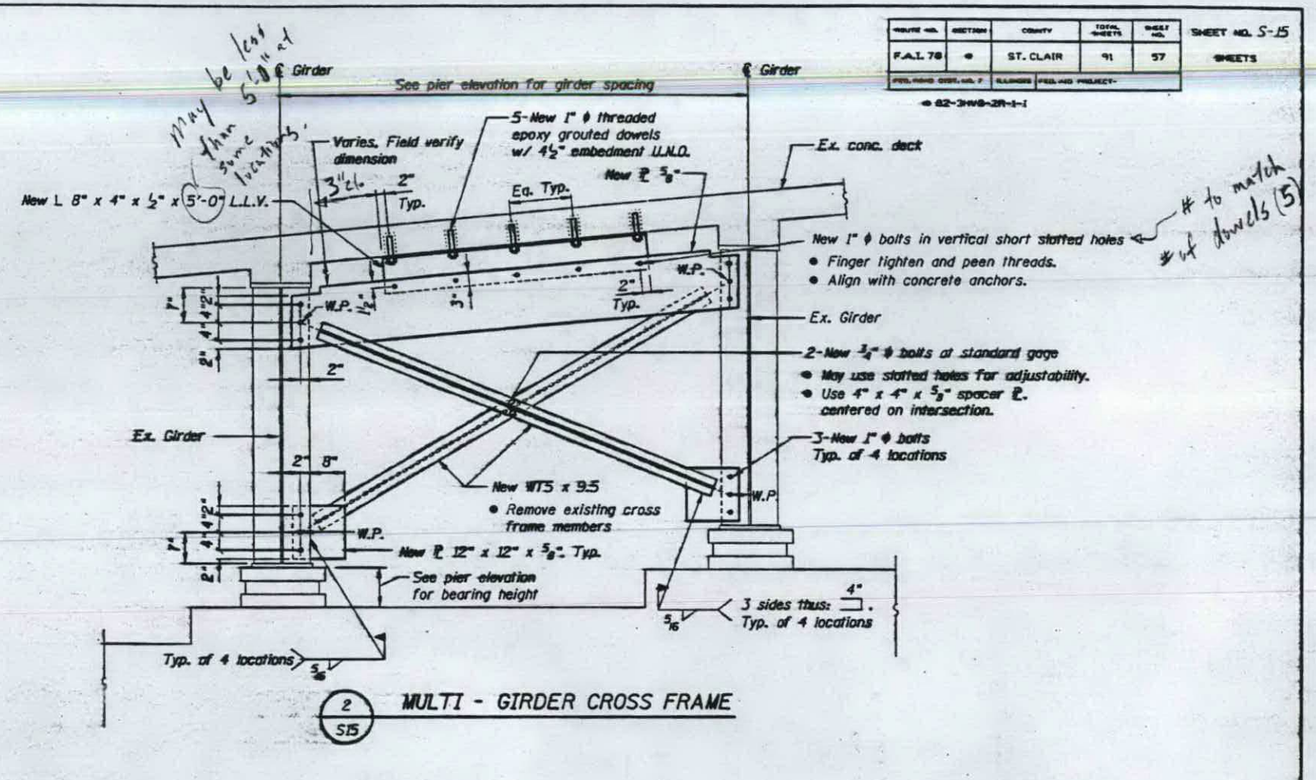
\STRUCTURE\97422\SET2\ST82S14.DGN



1 / S15 TIE ROD CONNECTION PLATE DETAIL

SLOTTED HOLE DETAIL

(½" Gap on interior side of pin)



2 / S15 MULTI - GIRDER CROSS FRAME

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	⊕	ST. CLAIR	91	57
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-15
SHEETS

⊕ 82-3W8-2R-1-1

SEISMIC RETROFIT DETAILS

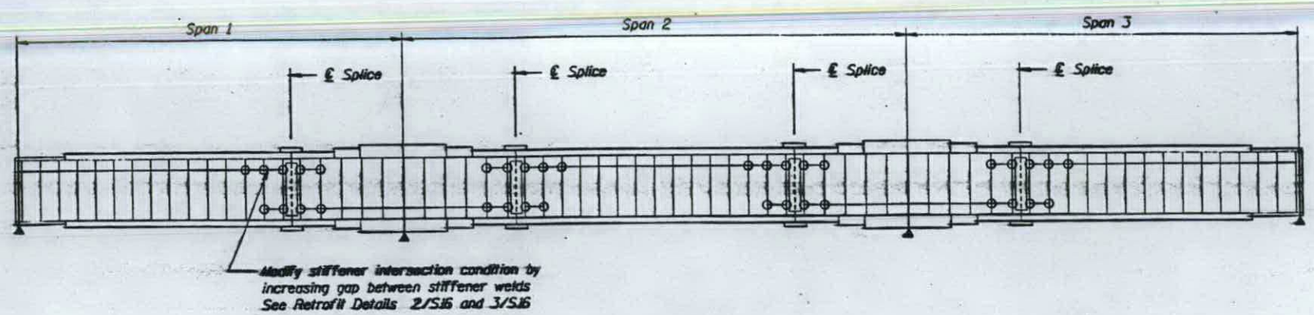
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP F)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP D)
SCALE: NONE DRAWN BY JN
DATE 1-23-98 CHECKED BY HH

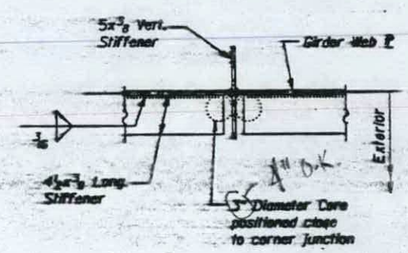
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	91	58
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

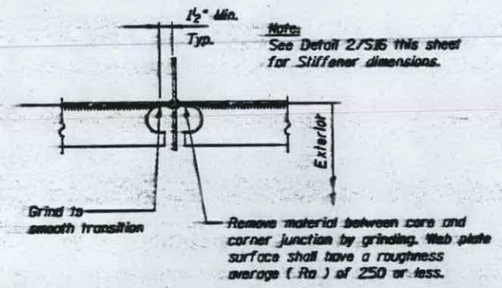
SHEET NO. S-16
SHEETS

- 82-3W8-2R-1-1



1/S16 GIRDER ELEVATION INDICATING TYPICAL FRACTURE CONTROL MODIFICATION LOCATIONS





Procedure :

1. Core 3" diameter holes positioned close to corner junction through 3/8" thick longitudinal stiffener as shown in detail 2/S16.
2. Remove material between core and intersection junction by grinding with carbide tools and a dye grinder as shown in detail 3/S16. Web plate surface shall have a roughness average (R_a) of 250 or less.
3. Remove all burrs from cut edge and check for irregularities. Cored surface shall have an R_a equal to 500 or less.
4. After burr removal the modification shall be inspected using magnetic particle (MT) methods. Notify Engineer if a crack is detected. (cost incidental to stiffener intersection modification).
5. The exposed steel surfaces shall be cleaned and painted using an aluminum epoxy mastic primer.
6. Obtain approval of Engineer before proceeding.
7. Paint area with top coat.

2/S16 STIFFENER INTERSECTION MODIFICATION DETAIL

3/S16 STIFFENER INTERSECTION MODIFICATION DETAIL

BILL OF MATERIAL		
ITEM	UNIT	QUANTITY
Stiffener intersection modification	EACH	864

STIFFENER INTERSECTION MODIFICATION DETAIL

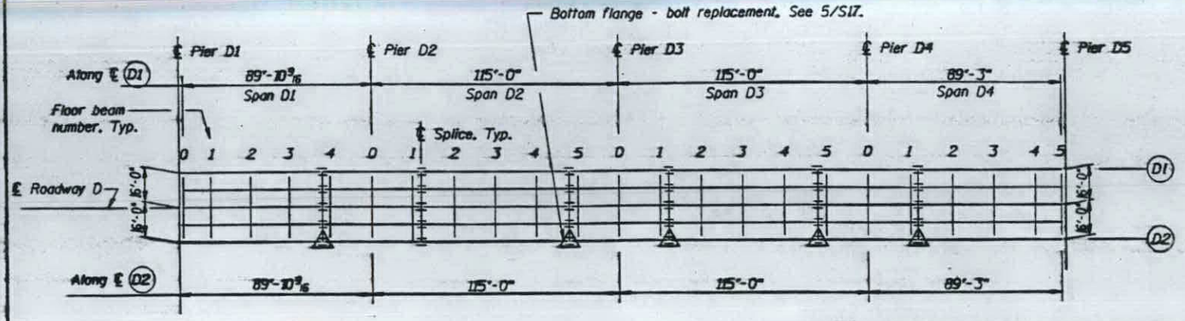
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

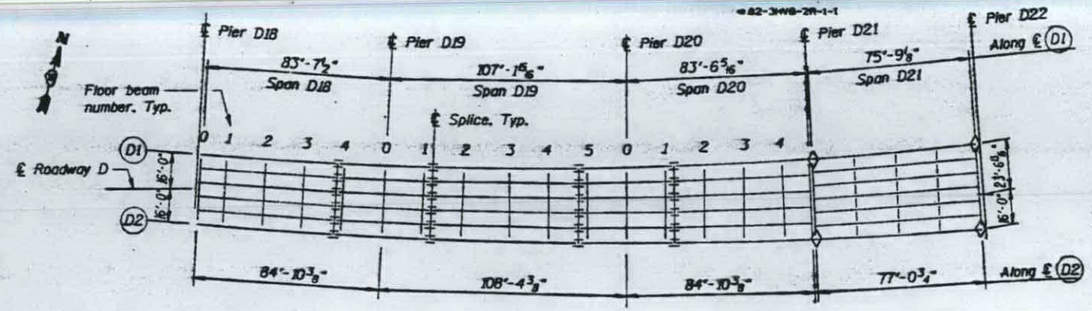
STRUCTURE NO. 082-0144 (BROADWAY EB) STRUCTURE NO. 082-0203 (RAMP P3)
STRUCTURE NO. 082-0255 (BROADWAY WB) STRUCTURE NO. 082-0259 (RAMP E3)
SCALE: NONE DRAWN BY JM
DATE 1-23-98 CHECKED BY HH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	0	ST. CLAIR	98	68
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

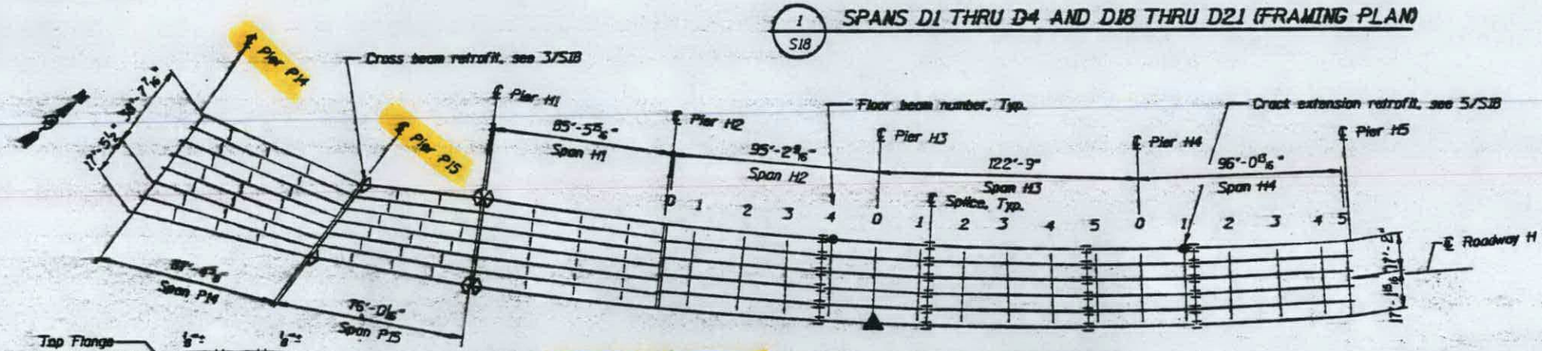
SHEET NO. S-18
SHEETS

082-3WB-2R-1-1

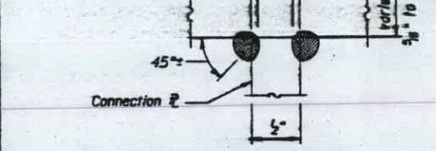




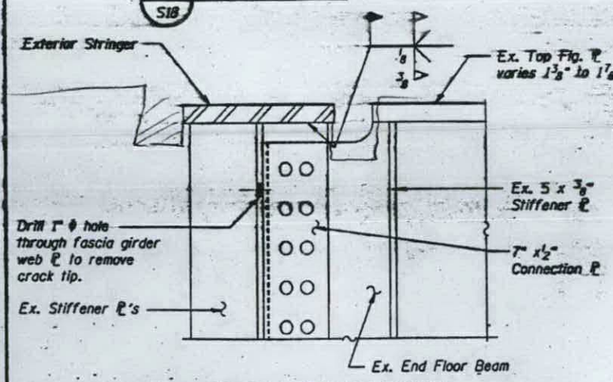
1 / S18 SPANS D1 THRU D4 AND D18 THRU D21 (FRAMING PLAN)



2 / S18 SPANS P14 THRU P15 AND H1 THRU H4 (FRAMING PLAN)



4 / S18 WELD DETAIL



3 / S18 CROSS BEAM RETROFIT

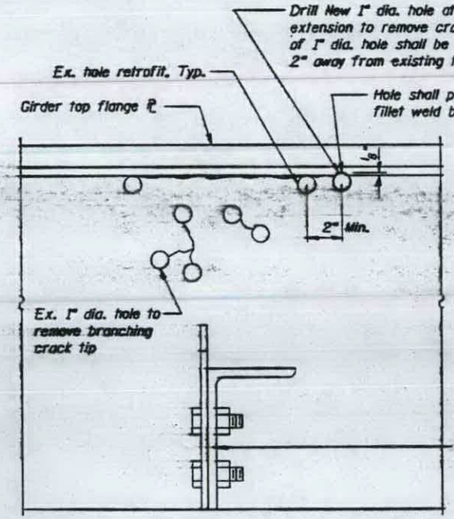
LEGEND

- △ Bottom flange splice - bolt replacement (5 locations, this sheet). See 5/S17.
- ◊ Cross beam retrofit (10 locations). See 3/S18
- ● Crack extension retrofit (2 locations, this sheet). See 5/S18
- ▲ Bolt replacement (1 bolt this sheet) See Note 1, sheet S17.

Procedure:

1. Inspect floor beam connection region in the vicinity of the top flange for cracking and determine crack tip locations using magnetic particle (MT) inspection methods.*
2. Drill 1" diameter hole at end of crack extension to remove crack tip. Re-inspect area using MT methods to verify crack tip removal.*
3. Vacuum blast (SSPC SP-10) an area approximately 8" on each side of the connection plate at top flange intersection. Note existing paint contains lead.
4. Grind ends of connection plate to obtain an approximate 1/8" bevel as shown in Detail 4/S18. Clean weld fit up area to remove contaminants.
5. Eliminate traffic from roadway lane adjacent to connection being welded. Install small groove and fillet welds at connection plate and top flange plate using SMAW low hydrogen E7018 electrodes as shown in Detail 4/S18. Minimum preheat and interpass temperature shall be followed in strict accordance with AWS D1.5-95. Preheat girder flange to a minimum of 150°F prior to any welding. Maintain 150°F as a minimum interpass temperature.
6. After welding is complete, open roadway to traffic.
7. Following cool-down period, the welds shall be visually and MT inspected.*
8. Obtain approval of Engineer before proceeding.
9. Clean exposed steel surfaces to remove any contaminants or rusting. Paint surfaces with an aluminum epoxy mastic primer/acrylic paint system.

* COST OF ALL MT TESTING SHALL BE INCIDENTAL TO CROSS BEAM RETROFIT.



5 / S18 CRACK EXTENSION RETROFIT AT FIRST INTERIOR FLOOR BEAMS

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Crack extension MODIFICATIONS	EACH	2
Cross beam retrofit	EACH	10

Procedure:

1. Inspect girder web plate in region of existing retrofits to determine location of crack extension and crack tip using magnetic particle (MT) inspection methods. (Cost incidental to crack extension MODIFICATIONS at pier)
2. Drill 1" diameter hole at end of crack extension to remove crack tip. Center of 1" diameter hole shall be positioned in accordance with detail 5/S18.
3. Cored surfaces shall have a Roughness Average (R_a) of 500 or less.
4. Re-inspect area using MT methods to verify crack does not extend past the newly drilled holes (COST INCIDENTAL TO CRACK EXTENSION MODIFICATIONS).
5. Obtain approval of Engineer.
6. Clean exposed steel surface to remove contaminants and paint with an aluminum epoxy mastic primer.

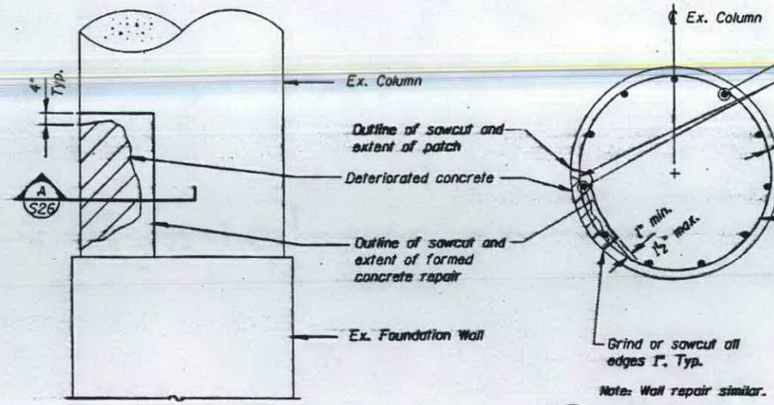
CRACK EXTENSION AND CROSS BEAM RETROFITS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

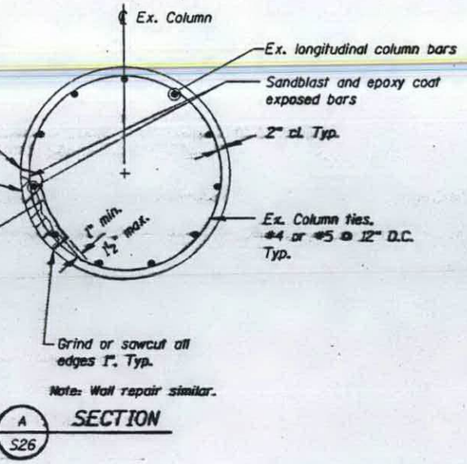
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP D)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	91	64
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-26
SHEETS

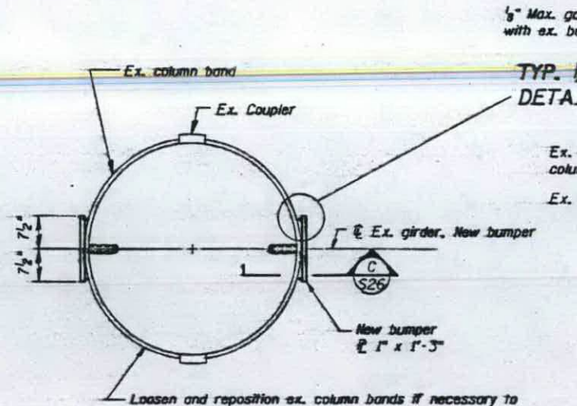


ELEVATION



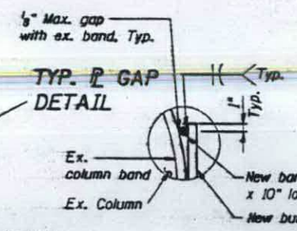
SECTION

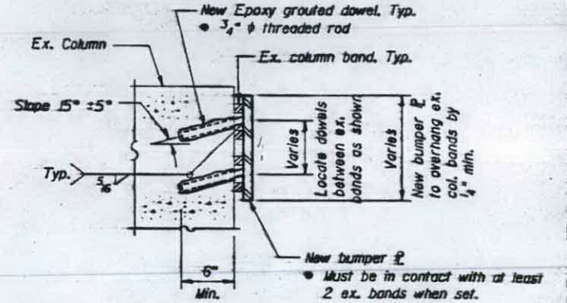
1 S26 TYPICAL CONCRETE COLUMN REPAIR



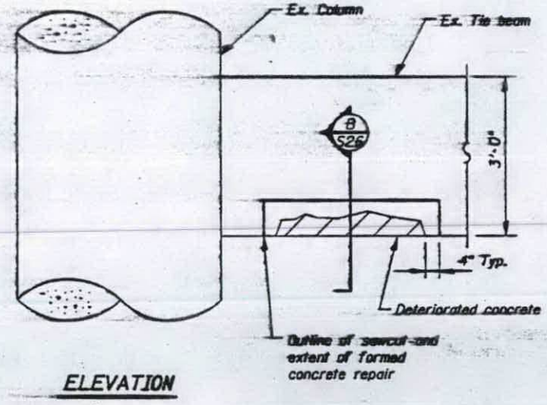
Loosen and reposition ex. column bands if necessary to eliminate interference between ex. coupler and new bumper ℄. This work shall be INCLUDED WITH FURNISH + ERECT STRUCTURAL STEEL.

- Loosened bands shall be reinstalled from bottom up. The repositioned bands shall be evenly spaced as possible and be located with a space of 10" vertically. The top of the top band shall not be closer than 3¼" nor farther than 4" from the top of the column.
- The bolts shall be tightened in 55 Ft.-Lb. increments in a clockwise direction, to a final torque of 220 Ft.-Lbs.
- All of the threads in each of the four nuts shall be fully engaged upon final tightening.
- Once a final torque of 220 Ft.-Lbs. is reached in each nut, the band threads shall be peened to the nut to prevent loosening.

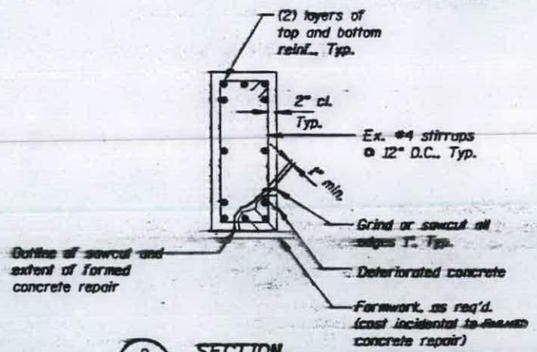




C S26 SECTION



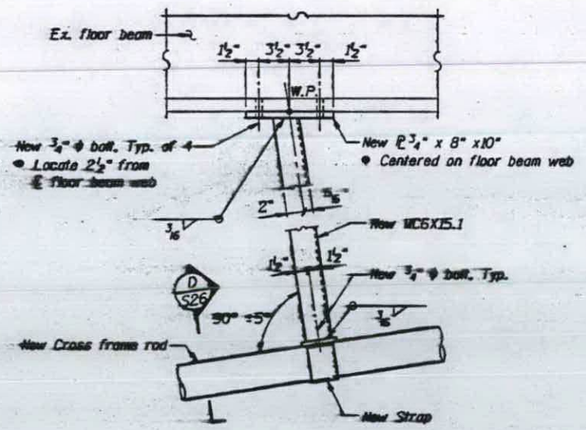
ELEVATION



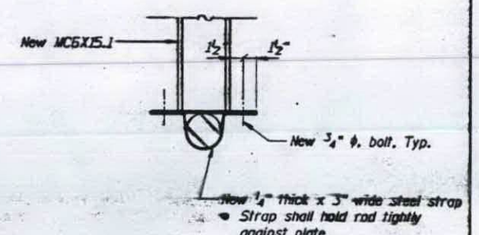
B S26 SECTION

2 S26 TYPICAL CONCRETE TIE BEAM REPAIR

3 S26 BUMPER PLATE DETAIL



4 S26 TIE ROD SUPPORT DETAIL



D S26 SECTION

CONCRETE REPAIR DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 ROADWAY EB | STRUCTURE NO. 082-0203 RAMP F1
STRUCTURE NO. 082-0145 ROADWAY WB | STRUCTURE NO. 082-0205 RAMP E2
SCALE: NONE | DRAWN BY: JM
DATE: 1-23-98 | CHECKED BY: MH

\STRUCTURE\97422\SET2\ST201S26.DGN

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	91	85
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-27

SHEETS

- 82-3HVB-2R-1-1

EXPANSION JOINT, BUMPER, PIN AND TIE ROD GAPS

Pier	East Side	West Side
D5	0.60"	1.05"
D8	0.95"	0.95"
D11	0.35"	0.65"
D12	0.55"	N/A
D15	0.95"	1.00"
D18	0.70"	0.60"
D21	N/A	0.95"
D22	1.75"	0.40"
D26	0.65"	1.20"
P14	N/A	0.60"
P15	N/A	0.45"
H1	N/A	0.35"
H2	1.10"	0.45"

Notes:

1. Gaps defined as follows:
   - Bumper Gap: Minimum clear distance between bumper and bumper plate.
   - Pin Gap: Minimum clear distance between clevis pin and edge of plate in direction of rod.
   - Tie Rod Gap: Clear distance between washer and end plate of bracket.
2. Gap dimensions shown were based upon roadway deck temperature of 50° F. If the roadway deck temperature (measured at mid-depth of concrete deck within 4 hours of installation) is greater than 50° F, decrease bumper gaps, and increase pin and tie rod gaps by the following amount:

$$\text{Gap change} = \left(\frac{\text{Actual Deck Temperature} - 50^\circ F}{70}\right) \times \text{Gap shown}$$

If roadway deck temperature is less than 50° F, increase bumper gaps, and decrease pin and tie rod gaps by the following amount:

$$\text{Gap change} = \left(\frac{50^\circ F - \text{Actual Deck Temperature}}{70}\right) \times \text{Gap shown}$$

SEISMIC RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

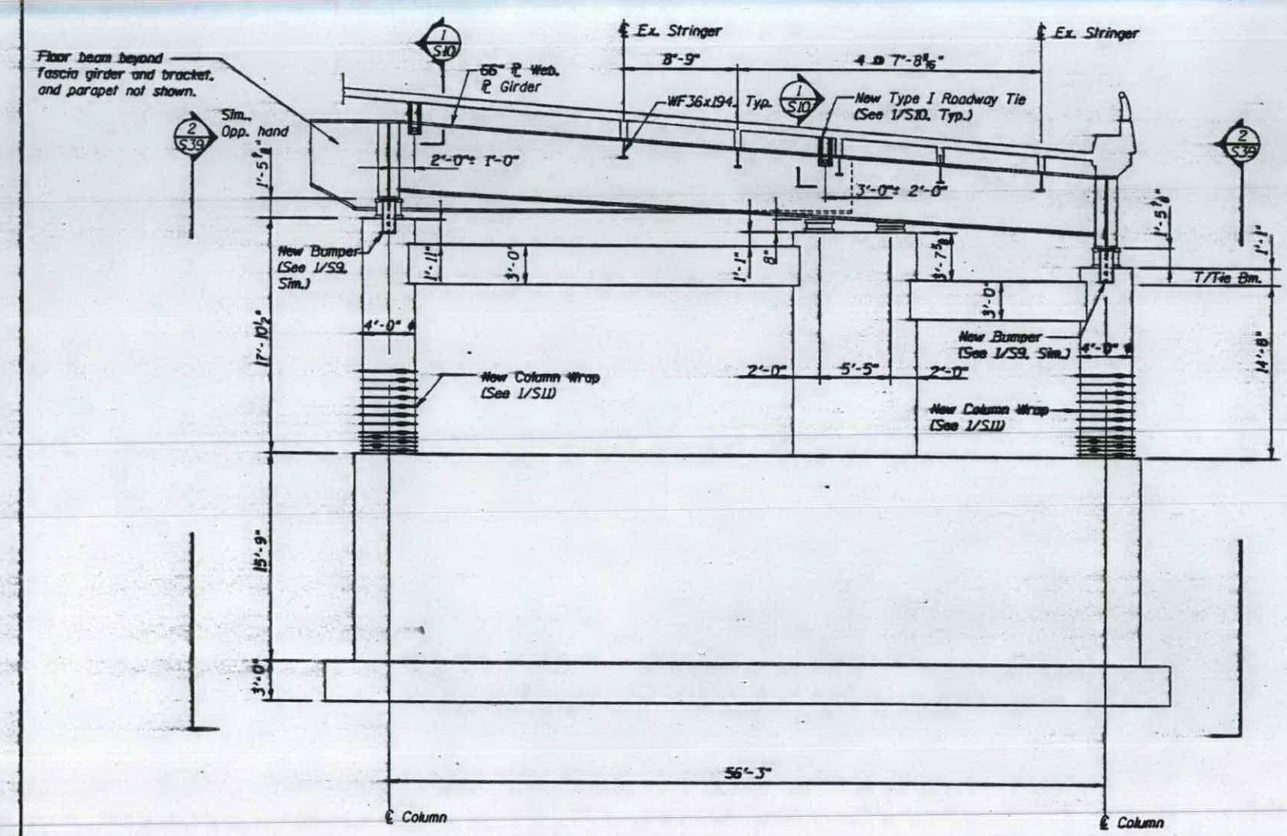
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP O)
SCALE: NONE DRAWN BY [illegible]
DATE 1-23-98 CHECKED BY [illegible]

\STRUCTUR\97422\SEIS\ST2DT887.DGN

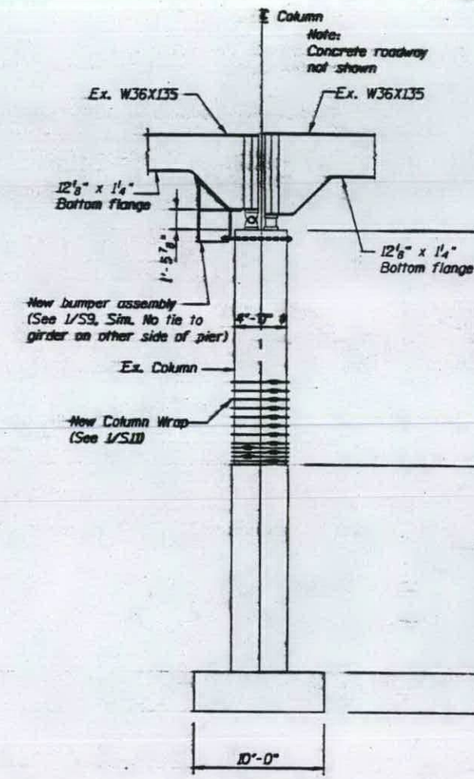
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-R	ST. CLAIR	91	39
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-39
SHEETS

-R-82-3HVB-28-1-1



1 S39 ELEVATION PIER P14



2 S39 ELEVATION PIER P14

BILL OF MATERIAL - PIER P14		
ITEM	UNIT	QUANTITY
Concrete removal	C.Y.	6
Furnish and erect structural steel	LBS.	6240
Epoxy grouted dowels	EACH	56
Foundation wall dowel modification	EACH	4
Column wrap	SQ. FT.	163.4

PIER P14 RETROFITS

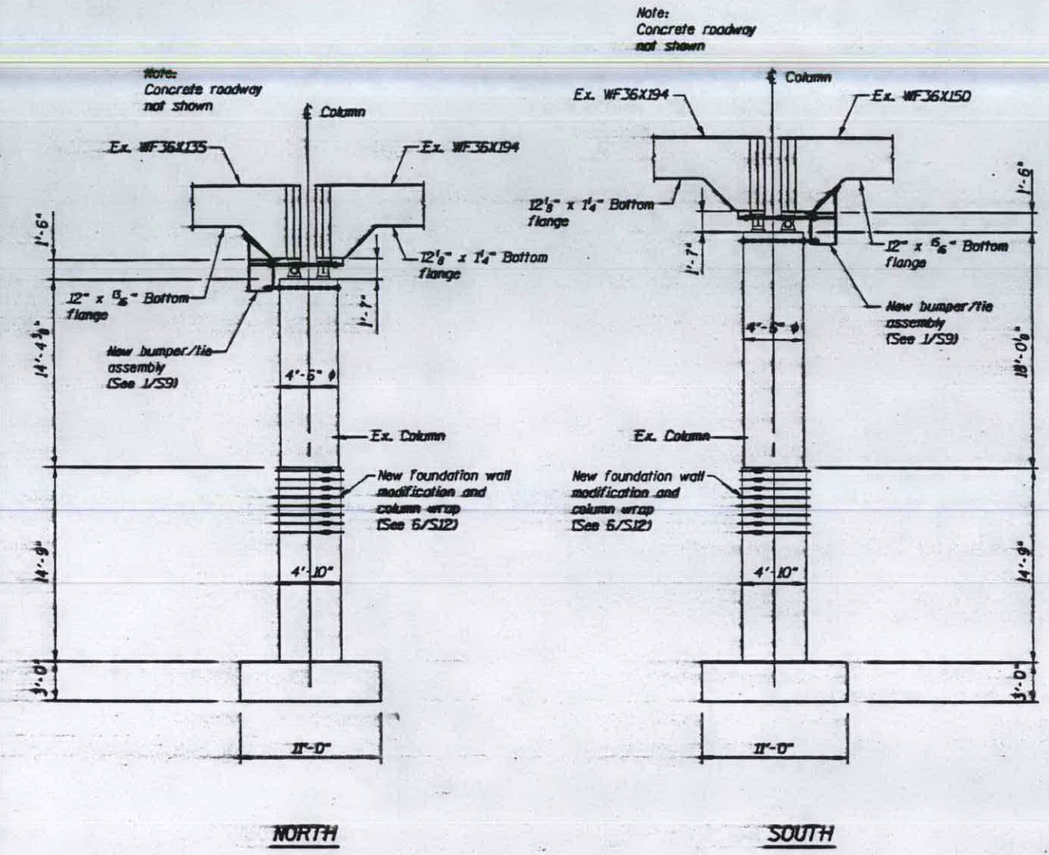
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0044 (ROADWAY 28) STRUCTURE NO. 082-0055 (RAMP 'F')
STRUCTURE NO. 082-0056 (ROADWAY 48) STRUCTURE NO. 082-0055 (RAMP 'D')
SCALE: NONE DRAWN BY JN
DATE 1-23-98 CHECKED BY HH

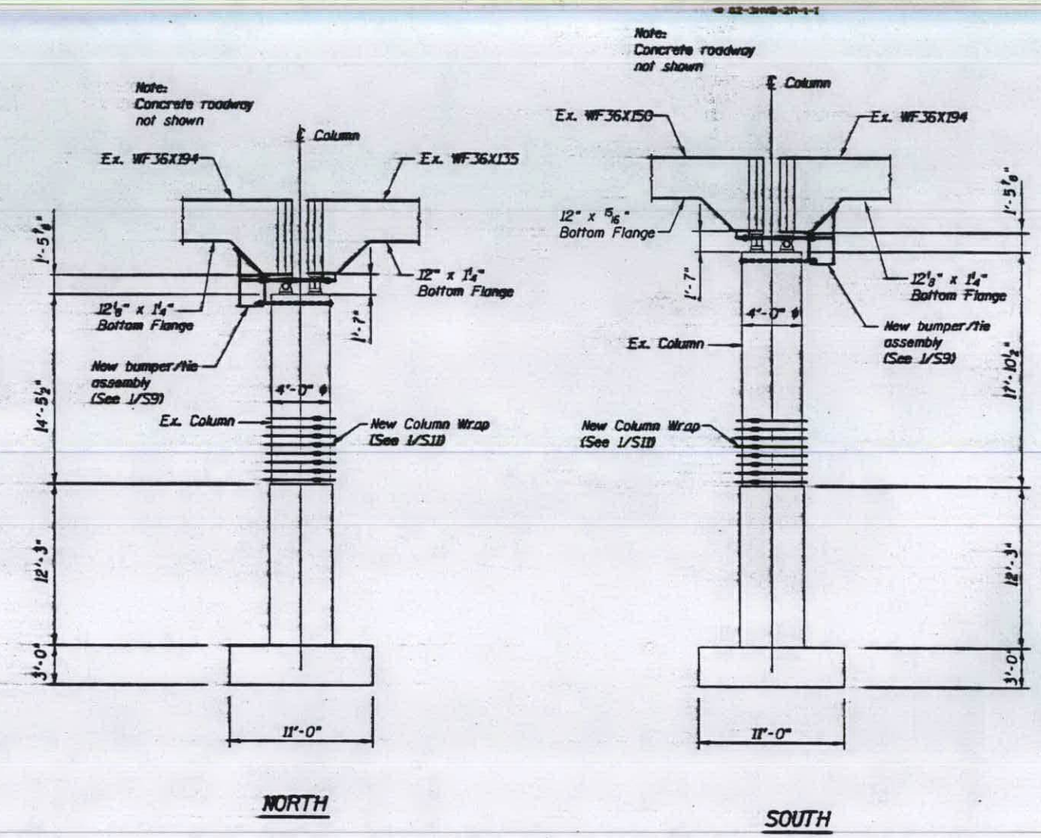
STRUCTURAVS97\82-0072-01\PIER\P14.DGN

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	4	ST. CLAIR	91	77
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-40
SHEETS



1/S40 ELEVATIONS PIER P15



2/S40 ELEVATIONS PIER H1

BILL OF MATERIAL - PIER P15		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	2320
Foundation wall modification	SQ. FT.	56.5
Column wrap	SQ. FT.	221.4

BILL OF MATERIAL - PIER H1		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	2320
Foundation wall dowel modification	EACH	20
Column wrap	SQ. FT.	163.4

PIERS P15 AND H1 RETROFITS

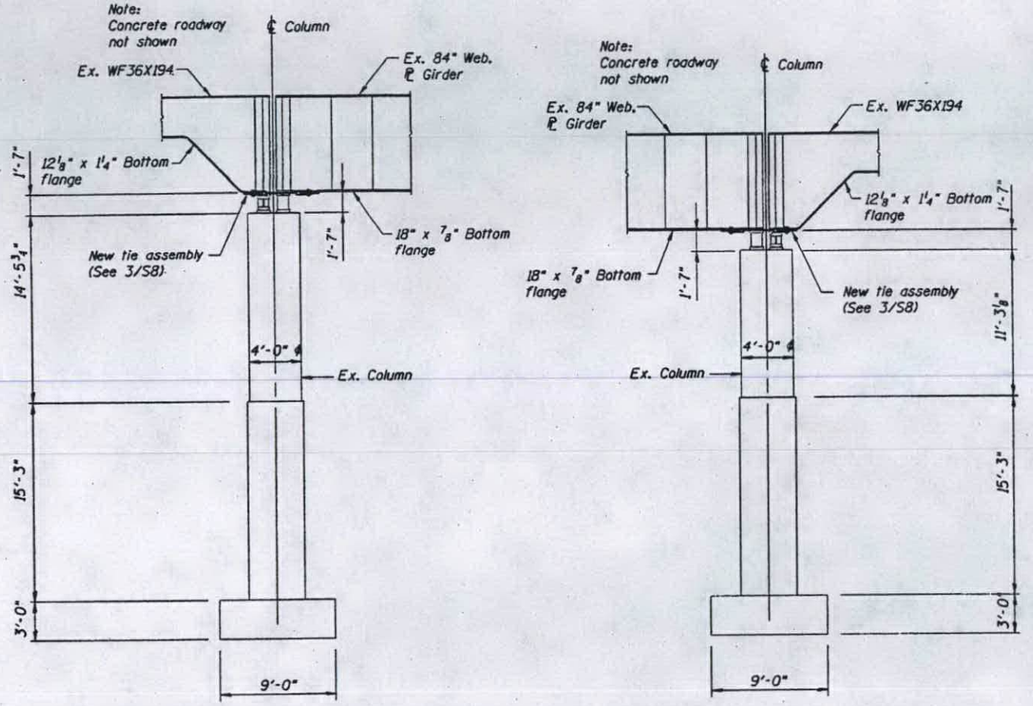
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP D)
SCALE: NONE DRAWN BY JH
DATE 1-23-98 CHECKED BY HH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	91	78
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-41
SHEETS

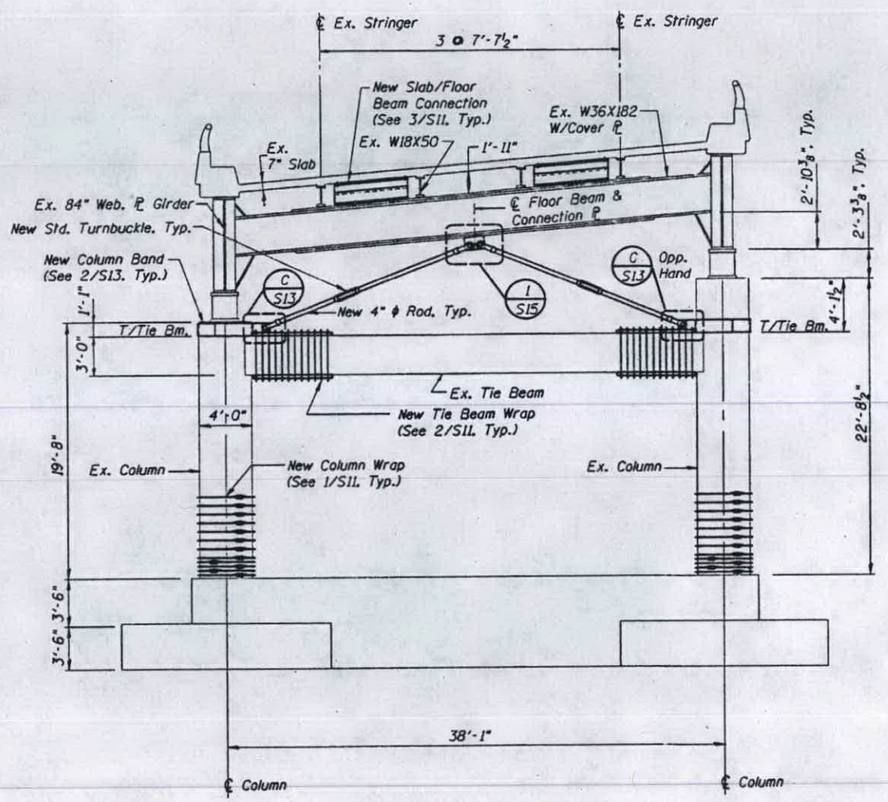
* 82-3HVB-2R-1-1



SOUTH

NORTH

1/S41 ELEVATIONS PIER H2



2/S41 ELEVATION PIER H3

BILL OF MATERIAL - PIER H2		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	1605

BILL OF MATERIAL - PIER H3		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	5858
Epoxy grouted dowels	EACH	18
Column wrap	SQ. FT.	163.4

PIERS H2 AND H3 RETROFITS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

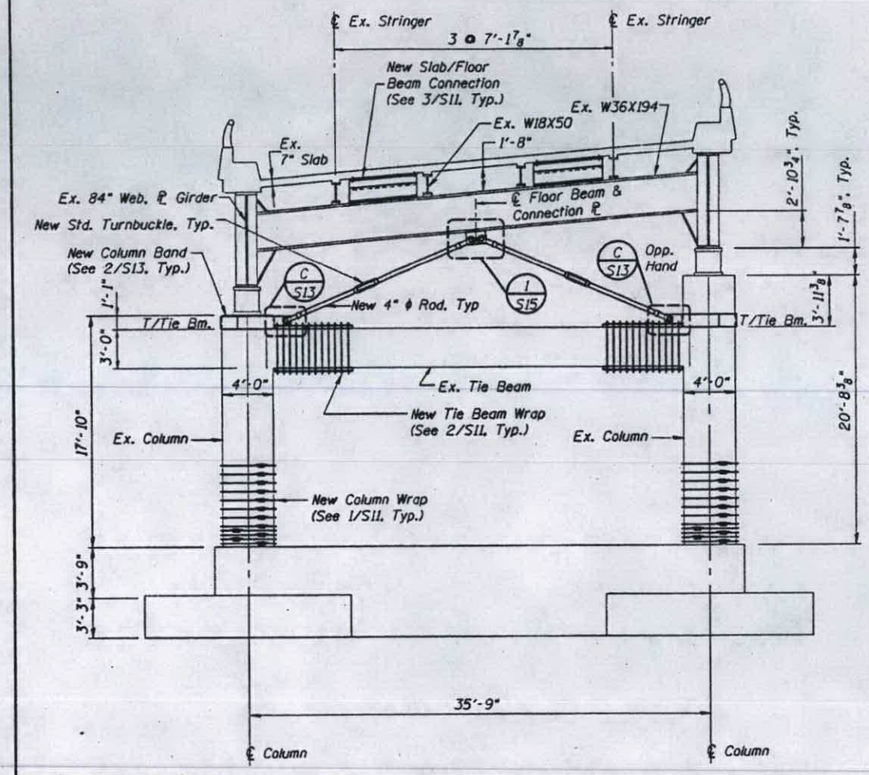
STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP O)
SCALE: NONE DRAWN BY JN
DATE 1-23-98 CHECKED BY HH

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	91	79
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. S-42

SHEETS

* 82-3HVB-2R-1-1



1 / S42 ELEVATION PIER H4

BILL OF MATERIAL - PIER H4		
ITEM	UNIT	QUANTITY
Furnish and erect structural steel	LBS.	5688
Epoxy grouted dowels	EACH	22
Foundation wall dowel modification	EACH	8
Column wrap	SQ. FT.	163.4

PIER H4 RETROFITS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SEISMIC AND REDUNDANCY RETROFIT REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

STRUCTURE NO. 082-0144 (ROADWAY D) STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (ROADWAY H) STRUCTURE NO. 082-0255 (RAMP O)
SCALE: NONE DRAWN BY JN
DATE 1-23-98 CHECKED BY HH

FA/RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST CLAIR	11	1
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

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

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

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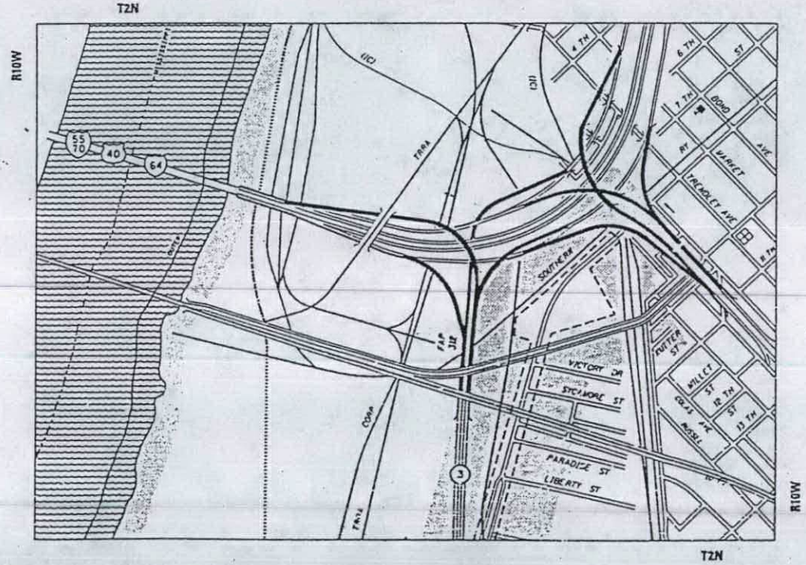
1. TITLE SHEET
2. SUMMARY OF QUANTITIES
3.-4. SCHEDULE OF QUANTITIES
5. TYPICAL SECTIONS
6.-11. PLAN VIEW

STANDARDS

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

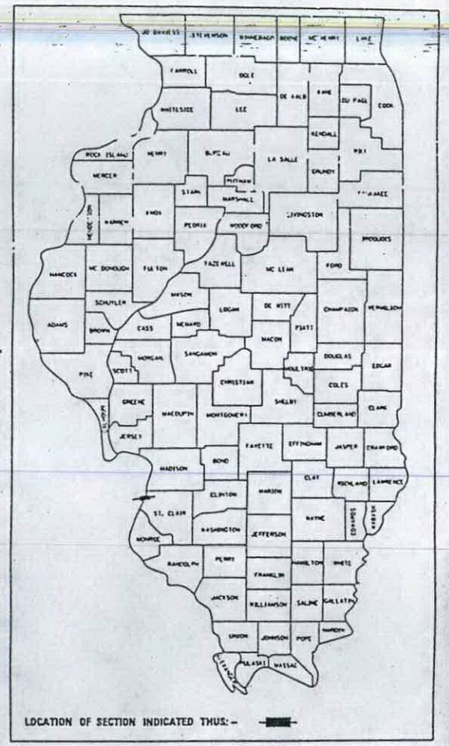
Sec. (82-3HVB-1, 2, 3) D, RS
82-3HVB-R-1
82-3HVB-1R
82-3HVB-R-5
82-3HVB-R-4
82-3HVB-R-3
82-3HVB-R-2
82-3HVB-2

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



PROJECT LOCATION

D-98-094-96



LOCATION OF SECTION INDICATED THUS:- ——

Reels 8-224
180 M
8-159
8-151
8-147
8-136
8-76

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 6/27 19 96
DISTRICT ENGINEER

PASSED August 2 19 96
ENGINEER OF DESIGN AND ENVIRONMENT

APPROVED August 2 19 96
DIRECTOR, DIVISION OF

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

CONTRACT NO. 76003

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

Ramp P
SN 082-0203 REEL 8-224

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

DD C B A 0 A B C

TAMERAN

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. I, TY I METRIC TON
RAMP W/ RAMP F	082-0145.0204	W-7 TO F-1	1+990.29 TO 1+887.02	4488.50	1.57	375.78
RAMP E/ RAMP D	082-0205.0143	E-2 TO D-11	0+652.84 TO [illegible]	3538.10	1.24	296.21
RAMP O	082-0201	D-9 TO D-10	0+282.55 TO [illegible]	1553.59	0.55	132.59
RAMP P	082-0203	P-12 TO P-1	1+667.87 TO 2+004.06	2255.83	0.79	188.86
RAMP D	082-0144	W-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

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. I, TY I 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.

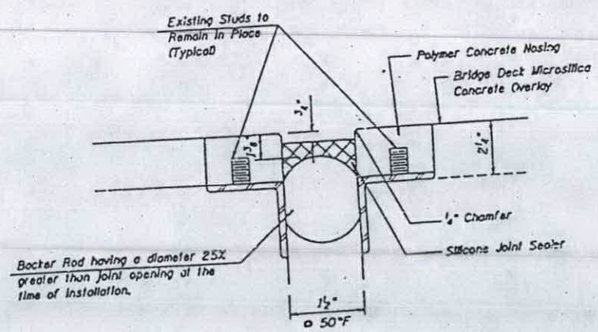
Bituminous Concrete Surface Course, Mix D, Class I, Type 1 - 40.08 Metric Tons
Bituminous Materials Prime Coat - 0.18 Metric Tons
Bituminous Concrete Surface Removal - 515.60 Sq. Meters

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 I (50 MM) METRIC TON
D-11 TO N-1	12X6	72	0.03	0.50
N-1 TO N-2	6X3	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

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	0.055	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



SILICONE JOINT SEAL

ILLINOIS DEPARTMENT OF TR[illegible]
TYPICAL SECTION, JOI[illegible] EPAIR AND PARTIAL DEPTH REPAIR SCHEDULES

F.A.I. ROUTE 70
SECTION (62-3HVB-1, 2, 3) D,RS
ST. CLAIR COUNTY

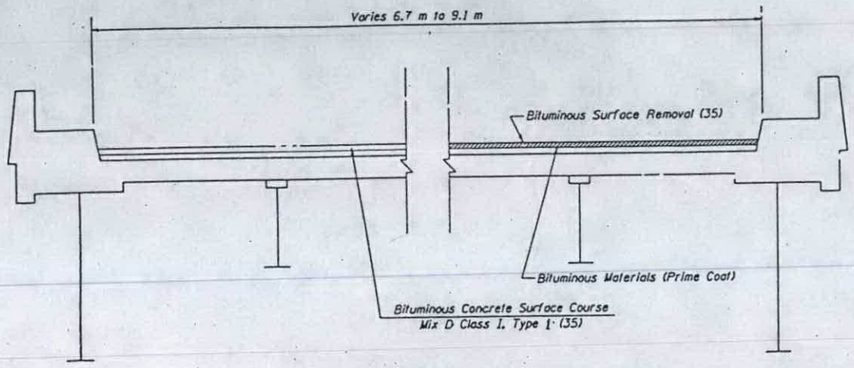
PLOT DATE: [illegible] OUT OF [illegible]

PLAN
NOTE BOOK
PG.

D C B A 0 TAMERAN A B C

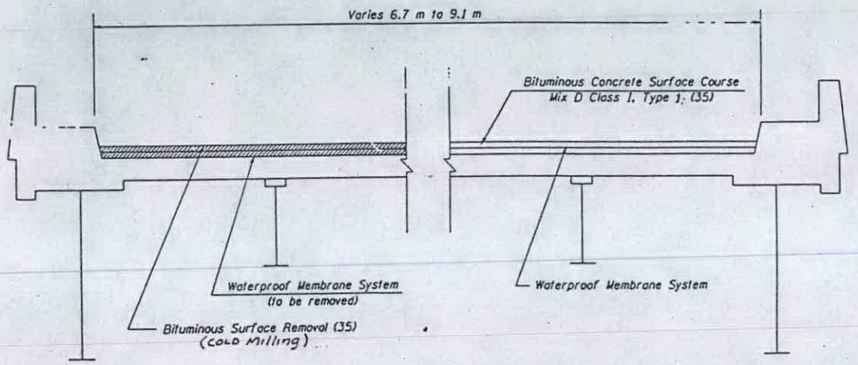
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST CLAIR	11	5
STA.		TO STA.		
EXISTING CONDITIONS:				

* (82-3HVB-1, 2, 3,) D.RS



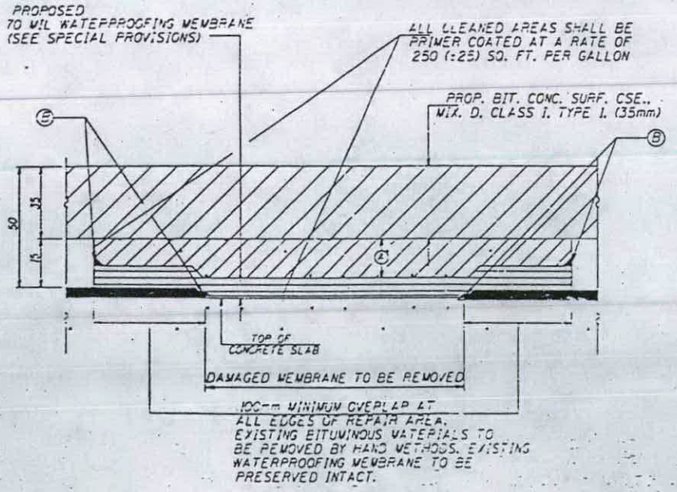
TYPICAL SECTION A

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 MINIMUM 8mm BEAD OF ISO 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.

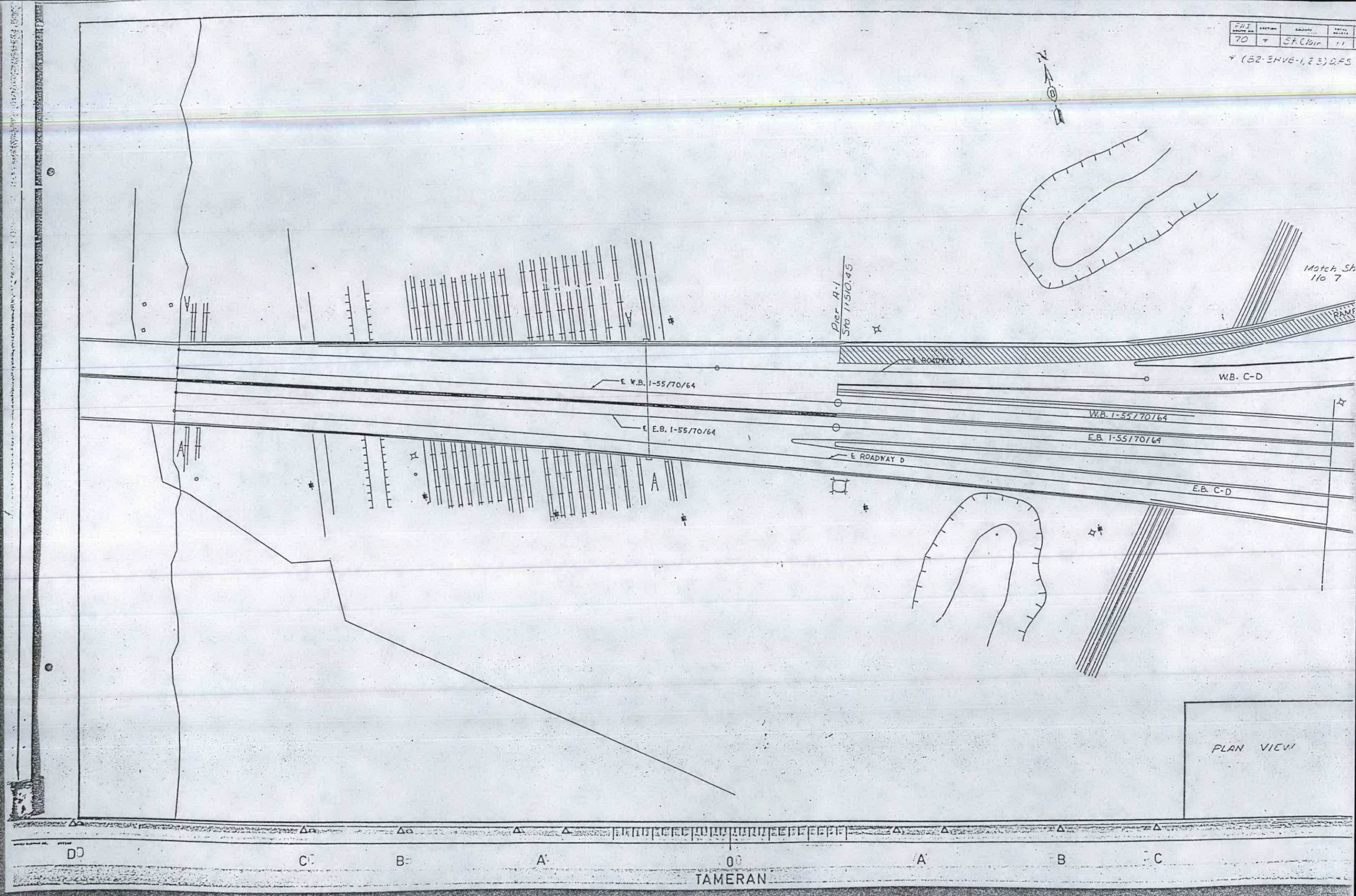
ILLINOIS DEPARTMENT OF TRANS

TYPICAL SECTION

F.A.I. ROUTE 70
SECTION (82-3HVB-1, 2, 3) D,RS
ST. CLAIR COUNTY

C B A 0 A B C D

TAMERAN



FAI
70
St. Clair
(B2-3HVE-1,2,3) D.F.S.
N
Pier A-1
Sta 11510.45
Match Sh
No 7
℄ ROADWAY A
W.B. C-D
℄ W.B. I-55/70/64
W.B. I-55/70/64
℄ E.B. I-55/70/64
E.B. I-55/70/64
℄ ROADWAY D
E.B. C-D
PLAN VIEW
D
C
B
A
0
A
B
C
TAMERAN

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

* (52-3HVB-1,2,3)0,RS

MATCH SHEET NO. 11

RAMP C

Pier C-2 Sta. 0+282.85

W.B. C-D

RAMP A

Pier A-25 Sta. 2+23.21

RAMP S

TRENDLEY AVE

W.B. I-55/64/70

E.B. I-55/64/70

RAMP B

Pier B-12 Sta. 2+00.06

Pier B-15 Sta. 2+05.96

E.B. C-D

RAMP D

E.B. C-D

RAMP T

About 76 Sta. 0+362.25

MATCH SHEET NO. 10

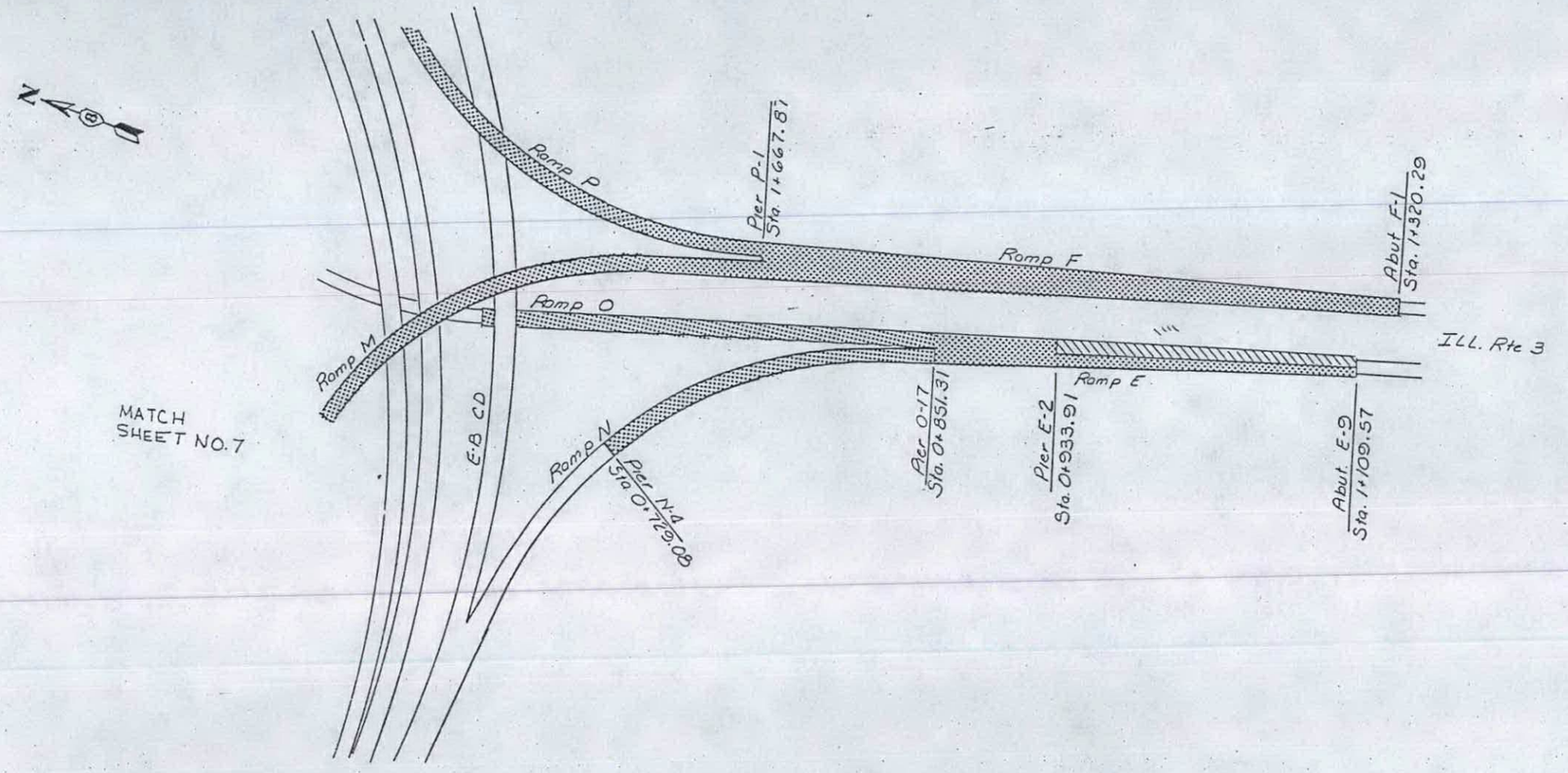
PLAN VIEW

D CC BB AA 00 AA BB CC ED

TAMERAN

FAI ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	11	9

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



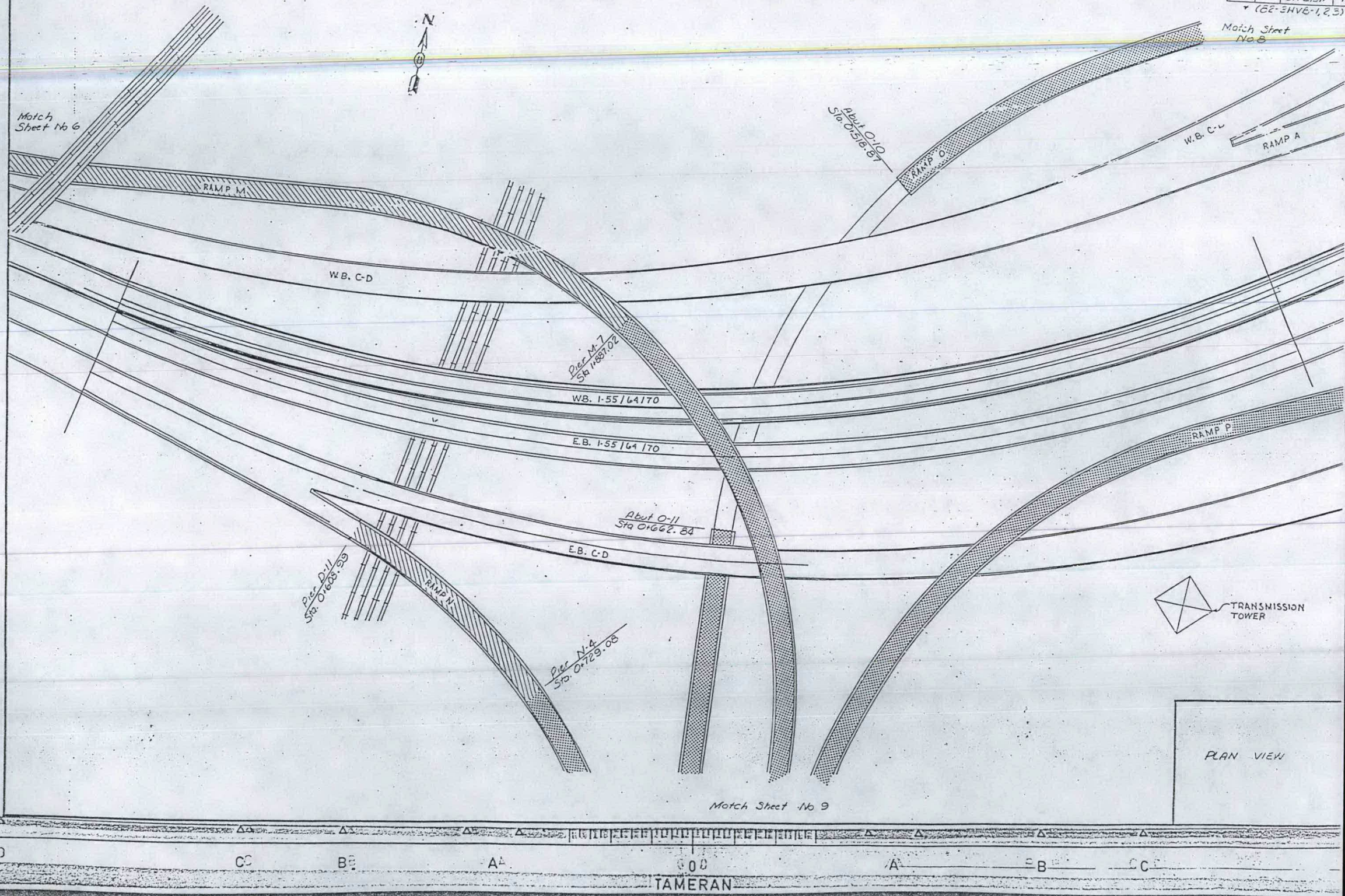
PLAN VIEW

DD CC BB AA OO AA BB CC

TAMERAN

FAI ROUTE NO.	SECTION	COUNTY	
70	4	St. Clair	

(GE-3HVB-1, 2, 3)



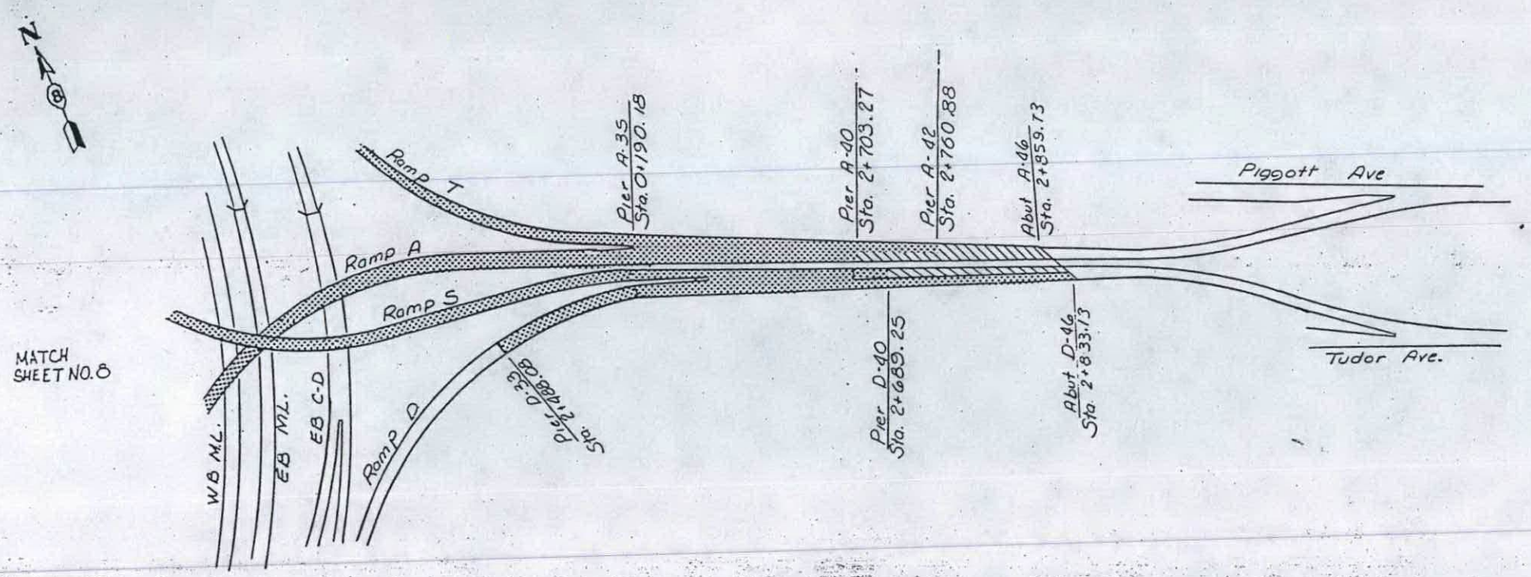
PLAN VIEW

D C B A 0 A B C

TAMERAN

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

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



PLAN VIEW

D C B A 0 A B C D

TAMCRAN

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

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

MATCH SHEET NO. 8

4TH ST.

MAIN ST.

Pier S-1
Sta. O+122.22

Pier G-12
Sta. C 1099.91

RAMP S

W.B. C-D

RAMP G

W.B. C-D

W.B. I-55/64/170

E.B. I-55/64/170

E.B. C-D

E.B. C-D

RAMP H

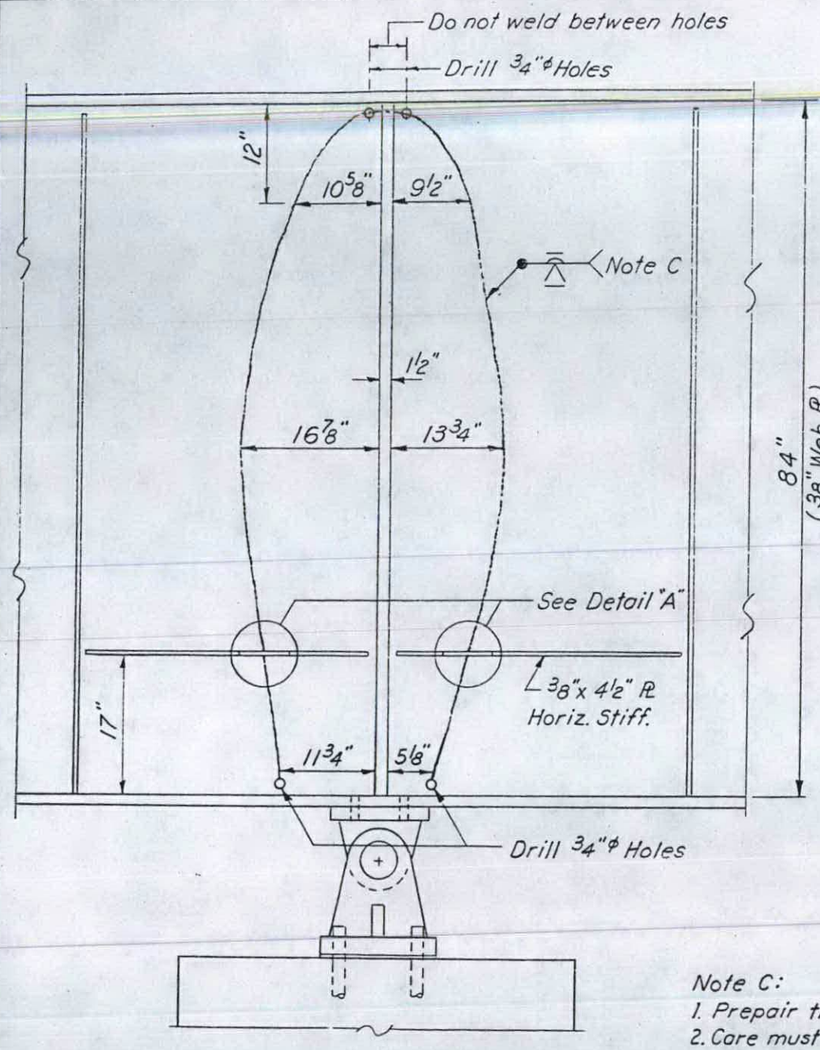
BRADY AVE.

PLAN VIEW

D C B A 0 A B C D

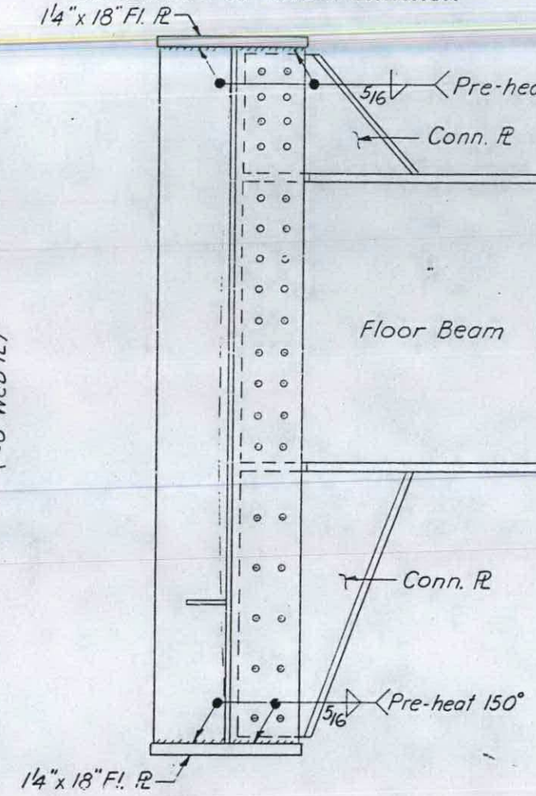
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1
1 SHEETS



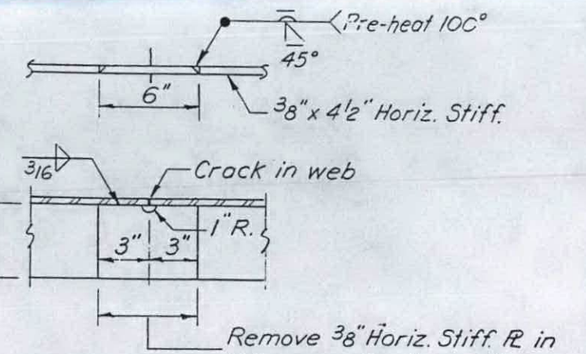
ELEVATION
WEST END PIER 7 - ROADWAY E

Provide temporary supports at each side of pier during repairs.



SECTION

Note C:
1. Prepair the cracked web for single V groove weld.
2. Care must be exercised to minimize the warpping of the web plate while welding.
3. Preheat the web to 100°F.
4. Make sufficient 3"-4" intermittent welds to maintain the alignment of the web.
5. Weld the web together from one side, two passes minimum, starting from the bottom and alternating between the cracks on each side of bearing stiffener.
6. Back gouge the other side to sound metal and weld again.
7. Grind smooth both sides.



DETAIL A

REPAIR PROCEDURE:
Drill 3/4"ϕ holes at bottom ends of crack. (Edge of hole may cut into web to flange weld 1/8" max.)
Remove 6" portion of horizontal stiff. at crack in web.
A — Loosen all bolts in bearing stiff. connection to a snug fit.
Push cracked portion of web into alignment with web.
Tighten bolts.
If cracked web can't be aligned as stated in A use procedure B.
B — Remove bolts in floor beam portion of connection only and replace with 5/8"ϕ H.S. bolts tightened to a snug fit.
Remove bolts in top and bottom connecting PLs.
Push cracked portion of web into alignment with web.
Ream holes in top & bott. conn. PLs if necessary and replace original bolts and tighten.
Remove 5/8"ϕ bolts from floor bm. conn., ream holes if necessary and replace original bolts and tighten.
Remove paint clean surfaces to be welded.
Weld bearing stiffener at top & bottom.
Weld crack in web. (See Note C)
Weld 6" plate in horizontal stiffeners.
Paint repaired areas to match.

TRAFFIC SHALL BE STOPPED WHILE WELDING

DESIGNED	WAT	1978	EXAMINED
CHECKED			PASSED
DRAWN	P.A.		APPROVED
CHECKED			

082-0205
WEB REPAIR
F.A.I. RT. 70 SEC. 82-3HVB-R-1
ST. CLAIR COUNTY

Proposed but not completed

Reel 180M

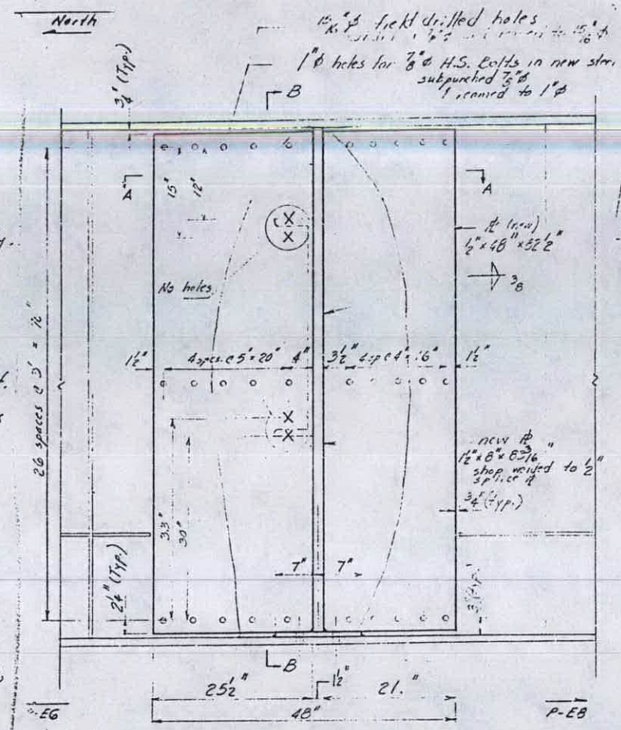
082-0205

St. Clair Co.
02-3HV2-R-1

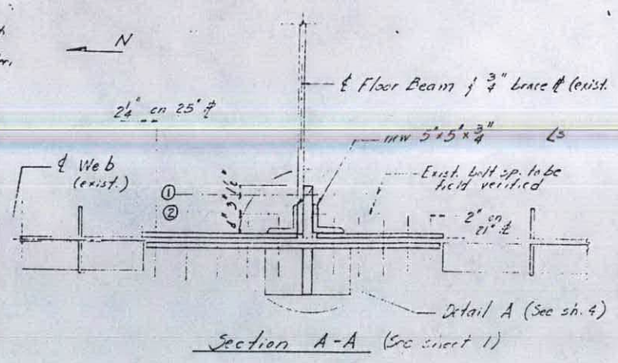
Procedure

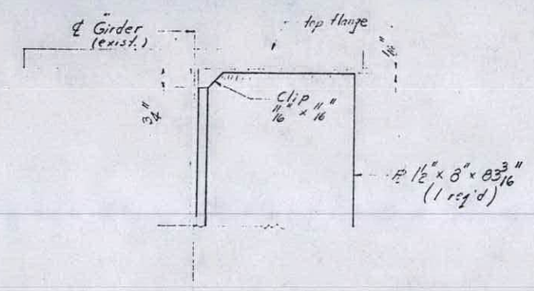
1978

1. Restrict to one lane traffic.
2. Crib on both sides of bearing.
3. No construction traffic past centerline of bearing (one span only.
4. No tack welded construction accessories. (Remove and grind smooth any existing accessories.)
5. Field dr. 11 2 lines of 15/16"ø holes in girder web, 4" to the north and 3½" to the south of the face of exist. brg. stf. (Remove paint and clean all contact surfaces for new steel and bolts.)
6. Remove bolt line (2) - See Section A-A - and install inside web splice ℄'s and Ls
7. Remove existing fascia bearing stiffener and horizontal stiffeners and grind web and flange areas smooth.
8. Using inside or outside web splice ℄'s as templates, bolt the 4' web ℄ to the girder.
9. Bolt bottom ¾" × 14" till ℄ to bottom flange and bearing assembly.
10. Stop all traffic and weld new bearing stiffener to the top flange of the girder and to the ¾" bottom till ℄ and bottom flange of girder.

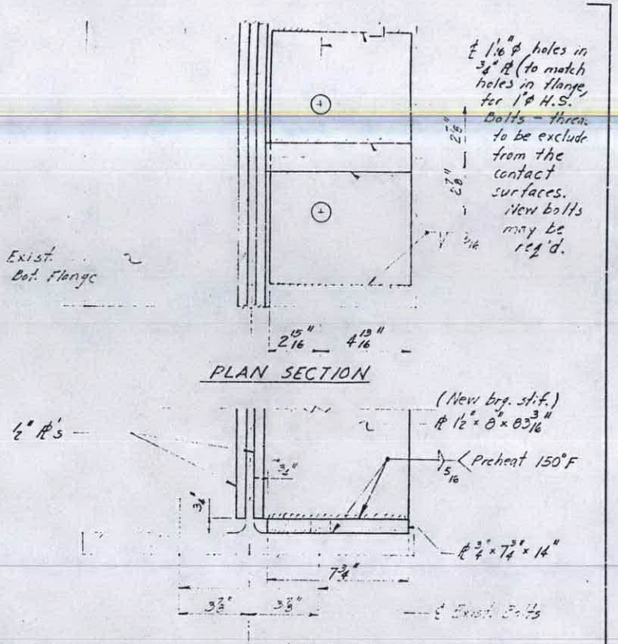


Sh. 1 of 5



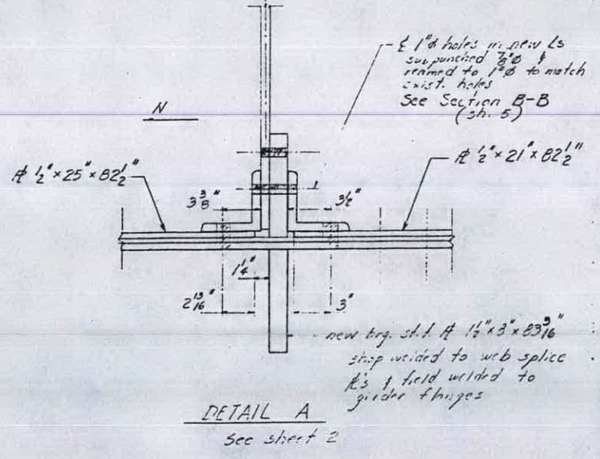


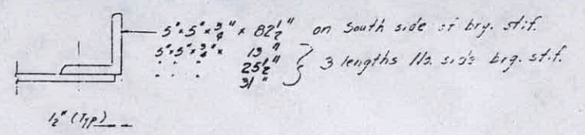
Sh. 2 of 5



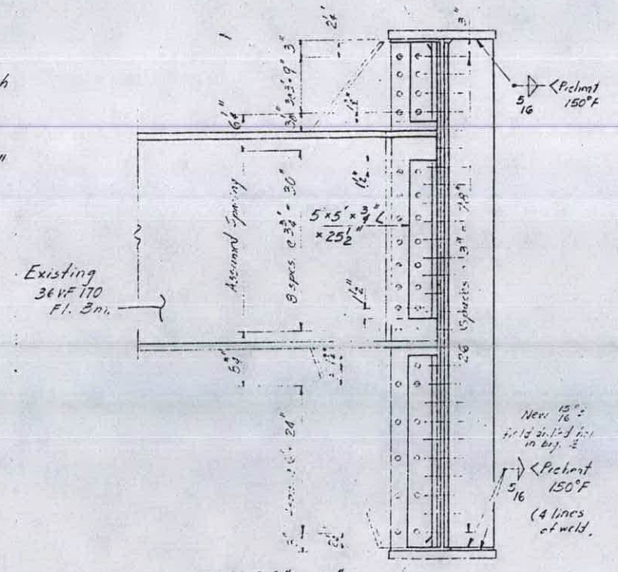
BEARING STIF. DETAILS AT BOT. FLANGE

Sh. 3 of 5





Sh. 4 of 5



Sh. 5 of 5

OB2-0205
B2-3HVB-R-1
St. Clair Co.
1978

70	6	ST. CLAIR	320	1A

P-98-021-85

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SEE SHEET NO. 7 FOR INDEX OF SHEETS

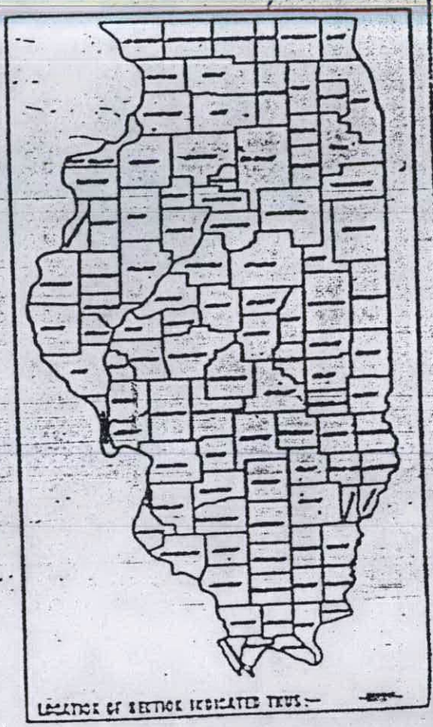
PLANS FOR PROPOSED FEDERAL AID HIGHWAY

THE STRUCTURES REHABILITATED IN THIS PROJECT WERE BUILT AS SECTIONS:
82-4HB
82-4HB-1
82-3HVF&E-1
82-4HVB

SCALE IN FEET

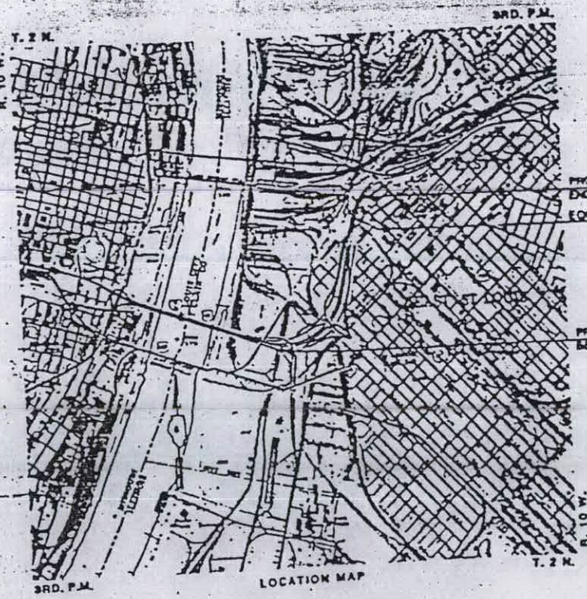
PLAN		1 INCH 50 FT.
PROFILE	HOR.	1 INCH 50 FT.
	VERT.	1 INCH 5 FT.
CROSS-SECTIONS	HOR.	1 INCH 10 FT.
	VERT.	1 INCH 5 FT.

F.A.I. ROUTE 70
SECTION 82 - 3HVB - 2R - 1
PROJECT IR - 70 - 1(155)1
ST. CLAIR COUNTY
C-98-106-86



LOCATION OF SECTION INDICATED THUS:—

Construction Changes
Sheets:
2A(246A OF 320)
4A(248A OF 320)
5A(249A OF 320)
6A(250A OF 320)
8A(252A OF 320)
9A(253A OF 320)
10A(254A OF 320)
11A(255A OF 320)
46A(290A OF 320)



LOCATION MAP

1000 0 1000 2000 3000
SCALE IN FEET

NET LENGTH OF PROJECT - 8,865.89 FT. - 1.111 MILES

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

DESIGN DESIGNATION
C-D'S 2 LANES: 1800(06) TRUNK 17.8(C-20)

AS REVISED

082-0203

Reel 8-171

ANTHONY W. NEMEYER
NO. 62-39027

CARLOS A. LIZANA-FARIAS
NO. 81-3956

DEPARTMENT OF TRANSPORTATION

PREPARED BY:
BYERDRUP CORPORATION
ST. LOUIS, MISSOURI

Revised 1-25-89 M.H.B.
082-0203

CONTRACT NO. 42345

ST. CLAIR COUNTY SECTION 82-3HVB-2R-1 F.A.I. ROUTE 70

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	7
		ILL. NO. / PROJECT		

• 82-3HVB-2R-1

INDEX OF SHEETS

1	TITLE SHEET
2-6	TYPICAL SECTIONS
7	INDEX OF SHEETS
8-10	SUMMARY OF QUANTITIES
11-12	SCHEDULE OF QUANTITIES
13	ALIGNMENT PLAN
14-17	REFERENCE TIES
18-22	PLAN SHEETS
23-25	PROFILE SHEETS
26-28	DRAINAGE PLANS
29	SEWER PROFILES
30-32	TEMPORARY CONNECTION
33-35	SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL
35A-35H	TRAFFIC CONTROL AND PROTECTION HOV LANE
36	PAVEMENT MARKING DETAILS
37	RAMP H EXIT & MISC. DETAILS
38-41	SEEDING DETAILS
42-97	BRIDGE - ROADWAYS A, G AND D - DECK REHABILITATION
98-137	BRIDGE - RAMP R RECONSTRUCTION
138-168	BRIDGE - RAMPS Q AND P RECONSTRUCTION
169-176	BRIDGE - ROADWAY H - DECK REHABILITATION
177-198	BRIDGE - ROADWAY H OVER TRENDLEY AVENUE
199-224	BRIDGE - RAMP G OVER 4TH STREET
225-244	BRIDGE - ROADWAY C OVER 4TH STREET
245-291	BRIDGES - ROADWAY B & C OVER BROADWAY AND MAIN STREET
292	MAINTENANCE AND CONSTRUCTION SIGN SUPPORT BRACKETS
293-304	SIGNING PLANS
305-320	CROSS SECTIONS

STANDARDS

1527-9	2230-15	2308-4	2343-6
1683-4	2237-10	2314-5	2353-7
2113-2	2240-5	2323-9	2362-3
2130-9	2250-1	2324-6	2364-1
2135	2258-3	2326-3	2381
2143-3	2262-4	2327-10	
2168-11	2263-3	2336-4	2397-1
2203-14	2298-7	2337-2	2419
2213-4	2299-10	2340-4	
2215-3	2300-3	2341-1	
2217-3	2307-6	2342-5	
2228-4			

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

BITUMINOUS CONCRETE	112 LBS. / INCH / SQ. YD.
BITUMINOUS MATERIALS PRIME COAT	0.0003129 TONS / SQ. YD.
GRANULAR MATERIALS	2.05 TONS / CU. YD.
NITROGEN FERTILIZER NUTRIENT	120 LBS. / ACRE
PHOSPHORUS FERTILIZER NUTRIENT	72 LBS. / ACRE
POTASSIUM FERTILIZER NUTRIENT	48 LBS. / ACRE
MULCH	2 TONS / ACRE
EMULSIFIED ASPHALT	0.35 TON / TON OF MULCH

GENERAL NOTES

1. ALL ELEVATIONS ARE BASED ON U.S. G.S. DATUM.
2. THE STANDARDS WITH THE REVISION NUMBERS LISTED IN THE INDEX OF SHEETS SHALL APPLY TO THIS PROJECT.
3. ANY PARTIAL REMOVAL OF CONCRETE PAVEMENT OR ASPHALTIC CONCRETE PAVEMENT SHALL REQUIRE A SAW CUT.
4. SEED ALL DISTURBED AREAS THAT ARE NOT PAVED.
5. ALL TREES, BRUSH, AND SHRUBS WITHIN THE CONSTRUCTION LIMITS WILL BE REMOVED IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS" AND SPECIAL PROVISIONS. ALL TREES BETWEEN THE CONSTRUCTION LIMITS AND THE EXISTING RIGHT-OF-WAY WILL BE PRESERVED UNLESS DESIGNATED TO BE REMOVED BY THE ENGINEER.
6. WHERE SECTION OR SUBSECTION MARKERS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED AGENT, OR LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
7. LENGTHS OF STORM SEWERS ARE MEASURED FROM CENTERLINE TO CENTERLINE OF STRUCTURES.
8. EXCEPT WHERE DESIGNATED OTHERWISE, THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM OFFICE RECORD INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF FACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 96 HOURS ADVANCE NOTICE TO THE RESIDENT ENGINEER SO THAT UTILITIES CAN BE GIVEN NOTICE.
AGENCIES KNOWN TO HAVE UNDERGROUND FACILITIES WITHIN THE LIMITS OF THIS IMPROVEMENT ARE THE FOLLOWING (MEMBERS OF "JULIE", PHONE 1800892-0123, ARE INDICATED BY •):
   - • UNION ELECTRIC
   - • ILLINOIS AMERICAN WATER CO.
   - LACLEDE GAS CO.
   - EXPLORER PIPELINE CO.
   - • ILLINOIS BELL
9. IT HAS BEEN ESTIMATED THAT 100 SQ. YDS. OF PAVEMENT REMOVAL AND CONTINUOUSLY REINFORCED PORTLAND CEMENT CONCRETE REPLACEMENT, TYPE III IS REQUIRED FOR THE PROJECT AT LOCATIONS DETERMINED BY THE ENGINEER.
10. THE ANCHOR BOLT CAPSULES ARE NOT SUPPLIED BY THE FABRICATION CONTRACT. THE NUMBER AND SIZE OF CAPSULE REQUIRED MUST BE DETERMINED BY THE CONTRACTOR TO MATCH THE ANCHOR BOLT SIZES. IF THE FABRICATION CONTRACTOR ELECTS TO USE THE STATE EXPANSION BOLT, THE CAPSULES WILL NOT BE REQUIRED.
11. ANY INLETS AND PIPES TO BE REMOVED SHOWN IN THE PLANS AND NOT ITEMIZED AS PAY ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
12. IF PARAPET RECONSTRUCTION ALTERNATE 1 IS SELECTED BY THE CONTRACTOR, HE WILL BE ALLOWED TO USE A 90 LB. HAMMER TO REMOVE THE PORTION OF THE PARAPET AS SHOWN FOR ALTERNATIVES 2 AND 3.
13. THE CONTRACTOR SHALL SCHEDULE HIS BITUMINOUS OPERATIONS TO INSURE THAT THE PROJECT SCHEDULE IS MET AND THE BITUMINOUS IS PLACED AS SPECIFIED IN THE STANDARD SPECIFICATIONS.

10136
86C11

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	8
		ILLINOIS PROJECT		

• 82-3HVB-2R-1

CODE NO.	ITEM	UNIT	QUANTITY	CONSTRUCTION TYPE CODE										
				X 171-50	X 271-2A	X 571-50	X 171-50	X 171-50	X 271-2A	X 271-2A	X 271-2A	X 271-2A	X 571-50	SFTY-30
				ROADWAY A BRIDGE OVER RAILROAD	ROADWAY C BRIDGE OVER ROAD	ROADWAY D BRIDGE OVER ROAD & R.R.	RAMPS Q & R BRIDGE OVER RAILROAD	RAMPS P,Q & H BRIDGE OVER RAILROAD	ROADWAY H SPANS H2 - H4 OVER ROAD	ROADWAY H OVER TRENDLEY AVE.	RAMP G BRIDGE OVER 4th STREET	ROADWAY C BRIDGE OVER 4th STREET	ROADWAY B & C BRIDGES OVER BROADWAY	E.B. & W.B. C-D RAMPS G & H
20100100	TREE REMOVAL (6 TO 15 INCH DIAMETER)	IN. DIA.	16											16
20100200	TREE REMOVAL (OVER 15 INCH DIAMETER)	IN. DIA.	40											40
20100600	HEDGE REMOVAL	UNIT	9											9
20200100	EARTH EXCAVATION	CU. YD.	1,575											1,575
20400100	BORROW EXCAVATION	CU. YD.	15,230											15,230
21000100	TRENCH BACKFILL	TON	552											552
21501200	AGGREGATE SHOULDERS, TYPE B	SQ. YD.	1,832											1,832
21800100	STABILIZED SUB-BASE 4"	SQ. YD.	4,427											4,427
21900600	BITUMINOUS SHOULDERS 8"	SQ. YD.	3,209											3,209
30400500	PORTLAND CEMENT CONCRETE BASE COURSE 10"	SQ. YD.	3,084											3,084
30500500	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 10"	SQ. YD.	365											365
30800500	BITUMINOUS BASE COURSE 8"	TON	747											747
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	10											10
40600300	AGGREGATE (PRIME COAT)	TON	18											18
40600510	LEVELING BINDER (MACHINE METHOD), TYPE 1	TON	1,066											1,066
40600710	BITUMINOUS CONCRETE BINDER COURSE, TYPE 1	TON	1,311					1.3						1,311
40600830	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE E; CLASS 1 TYPE 1	TON	1,309											1,307.7
65100200	STRIP REFLECTIVE CRACK CONTROL TREATMENT	LIN. FT.	2,651											2,651
40800500	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SQ. YD.	408											408
40801200	PAVEMENT FABRIC	SQ. YD.	408											408
40801310	BRIDGE APPROACH PAVEMENT (STANDARD 2353) SPECIAL	SQ. YD.	505											505
40801500	P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT	SQ. YD.	266											266
50102400	CONCRETE REMOVAL	CU. YD.	1,303.6	149.2	66.3	134.6	84.6	153.8	12.3	168.2	22.0	80.4	432.2	
50103300	EXPANSION BOLTS ¾ DIA. INCH X 12 INCH	EACH	323								57	38	228	
50104720	REMOVAL OF EXISTING CONCRETE DECK	EACH	1					1			1			
50100300	REMOVAL OF EXISTING STRUCTURE (RAMP Q) NO. 1	EACH	1											
50100400	REMOVAL OF EXISTING STRUCTURE (RAMP R) NO. 2	CU. YD.	1,440				59.7	180			19	223	421	
50200100	STRUCTURE EXCAVATION	EACH	73	8		2	12	8			3		40	
50300100	FLOOR DRAINS	EACH	6									6		
X5033000	INSTALLING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	3									3		
X5033100	INSTALLING ELASTOMERIC BEARING ASSEMBLY, TYPE II	LIN. FT.	469				37.0	87					12	
50300108	PREFORMED JOINT SEAL 1¼"	LIN. FT.	42					30					12	
50300120	PREFORMED JOINT SEAL 2½"	LIN. FT.	82					82						
50300130	PREFORMED JOINT SEAL 4"	SQ. YD.	6,771	1,945	1,049	2,048	460	276	260	35	196	92	410	9
50300300	PROTECTIVE COAT	EACH	9								27.9	180.5	424.3	
50300400	CONCRETE HEADWALL FOR PIPE DRAINS	CU. YD.	1,558.3				706.6	219.0			443.9	184.0	695.2	
50400300	CLASS X CONCRETE	CU. YD.	3,053.0	92.2	47	138.2	811.9	449.3	17.0	146.6	675.0	340.0	1,820.0	
50300250	CLASS X CONCRETE SUPERSTRUCTURE	POUND	39,925.0	5,430.0	2,704.0	4,056.0	15,920.0	7,630.0	1,350.0		0.01	0.07	0.23	
50700400	FURNISHING AND ERECTING STRUCTURAL STEEL	L. SUM	1	0.01	0.01	0.02	0.43	0.19		0.01	7,209		74	
50700300	ERECTING STRUCTURAL STEEL	EACH	18,839				7,983	3,573						137
50700500	STUD SHEAR CONNECTORS	LIN. FT.	137											36
51100430	PIPE CULVERT, TYPE 1 RCCP 15"	LIN. FT.	36											106
51101267	PIPE CULVERTS, TYPE 2 RCCP 12"	LIN. FT.	106											18
51101270	PIPE CULVERTS, TYPE 2 RCCP 15"	LIN. FT.	18											44
51101279	PIPE CULVERTS, TYPE 2 RCCP 24"	LIN. FT.	44											352
51101480	PIPE CULVERTS, TYPE 2, CORRUGATED STEEL OR ALUMINUM CULVERT PIPE 15"	LIN. FT.	352											1
51102131	PIPE CULVERTS, TYPE 3 RCCP 36"	EACH	1											2
51113657	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 12"	EACH	2											1
51113660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	1											5
51113669	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24"	EACH	5											1
51113447	END SECTIONS 12"	EACH	1											
51113450	END SECTIONS 15"	POUND	250,603				128,620	37,330			4,130	19,530	42,550	18,443
51200100	REINFORCEMENT BARS	POUND	732,772	12,372	6,070	11,040	234,590	121,920	760	37,460	121,610	50,830	136,120	
51200200	REINFORCEMENT BARS, EPOXY-COATED	LIN. FT.	11,844				5,101	1,810			155	1,691	3,087	
51302200	FURNISHING CONCRETE PILES	LIN. FT.	11,844				5,101	1,810			155	1,691	3,087	
51302800	DRIVING CONCRETE PILES	EACH	13				4	2			2	2	3	
51304200	TEST PILE CONCRETE	EACH	6				1	1		1	1	1	1	
51400100	NAME PLATES	LIN. FT.	646											646
60705000	PIPE DRAINS, CORRUGATED STEEL OR ALUMINUM ALLOY 12"	LIN. FT.	7,715											7,715
60707600	PIPE UNDERDRAINS 4"	LIN. FT.	236											236
60708100	PIPE UNDERDRAINS 4" (SPECIAL)	EACH	7											7
61218400	MANHOLES, TYPE A, 4' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1											1
61244400	FLUSH INLET BOX FOR MEDIAN (2240)	EACH	3											3
61247000	TYPE C INLET BOX, STANDARD 2324	EACH	7											7
61247100	TYPE D INLET BOX, STANDARD 2324													

⊙ NON-PART.

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REV. 8/26/88

SUMMARY OF QUANTITIES

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	9
	ALL PHASES	PROJECT		
		• 82-3HVB-2R-1		

CODE NO.	ITEM	UNIT	QUANTITY	CONSTRUCTION TYPE CODE										
				X 171-50	X 271-2A	X 571-50	X 171-50	X 171-50	X 271-2A	X 271-2A	X 271-2A	X 271-2A	X 571-50	SFTY-30
				ROADWAY A BRIDGE OVER RAILROAD	ROADWAY G BRIDGE OVER ROAD	ROADWAY D BRIDGE OVER ROAD & R.R.	RAMPS O & R BRIDGE OVER RAILROAD	RAMPS P,Q & H BRIDGE OVER RAILROAD	ROADWAY H-SPANS M2 - H4 OVER ROAD	ROADWAY H OVER TRENDLEY AVE.	RAMP G BRIDGE OVER 4th STREET	ROADWAY C BRIDGE OVER 4th STREET	ROADWAY B & C BRIDGES OVER BROADWAY	E.B. & W.B. C-D RAMPS G & H
		EACH	1											1
61255500	MANHOLES TO BE ADJUSTED	EACH	1											1
61258200	MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE 1 FRAME, CLOSED LID	EACH	1											1
61260300	INLETS TO BE ADJUSTED WITH NEW TYPE 1 FRAME, OPEN LID	EACH	1											1
61260900	INLETS TO BE ADJUSTED WITH NEW TYPE 6 FRAME AND GRATE	EACH	1											1
61407910	GRATING FOR CONCRETE FLARED END SECTION 24"	EACH	1											1
61500100	FILLING EXISTING MANHOLES	LIN. FT.	180											180
62900300	CHAIN LINK FENCE, 6 FT.	EACH	3											3
X0320025	FURNISH AND MAINTAIN RADIO													
61605100	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24 (ABUTTING EXISTING PAVEMENT)	LIN. FT.	88											88
61615200	PAVED DITCH, TYPE A-12	LIN. FT.	715											715
X6163901	TEMPORARY CONCRETE BARRIER, TTV	LIN. FT.	11,600											11,600
X6164101	TEMPORARY CONCRETE BARRIER, TERMINAL SECTION, TTV	EACH	12											12
X6164001	RELOCATE TEMPORARY CONCRETE BARRIER, TTV	LIN. FT.	20,600											20,600
61700030	BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH)	SQ. YD.	2,680											2,680
61700100	PAVEMENT REMOVAL	SQ. YD.	2,547											2,547
61700900	BITUMINOUS CONCRETE REMOVAL	SQ. YD.	747											747
61700920	BITUMINOUS CONCRETE SHOULDER REMOVAL	SQ. YD.	584											584
61701000	BITUMINOUS CONCRETE SURFACE REMOVAL	SQ. YD.	25,118	9,632	4,839	8,597		407	1,248	395				
61701800	COMBINATION CURB AND GUTTER REMOVAL (PARTIAL)	LIN. FT.	88											88
61704000	PAVED DITCH REMOVAL	LIN. FT.	317											317
61704500	PAVEMENT REMOVAL (SURFACE COURSE)	SQ. YD.	457											457
61704800	SLOPE WALL REMOVAL	SQ. YD.	416							30				386
61800100	SLOPE WALL 4 INCH	SQ. YD.	1,189							30				1,159
62000545	CLASS A PATCHES TYPE III 9 INCH	SQ. YD.	100											100
62800035	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	1											1
62800040	TRAFFIC BARRIER TERMINAL, TYPE 1A	EACH	1											1
62800045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3											3
62800070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	7											7
62800085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	6											6
62801900	REMOVAL AND REINSTALLATION OF EXISTING S.P.B. GUARD RAIL, SINGLE RAIL	LIN. FT.	2,725											2,725
62910400	CHAIN LINK FENCE TO BE REMOVED AND RE-ERECTED	LIN. FT.	845											845
63300300	STEEL PLATE BEAM GUARD RAIL REMOVAL	LIN. FT.	920											920
64200200	SEEDING, CLASS 2	ACRE	2.5											2.5
64300820	HAY OR STRAW BALES	EACH	400											400
64600401	ENGINEER'S FIELD OFFICE, TYPE A-1	CAL. MO.	12											12
64600600	ENGINEER'S FIELD LABORATORY	CAL. MO.	12											12
64801800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L. SUM	1											1
65000100	MOBILIZATION	L. SUM	1											1,120
• 66060200	BARE COPPER WIRE, I/C NO. 6	LIN. FT.	1,120											410
• 66100300	UNIT DUCT, 2-600 VXLP #6, 1" POLYETHELENE	LIN. FT.	410											710
• 66100400	UNIT DUCT, 2-600 VXLP #4, 1" POLYETHELENE	LIN. FT.	710											1,040
• 66200100	TRENCH AND BACKFILL FOR ROADWAY LIGHTING	LIN. FT.	1,040											88
• 67000100	SIGN LIGHTING (HIGH PRESSURE SODIUM)	LIN. FT.	88											455
• T2030100	SIGN PANEL - TYPE 3	SQ. FT.	455											641.5
• T2070100	RELOCATE SIGN PANEL - TYPE 3	SQ. FT.	641.5											171.0
• T3094000	OVERHEAD SIGN STRUCTURE - SPAN, TYPE IV-A (6'-0" X 8'-0")	LIN. FT.	171.0											125.25
• T3110100	OVERHEAD SIGN STRUCTURE WALKWAY	LIN. FT.	125.25											35.5
• T3120200	DRILLED SHAFT CONCRETE FOUNDATIONS	CU. YD.	35.5											2
• T3170100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	2											4
• T3200200	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	4											32,484
• T5020200	PAINT PAVEMENT MARKING - LINE 4"	LIN. FT.	32,484											6,810
• T5020500	PAINT PAVEMENT MARKING - LINE 8"	LIN. FT.	6,810											1,835
• T5030600	PREFORMED PLASTIC PAVEMENT MARKING-LINE 12"	LIN. FT.	1,835											381
T5040100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	501	21	16	19	9	7	4	3	3	6	52	3
• L0008800	REMOVAL OF EXISTING LIGHTING UNIT	EACH	44	9	2	11	6	1	4	1	1	1	5	60
• L0669000	PULL UNIT DUCT FROM CONDUIT	LIN. FT.	60											
X2178900	INSTALLING REINFORCED NEOPRENE EXPANSION JOINT TREATMENT	LIN. FT.	224	37	41	146								
X5033800	INSTALLING ELASTOMERIC BEARING ASSEMBLY (SPECIAL)	EACH	50				36	14						
X0300100	PARAPET RECONSTRUCTION	LIN. FT.	12,138	4,611	2,336	4,465			726					
50701000	JACK AND REPOSITION BEARINGS	EACH	26							26				
Z0006010	BRIDGE DECK CONCRETE OVERLAY OPTION	SQ. YD.	26,786	10,453	5,142	9,054		420	1,322	395				
Z0012100	CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ. YD.	24,786	9,532	4,750	8,380		407	1,322	395				5
Z0013500	CONCRETE THRUST BLOCKS	EACH	5											

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• SPECIALTY ITEMS △ CONST. CODE Y080 ⊙ NON-PART.

REV. 8/26/88

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	QUANTITY	CONSTRUCTION TYPE CODE										
					X 171-50	X 271-2A	X 571-50	X 171-50	X 171-50	X 271-2A	X 271-2A	X 271-2A	X 271-2A	X 571-50	SFTY-3Q
					ROADWAY A BRIDGE OVER RAILROAD	ROADWAY G BRIDGE OVER ROAD	ROADWAY D BRIDGE OVER ROAD & R.R.	RAMPS O & R BRIDGE OVER RAILROAD	RAMPS P,Q & H BRIDGE OVER RAILROAD	ROADWAY H SPANS H2 - H4 OVER ROAD	ROADWAY H OVER TRENDLEY AVE.	RAMP G BRIDGE OVER 4th STREET	ROADWAY C BRIDGE OVER 4th STREET	ROADWAY B & C BRIDGES OVER BROADWAY	E.B. & W.B. L C-D RAMPS G & H
	Z0013700	CONSTRUCTING TEST STRIP	EACH	2											2
	Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ. YD.	827	272	153	375		7	4	16				
	Z0016001	DECK SLAB REPAIR (PARTIAL)	SQ. YD.	4,328	2,014	353	1,750		60	105	46				
	Z0016200	DRAINAGE SCUPPERS	EACH	104	39	12	33			6	4	6	4		
	Z0017900	EPOXY MORTAR REPAIR	CU. FT.	2.7								2.7			
	Z0020400	IMPACT ATTENUATOR REMOVAL	EACH	1		1									
Ⓝ	Z0029999	IMPACT ATTENUATORS	EACH	4		1		1	1						1
Ⓝ	Z0030000	LOCATING UNDERGROUND CABLE	LIN. FT.	430											430
	Z0033400	NEOPRENE EXPANSION JOINT 2"	LIN. FT.	805	131	32	107			38	174	245	39	39	
	50300150	NEOPRENE EXPANSION JOINT 2½"	LIN. FT.	375	68	91	40	61					47	68	
	50300155	NEOPRENE EXPANSION JOINT 4"	LIN. FT.	407	125	37	72	41	80					52	
	50300160	NEOPRENE EXPANSION JOINT 6½"	LIN. FT.	12										12	
	50300165	PERMANENT SURVEY MARKERS, TYPE I	EACH	19											19
	Z0039200	PIPE CULVERT REMOVAL	LIN. FT.	137											137
			EACH	7											7
	X0702200	TRAFFIC BARRIER TERMINAL CONNECTOR	HOUR	1,500											1
Δ	Z0076600	TRAINEES	L. SUM	1	0.25		0.25	0.25	0.25						
	Z0048695	RAILROAD PROTECTIVE LIABILITY INSURANCE	EACH	741	233	149	248			51					
	X0300101	FLOOR DRAIN REMOVAL	EACH	1											1
	X0974000	OFFICE COPY MACHINE	EACH	400											400
	X0300109	TRAFFIC CONTROL AND PROTECTION (HOV LANE)	SQ. YD.	398	90	200	108								
	E0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	EACH	1											1
	X6163801	MOVABLE CONCRETE MEDIAN BARRIER TRANSFER AND TRANSPORT VEHICLE	CALMO	12											12
	X0300103	FACSIMILE MACHINE													

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	10
		ILL. NUMBER	PROJECT	

* 82-3HVB-2R-1

10320	FILE: SUMMARY.DGN	LEVELS PLOTTED	DATE: 10-14-87
87C	PRF: SUM3	1,2,3,35	

* SPECIALTY ITEMS Δ CONST. TYPE CODE: Y080 Ⓝ CONST. CODE SFTY-3N ⊙ NON-PART.

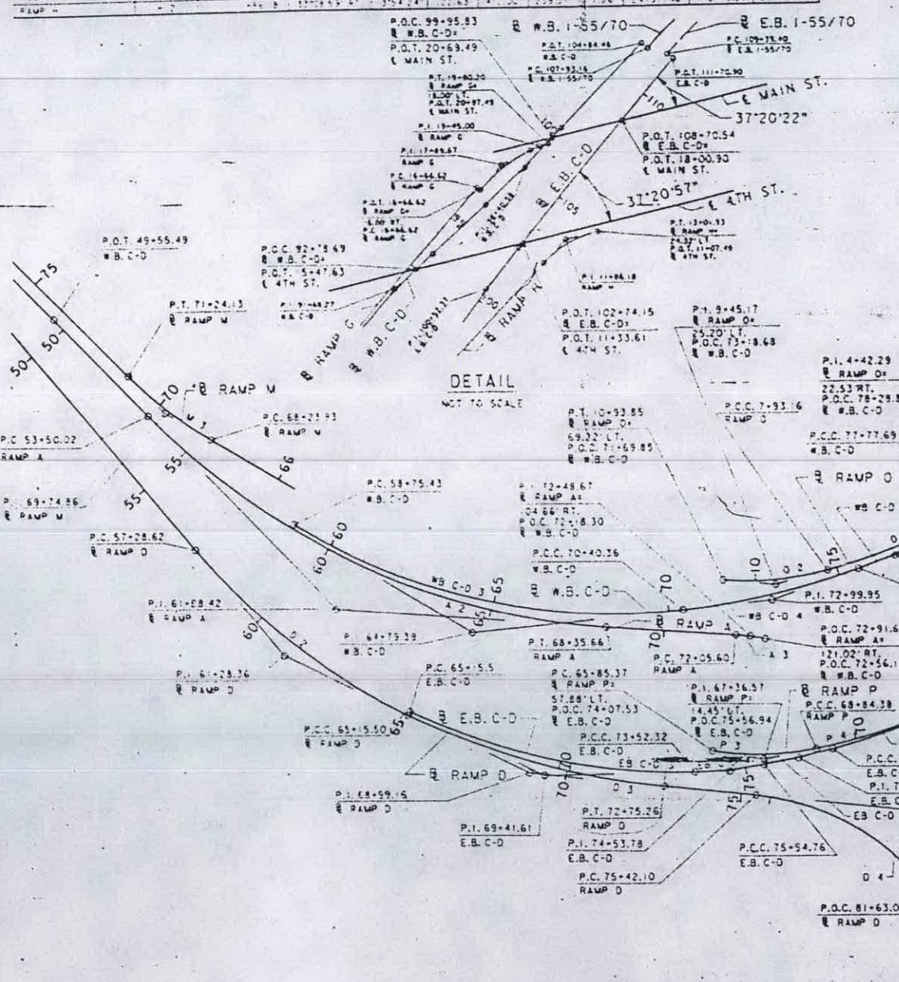
REV. 8/26/88 Rev. 11-18-88

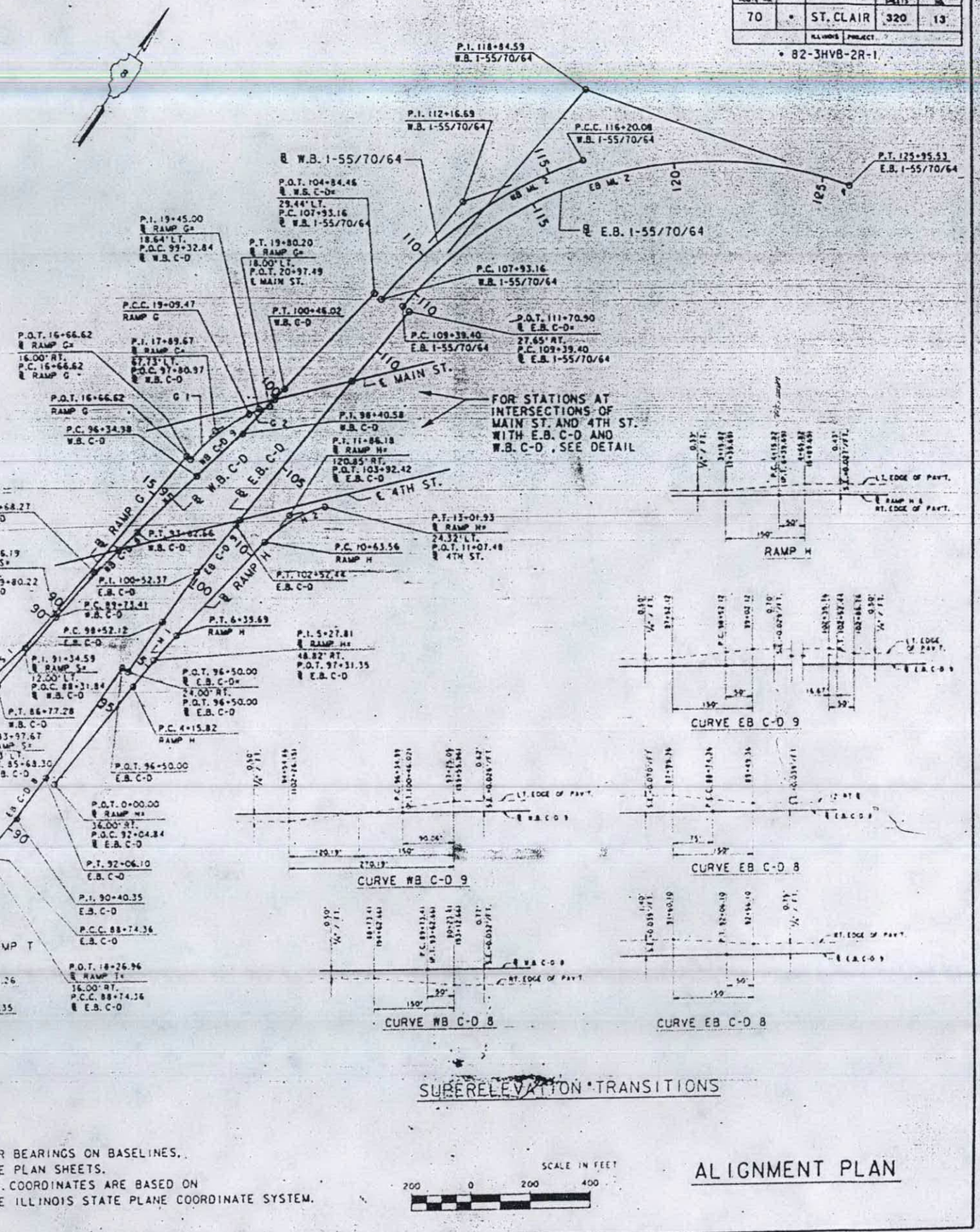
SUMMARY OF QUANTITIES

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	13
		ILLINOIS PROJECT		

* 82-3HVB-2R-1

LOCATION	CURVE NO.	CURVE DATA P.I. STATION	Δ	D	T	R	L	E	S.E.	P.I. COORDINATES NORTH	EAST
WB. I-55/70	#3 WB. C-D	12+ 6.69	30°03' 50" RT	3°4' 32"	403.53	55.83	826.82	56.76	EXIST NG	7136033.33	500696.81
EB. I-55/70	EB WB. C-D	6+34.56	45°00' 00" RT	4° 0' 0"	345.9	574.00	854.31	293.541	EXIST NG	7143.3.92	500367.38
#ESTBOUND C-D	#3 C-D 3	64+19.59	37°2 6.52"	3° 6' 0"	603.99	955.00	64.53	99.00	+0.080 /FT	7139735.09	499824.52
#ESTBOUND C-D	#8 C-D 4	12+88.35	14°1 5.**	14° 25'	259.59	2 29.67	5 6.63	5.76	+0.080 /FT	7140240.81	499504.39
#ESTBOUND C-D	#8 C-D 5	12+67.48	14°1 5.**	14° 25'	259.59	2 29.67	5 6.63	5.76	+0.080 /FT	7140018.38	499743.45
#ESTBOUND C-D	#8 C-D 6	12+67.48	0° 0' 0"	0° 0' 0"	0.00	0.00	0.00	0.00	EXIST NG	7140018.38	499743.45
#ESTBOUND C-D	#9 C-D 6	82+31.9	43°03' 0"	31° 0' 0"	254.22	2486.0	506.64	3.2	EXIST NG	7 .0828.85	499942.79
#ESTBOUND C-D	#9 C-D 7	84+81.37	4°33' 10"	2°42' 47"	97.04	2 18.99	392.35	9.14	EXIST NG	7 .245.25	500 06.75
#ESTBOUND C-D	#8 C-D 7	84+81.37	4°33' 10"	1°45' 56"	184.86	3265.50	389.25	5.83	0.032 /FT	7 .925.36	500234.26
#ESTBOUND C-D	#8 C-D 8	9 +68.27	8°5 .23"	1°45' 56"	184.86	3265.50	389.25	5.83	0.026 /FT	7 2566.89	500436.93
#ESTBOUND C-D	#8 C-D 9	88+46.58	37°0 .**	37°0 0"	3706.00	206.69	6 38.83	4 .04	3.44	7 948 .83	493 88.41
EASTBOUND C-D	EB C-D 3	63+4 .64	26°35 8"	3° 0' 0"	426.11	1900.00	816.82	59.75	EXIST NG	7 948 .83	493 88.41
EASTBOUND C-D	EB C-D 4	4+51.78	8°16 51"	8°45 00"	3 46	206.23	222.44	4.26	+0.080 /FT	7 9 53.33	499640.94
EASTBOUND C-D	EB C-D 5	8+54.45	3°25 42"	2°30 6"	99.69	2655.21	55.5	1.74	+0.080 /FT	7 9885.80	499 93.78
EASTBOUND C-D	EB C-D 5	8 +54.45	0° 0' 0"	0° 0' 0"	0.00	0.00	0.00	0.00	EXIST NG	7 0004.44	500 .9.54
EASTBOUND C-D	EB C-D 6	8 +54.45	2°33' 52"	1°23 45"	357.39	4108	706.28	31.83	EXIST NG	7 0072.58	500247.88
EASTBOUND C-D	EB C-D 7	86+68.26	37°45"	37° 0' 0"	227.92	906.76	4 4.31	11.92	EXIST NG	7 0072.58	500247.88
EASTBOUND C-D	EB C-D 8	82+40.35	5°25 35"	5°26 06"	65.99	3504.62	33.14	3.83	0.039 /FT	7 289.30	500412.20
EASTBOUND C-D	EB C-D 9	80+52.37	4°16 40"	4°42 27"	200.25	526 8	400.32	3.74	0.029 /FT	7 0094.78	500654.17
RAMP R	P 3	67+36.57	3°1 .**	3° 6 36"	146.21	1949.35	260.33	2.65	EXIST NG	7 0094.78	500654.17
RAMP P	P 4	72+75.65	2°45 00"	2°30 0"	52.52	2292.00	350.20	9.68	EXIST NG	7 9 53.33	499 93.78
RAMP M	M 1	69+74.86	4°42 33"	4°51 9"	52.52	2292.00	350.20	9.68	EXIST NG	7 0984.46	499 93.78
RAMP M	M 2	8 +28.26	24°52 53"	2°06 45"	1356.74	8 2.00	1 6.88	43.57	EXIST NG	7 0984.46	499491.00
RAMP D	D 2	61+88.6	0° 0' 0"	0°0 6 28"	181.66	914.08	363.76	32.04	EXIST NG	7 0466.76	499 46.30
RAMP D	D 3	63+89.6	0° 0' 0"	0°0 6 28"	181.66	914.08	363.76	32.04	EXIST NG	7 0925.27	500180.23
RAMP D	D 4	85+20.34	23°54 .**	8° 0 06"	480.24	700.00	84 .83	48.90	EXIST NG	7 0953 .61	499429.90
RAMP A	A 2	6 +28.42	42°4 .36"	2°50 37"	178.40	2015.00	485.64	45.12	EXIST NG	7 0 19.57	499501.87
RAMP A	E 2	72+48.67	7°01 33" RT	8°1 .26"	43.07	500.00	86.03	1.32	EXIST NG	7 0847.15	499850.46
RAMP C	C	64+0.09	25°55 55"	2°54 34"	358.65	969.33	109.52	32.39	EXIST NG	7 0284.46	499491.00
RAMP G	G 2	64+4 .7	25°55 55"	6°53 4"	53.00	93 .00	300.60	3.79	EXIST NG	7 0596.99	500180.12
RAMP S	S 1	91+34.59	0° 0' 0"	2°15 8"	46.40	2572 4	296.39	4.84	EXIST NG	7 0 46.81	500078.00
RAMP S	S 2	91+81.0	0° 0' 0"	6°13 4.**	6.09	940.00	123.39	6.22	EXIST NG	7 0 46.81	500078.00
RAMP T	T 1	84+83.61	0° 0' 0"	3°12 54"	53.05	1 46.00	92.85	0.29	EXIST NG	7 0329.42	500262.26
RAMP O	O 2	84+83.61	0° 0' 0"	8°56 30"	35.53	502.49	70.73	2.08	EXIST NG	7 0296.67	500438.96
RAMP O	O 3	80+52.37	0° 0' 0"	4°16 40"	200.25	526 8	400.32	3.74	0.027 /FT	7 0 70.64	500653.29
RAMP H	H 1	88+46.58	0° 0' 0"	0°0 6 28"	181.66	914.08	363.76	32.04	EXIST NG	7 24 0.25	500729.78
RAMP H	H 2	88+46.58	0° 0' 0"	3°54 24"	53.05	1 46.00	92.85	0.29	EXIST NG	7 0329.42	500262.26





NOTES:
1. FOR BEARINGS ON BASELINES, SEE PLAN SHEETS.
2. P.I. COORDINATES ARE BASED ON THE ILLINOIS STATE PLANE COORDINATE SYSTEM.

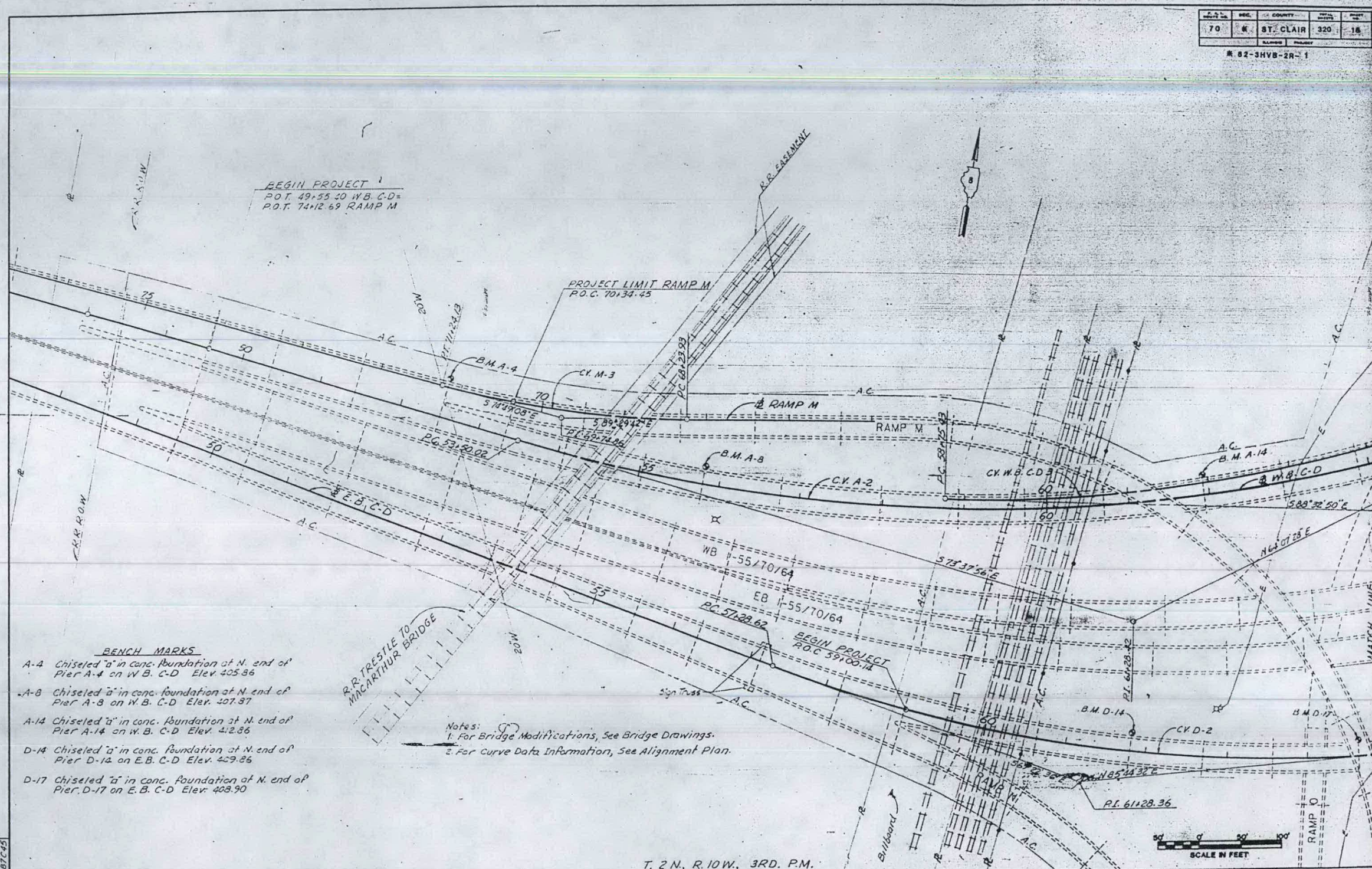
SCALE IN FEET
200 0 200 400

ALIGNMENT PLAN

LEVELS PLOTTED | DATE: 1,2,3,4,5,10,20,30,40,60,61
FILE: LON.DGN
PRF: LON
10136
86C89

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	16
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1



BENCH MARKS

A-4 Chiseled "□" in conc. foundation at N. end of Pier A-4 on W.B. C-D Elev. 405.86

A-8 Chiseled "□" in conc. foundation at N. end of Pier A-8 on W.B. C-D Elev. 407.87

A-14 Chiseled "□" in conc. foundation at N. end of Pier A-14 on W.B. C-D Elev. 412.86

D-14 Chiseled "□" in conc. foundation at N. end of Pier D-14 on E.B. C-D Elev. 409.86

D-17 Chiseled "□" in conc. foundation at N. end of Pier D-17 on E.B. C-D Elev. 408.90

Notes:
1. For Bridge Modifications, See Bridge Drawings.
2. For Curve Data Information, See Alignment Plan.

10920
87C45

I.D. Route No.	Sec.	County	Fed. Project	Sheet No.
70	•	ST. CLAIR	320	19
		ILL. FAS	PROJECT	

• 82-3HV8-2R-1

Water Meter
MATCHLINE 70+00
Conc. Foundation
AC
RAMP O
W.B. C-D 70
B.M. R-3
Cv. W.B. C-D 4
W.B. C-D
P.I. 72+99.95
RR Signal
RAMP A1
N71°09'53"E
Cv. A3
Conc. Foundation
P.I. 72+68.47
P.C. 72+22.63
P.C. 71+91.63
ACCESS ROAD
C.G.R.R.
Conc. Slab
Gate
MATCHLINE 80+00
E.B. C-D
Cv. E.B. C-D 6
RAMP T
36" Storm
RAMP A
N64°07'28"E
Elect. Panel Box
W.B. I-55/70/64
Not in Service
Conc. Slope Protection
Cv. W.B. C-D 3
B.M. A-18
Cv. A2
65
I.C.G.R.R.
P.I. 68+68.66
E.B. I-55/70/64
N45°27'16"E
P.C. 77+57.07
Conc. Rubble
B.M. Q-2
Cv. E.B. C-D 5
P.I. 76+12.32
RAMP S
RAMP U
Cv. D-4
80
S 88°32'50 E
N54°00'38"E
B.M. C-22
RAMP P
P.I. 69+43.11
P.I. 72+75.26
P.C.C.
Cv. E.B. C-D 2
N49°26'59"E
P.I. 74+53.78
B.M. D-27
P.C. 75+49.10
SOUTHERN R.R.
Not in Service
P.C. 81+63.00
MATCH LINE
Sign Truss
B.M. D-24
Cv. E.B. C-D 1
N59°03'55"E
RAMP D
N66°03'21"E
Conc. Rubble
E.B. C-D 70
Cv. D3
E.B. C-D
N85°42'08"E
P.C.C. 65+15.50
W85°44'36"E
Transmission Tower
P.I. 68+99.16
P.I. 69+41.61

BENCH MARKS.

- A-18 Chiseled "a" in conc. foundation at N. end of Pier A-18 on W.B. C-D Elev. 410.91
- C-22 Chiseled "a" in conc. foundation of Pier C-22 on E.B. I-55/70 approx. 150' NE. of I.C.G. Railroad Elev. 417.93
- D-24 Chiseled "a" in conc. foundation at N. end of Pier D-24 on E.B. C-D Elev. 415.91
- D-27 Chiseled "a" in conc. foundation at N. end of Pier D-27 on E.B. C-D Elev. 412.92
- Q-2 Chiseled "a" in conc. foundation at N. end of Pier Q-2 on E.B. C-D Elev. 413.95
- R-1 Chiseled "a" in conc. foundation at N. end of Pier R-1 on W.B. C-D Elev. 413.87
- R-3 Chiseled "a" in conc. foundation at N. end of Pier R-3 on W.B. C-D Elev. 416.92

50 0 50 100
SCALE IN FEET

T. 2 N., R. 10 W., 3RD. P.M.

10136
86C72

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	20
		ILL. FED. NO.	PROJECT	
			* 82-3HV8-2R-1	

BENCH MARKS

☆ S-12 Chiseled "a" on Concrete Foundation at Pier S-11 about 10' E. of W.B. C-D. Elev. 419.37

B Chiseled "a" in Concrete at end of E. Wingwall on E.B. I-55/70 Bridge about 400' S. of Trendley Ave. Elev. 447.80

E Chiseled "a" in Concrete at end of N.W. Wingwall on E.B. C-D Bridge over Trendley Ave. Elev. 433.97.

I Chiseled "I" on Concrete Foundation at Pier #3 on E.B. C-D Bridge over Trendley Ave. Elev. 415.15

S-5 Chiseled "a" on Concrete Foundation at S. end of Pier S-5 about 50' S. of Trendley Ave. Elev. 415.89

Conc. Slab
Water Meter
MATCH LINE 75+00 W.B. C-D
RAMP D
Cv. W.B. C-D475
N40°44'41"E
Conc. R.R. Signal Box
R.R. Signal
R.R. Signal Box
R.R. Signal
Manhole
PCC 75+56.99
AC
Transmission Tower
Inlet
I.C.G. R.R.
B.M. S-12
PT 76+67.48
Sign Truss
PCC 77+77.62
Cv. W.B. C-D5
N33°07'29"E
Cv. W.B. C-D6
W.B. C-D
B.M. S-5
PT 95+11.87
TRENDLEY AVE.
R.O.W.
4 TH ST.
R.O.W.
R.O.W.
R.O.W.
R.O.W.
AC
85
80
S30°51'29"W
RAMP S
Cv. S2
PCC 92+82.58
Ramp S
Cv. S1
S18°09'16"W
N10°40'50"E
PCC 82+84.33
PI 93+97.47
RT 86+77.28
Cv. W.B. C-D7&5
Sign Truss
N21°18'30"E
ACCESS ROAD
Contract Box
Conc. Slab
PI 80+31.9
MATCH LINE 88+00 W.B. C-D
W.B. I-55/70/64
RAMP A
MATCH LINE 88+00
N45°27'14"E
Cv. E.B. C-D6
E.B. I-55/70/64
B.M. B
PI 81+11.46
Exist. Ditch
Exist. G.R. To Remain (Typ)
E.B. C-D N23°49'25"E
PCC 84+60.35
Cv. E.B. C-D7
12" CMP
R.O.W.
B.M. I
B.M. E
Resurface E.B. C-D
Traffic Barrier Terminal, Type 5
Elect. Box
Sign Truss
N10°38'33"E
RAMP T
PCC 88+74.96 E.B. C-D 36.00 Rt. POT. 18+28.96 of RAMP T
N10°41'40"E
Exist. G.R. To Remain
Widen & Resurface E.B. C-D
Exist. Ditch
@ E.B. C-D
Cv. E.B. C-D8
PT 92+06.10
Limits of Construction
N5°16'16"E
Sign Truss (To be Removed)
E.B. C-D
@ RAMP H
N4°44'E
RAMP H
Sign
New Pavement, Ramp H 0+00 to 2+50
MATCH LINE 94+00 E.B. C-D
90+00 Lt & Rt. Begin Remove & Reset Exist. G.R. (Typ.)
Limits of Construction
PI 86+68.26
12" CMP
Exist. Ditch
54"
54"
48"
48"
R.O.W.
AC
PT 90+40.35
POT. 0+00.00 @ Ramp H: PCC 19+04.84 @ E.B. C-D
60
15"
24"
48"
R.O.W.
Note:
1. For Bridge Modifications See Bridge Drawings.
2. For Curve Data Information See Alignment Plan.
3. For Drainage See Drainage Plans.
35" Storm
36"
SOUTHERN R.R.
50 0 50 100
SCALE IN FEET
T. 2N., R. 10W., 3RD. P.M.
10136
86C73

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	21
		ILLINOIS PROJECT		

* 82-3HVB-2R-1

MAIN ST.
4TH ST.
MATCH LINE 88+00 W.B. C-D
MATCH LINE 94+00 E.B. C-D
MATCH LINE 103+00
RAMP G
RAMP H
RAMP S
W.B. C-D
E.B. C-D
BRADY AVE.
JAMES R. THOMPSON BLVD.
SOUTHERN R.R.
Billboard
Transmission Tower
Traffic Barrier Terminal, Type 6
Traffic Barrier Terminal, Type 5
Traffic Barrier Terminal, Type 2
Traffic Barrier Terminal, Type 1A
Traffic Barrier Term., Type 5
Traffic Barrier Term., Type 6
Impact Attenuator 6 Bay Hi-Dry
Bridge Appr. Pav't.
Paved Ditch
Slope Wall 4"
Slope Wall Removal
Exist. Slope Wall
Exist. Joint
Exist. Ditch
Exist. Shrubs
Rip Rap
Sign Truss (To be Relocated)
Sign Truss N10°40'50"E
Remove & Reset Exist. G.R.
Resurface W.B. C-D
Fence to be removed & replaced
Widen & Resurface W.B. C-D
Limits of Construction
Meet Existing Pavement
Meet Exist. Curb
Exist. Slope Wall
Painted Shoulder, See Detail
New Access Control required from Ramp H to James R. Thompson Blvd.
New 6'x10'0" Chain Link Fence
Remove & Reset Exist. G.R.
Widen & Resurface E.B. C-D
Resurface Ramp G 13+60 to 18+75
Resurface Ramp H 9+50 to 10+63.56
Combination Conc. Curb and Gutter, Type B-6.12 (Abutting Existing Pavement)
Match Existing Pavement
Saw Cut
Slope Wall Removal
Remove
Limit of Construction
Traffic Barrier Terminal (Slope Side Slope to Fit)
Rel. Wall
Cv. G1
Cv. H1
Cv. H2
Cv. W.B. C-D
Cv. E.B. C-D
B.M. C
B.M. C-3
B.M. C-4
Tele. M.H.
R.R. Signal
R.O.W.
AC
Shrubs
Sign
Fence
Note:
1. For Bridge Modifications See Bridge Drawings.
2. For Curve Data Information See Alignment Plan.
3. For Drainage See Drainage Plans.

BENCH MARKS

C Chiseled "a" in Concrete at end of N.E. Wingwall on E.B. I-55/70 Bridge over 4th St. Elev. 432.69

C-3 Chiseled "a" in conc. foundation of Pier 2 on W.B. I-55/70 Bridge over 4th St. Elev. 413.44

C-4 Chiseled "a" in conc. foundation at E. end of Pier B-2 on W.B. I-55/70 Bridge over Main St. Elev. 414.03

50 0 50 100
SCALE IN FEET

T. 2 N., R. 10 W. 3RD. P.M.

10136
86C74

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	22
		ILL. FHWA PROJECT		

• 82-3HVB-2R-1

BENCH MARKS

D-1 Chiseled "a" in concrete at end of N.W. Wingwall on E.B. I-55170 Bridge over Broadway.
Elev. 437.16

J 100p. Spike in Power Pole along S. side of Broadway 90' E. of Pair C-9 at E.B. I-55170 Bridge over Broadway.
Elev. 416.54

MATCH LINE 103+00

P.O.T. 104+84.46 ℄ W.B. C-D
29.44' Lt. P.C. 107+93.16 ℄ W.B. I-55170

END W.B. C-D
P.O.C. 108+97.00 ℄ W.B. I-55170

℄ W.B. C-D
N13°41'42"E
19:1 Taper
N10°41'40"E
110
℄ W.B. I-55170
W.B. I-55170/64
Cv. W.B. ML 2
P.C. 107+93.16
N10°41'40"E
110
℄ E.B. C-D
P.C. 109+39.40
50:1 Taper
℄ E.B. I-55170
Cv. E.B. ML 2
E.B. I-55170/64
N9°32'56"E
110
115
N41°13'32"E
Exist. Slope Wall
℄ B.M. D-1
P.I. 112+16.69
P.I. 118+84.52
N79°12'17"E
P.C.C. 116+20.09
END PROJECT
115+34.53
Traffic Barrier Terminal, Type 3
Slope Wall 4 (2+36)
3 RD ST.
Water Valves
Tele. M.H.
Tele. M.H.
Elect. Control Box
R.R. Signal
R.R. Signal
Tele. M.H.
B.M. J
Tele. M.H.
109+00
MATCH LINE
R.O.W.
42"
36"
30"
24"
12"
15"
AC
R
SOUTHERN R.R.
P.O.T. 111+70.90 ℄ E.B. C-D
27.65 Rt. P.R. 109+39.40 ℄ E.B. I-55170
END E.B. C-D
P.O.C. 111+25.00 ℄ E.B. I-55170
MAIN ST.
COLLINSVILLE AVE.
BROADWAY
120

Note:
1. For Bridge Modifications See Bridge Drawings.
2. For Curve Data Information See Alignment Plan.
3. For Drainage See Drainage Plans.

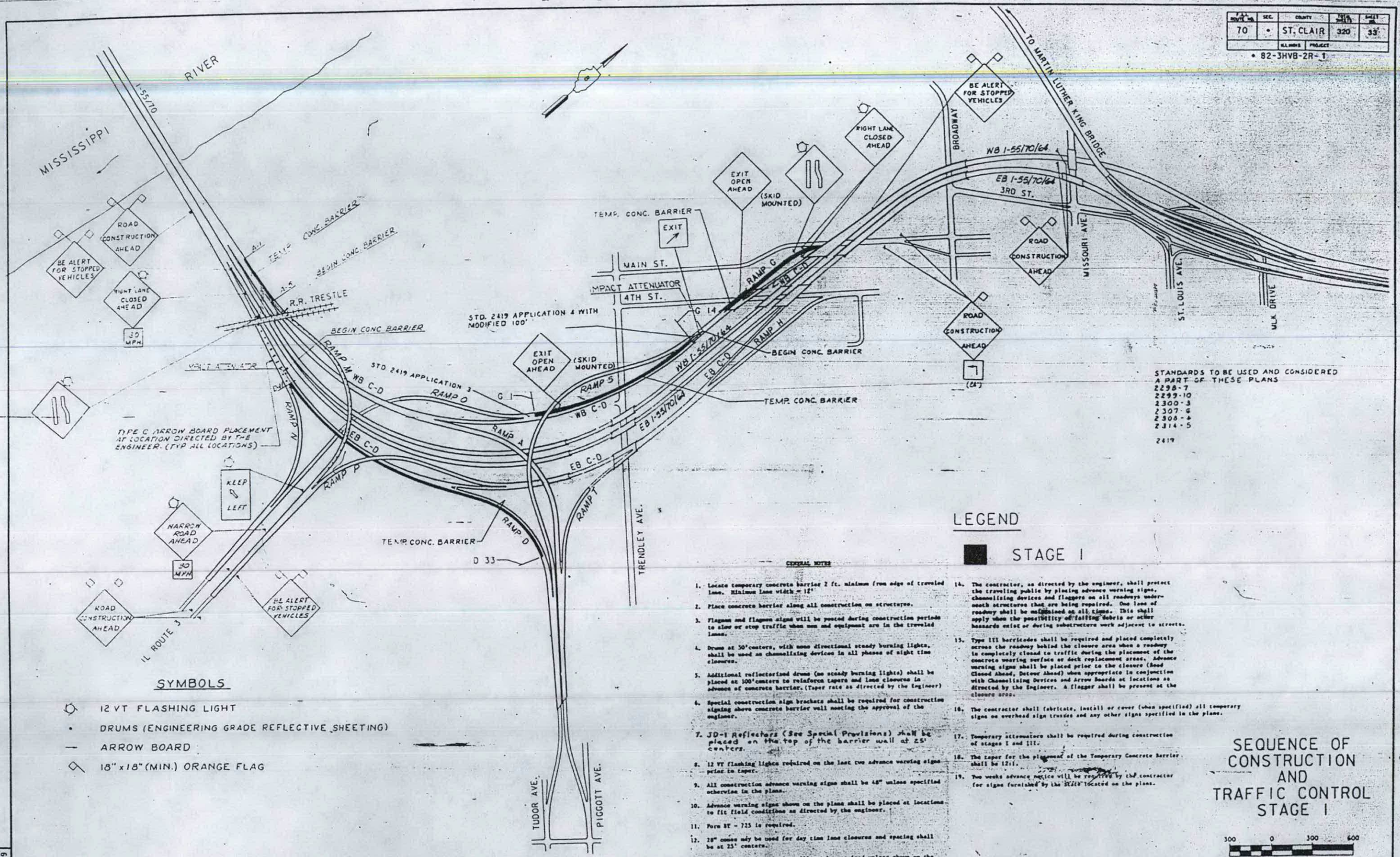
50 0 50 100
SCALE IN FEET

T. 2 N., R. 10 W., 3RD. P.M.

10136
86C75

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	33
	ALL SHEETS	PROJECT		

• 82-3HVB-2R-1



STANDARDS TO BE USED AND CONSIDERED A PART OF THESE PLANS

2298-7
2299-10
2300-3
2307-6
2308-4
2314-5

2419

SYMBOLS

- 12 VT FLASHING LIGHT
- • DRUMS (ENGINEERING GRADE REFLECTIVE SHEETING)
- — ARROW BOARD
- 18" x 18" (MIN.) ORANGE FLAG

LEGEND

STAGE I

GENERAL NOTES

1. Locate temporary concrete barrier 2 ft. minimum from edge of traveled lane. Minimum lane width = 12'
2. Place concrete barrier along all construction on structures.
3. Flagmen and flagmen signs will be posted during construction periods to slow or stop traffic when men and equipment are in the traveled lanes.
4. Drums at 50' centers, with mono directional steady burning lights, shall be used as channelizing devices in all phases of night time closures.
5. Additional reflectorized drums (no steady burning lights) shall be placed at 100' centers to reinforce tapers and lane closures in advance of concrete barrier. (Taper rate as directed by the Engineer)
6. Special construction sign brackets shall be required for construction signing above concrete barrier wall meeting the approval of the engineer.
7. JD-1 Reflectors (See Special Provisions) shall be placed on the top of the barrier wall at 25' centers.
8. 12 VT flashing lights required on the last two advance warning signs prior to taper.
9. All construction advance warning signs shall be 48" unless specified otherwise in the plans.
10. Advance warning signs shown on the plans shall be placed at locations to fit field conditions as directed by the engineer.
11. Form BT - 725 is required.
12. 28" cones may be used for day time lane closures and spacing shall be at 25' centers.
13. Dual construction signing will not be required unless shown on the plans.
14. The contractor, as directed by the engineer, shall protect the traveling public by placing advance warning signs, channelizing devices and flaggers on all roadways underneath structures that are being repaired. One lane of roadway shall be maintained at all times. This shall apply when the possibility of falling debris or other hazards exist or during substructure work adjacent to streets.
15. Type III barricades shall be required and placed completely across the roadway behind the closure area when a roadway is completely closed to traffic during the placement of the concrete wearing surface or deck replacement areas. Advance warning signs shall be placed prior to the closure (Road Closed Ahead, Detour Ahead) when appropriate in conjunction with Channelizing Devices and Arrow Boards at locations as directed by the Engineer. A flagger shall be present at the closure area.
16. The contractor shall fabricate, install or cover (when specified) all temporary signs on overhead sign trusses and any other signs specified in the plans.
17. Temporary attenuators shall be required during construction of stages I and III.
18. The taper for the placement of the Temporary Concrete Barrier shall be 12:1.
19. Two weeks advance notice will be required by the contractor for signs furnished by the State located on the plans.

SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL STAGE I

300 0 300 600
SCALE IN FEET

Rev. 11-18-88

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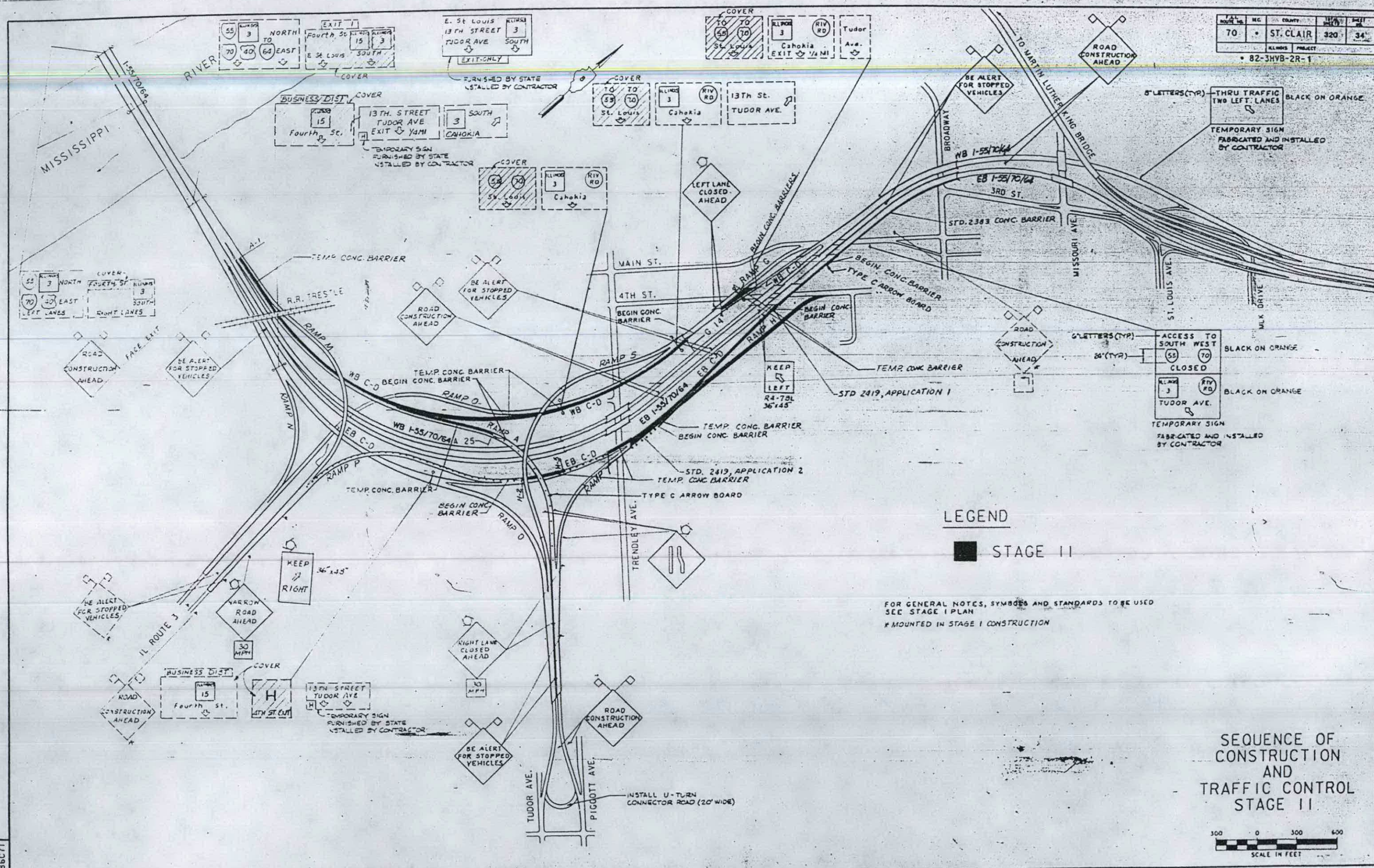
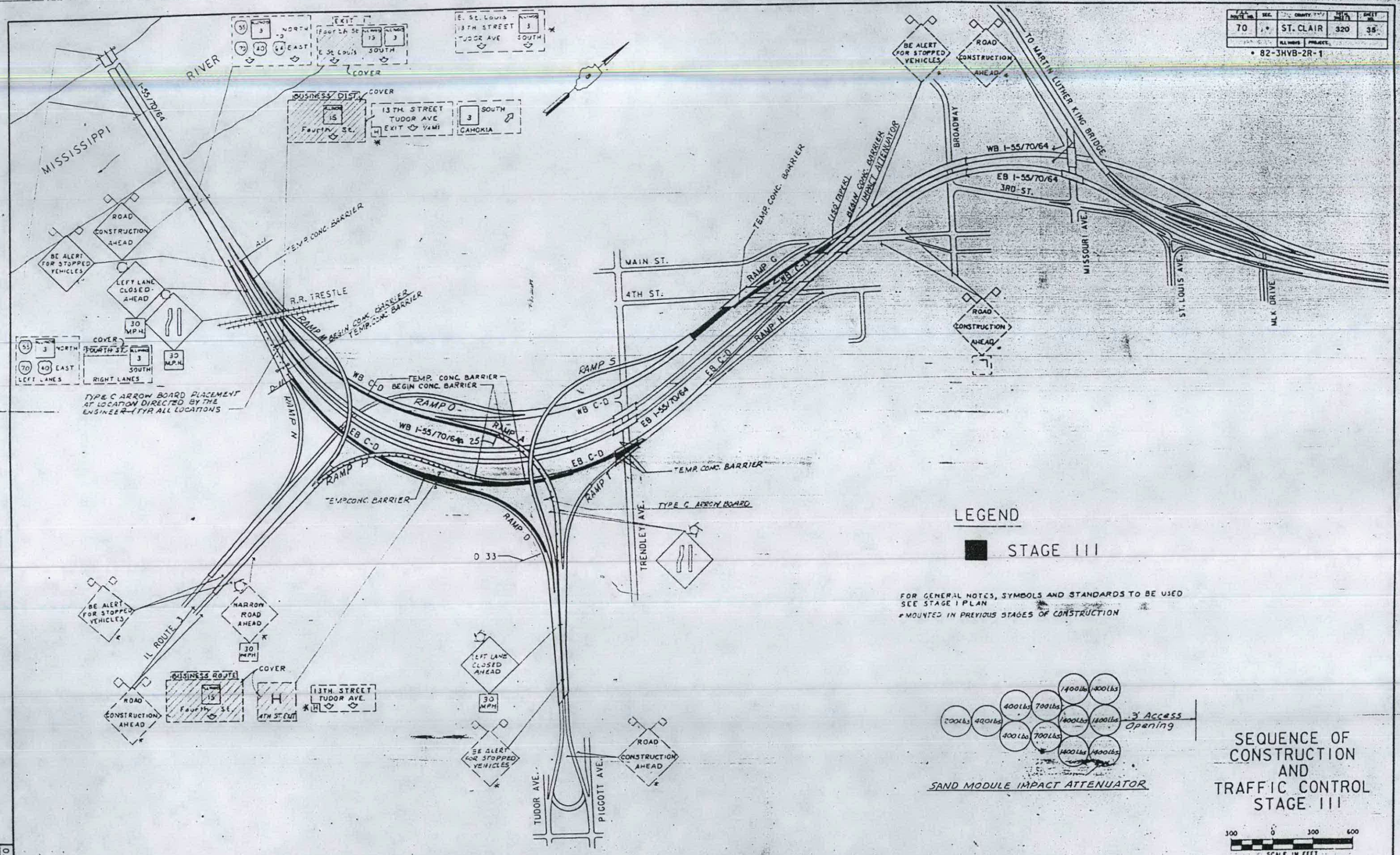


70 • ST. CLAIR 320 34
• 82-3HVB-2R-1
MISSISSIPPI RIVER
I-55/70/64
NORTH TO EAST
EXIT
Fourth St.
E. St. Louis
SOUTH
COVER
E. St Louis 13TH STREET TUDOR AVE
EXIT ONLY
FURNISHED BY STATE INSTALLED BY CONTRACTOR
BUSINESS DIST
13TH. STREET TUDOR AVE EXIT 1/4 MI
CAHOKIA
TEMPORARY SIGN FURNISHED BY STATE INSTALLED BY CONTRACTOR
St. Louis
Cahokia
13Th St. TUDOR AVE.
Tudor Ave.
LEFT LANE CLOSED AHEAD
BEGIN CONC. BARRIERS
BE ALERT FOR STOPPED VEHICLES
ROAD CONSTRUCTION AHEAD
TO MARTIN LUTHER KING BRIDGE
BROADWAY
WB I-55/70/64
EB I-55/70/64
3RD ST.
STD. 2383 CONC. BARRIER
MISSOURI AVE.
ST. LOUIS AVE.
MLK DRIVE
8" LETTERS (TYP.)
THRU TRAFFIC TWO LEFT LANES
BLACK ON ORANGE
TEMPORARY SIGN FABRICATED AND INSTALLED BY CONTRACTOR
6" LETTERS (TYP.)
24" (TYP.)
ACCESS TO SOUTH WEST
CLOSED
TUDOR AVE.
TEMPORARY SIGN FABRICATED AND INSTALLED BY CONTRACTOR
TEMP. CONC. BARRIER
R.R. TRESTLE
MAIN ST.
4TH ST.
BEGIN CONC. BARRIER
TYPE C ARROW BOARD
RAMP G
RAMP H
RAMP S
RAMP O
RAMP A
RAMP M
RAMP N
RAMP P
RAMP I
WB C-D
EB C-D
WB I-55/70/64 A 25
EB I-55/70/64
KEEP LEFT
R4-7BL 36"x45"
STD 2419, APPLICATION 1
STD. 2419, APPLICATION 2
TYPE C ARROW BOARD
TRENDLEY AVE.
KEEP RIGHT
36"x45"
NARROW ROAD AHEAD
30 MPH
IL ROUTE 3
RIGHT LANE CLOSED AHEAD
TUDOR AVE.
PIGGOTT AVE.
INSTALL U-TURN CONNECTOR ROAD (20' WIDE)
LEGEND
STAGE II
FOR GENERAL NOTES, SYMBOLS AND STANDARDS TO BE USED SEE STAGE I PLAN
* MOUNTED IN STAGE I CONSTRUCTION
SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL STAGE II
300 0 300 600
SCALE IN FEET
10136
86C71

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	35
		ILL. HWYS	PROJECT	

* 82-3HVB-2R-1



LEGEND

■ STAGE III

FOR GENERAL NOTES, SYMBOLS AND STANDARDS TO BE USED SEE STAGE I PLAN

* MOUNTED IN PREVIOUS STAGES OF CONSTRUCTION

SAND MODULE IMPACT ATTENUATOR

SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL STAGE III

300 0 300 600
SCALE IN FEET

10136
86C70

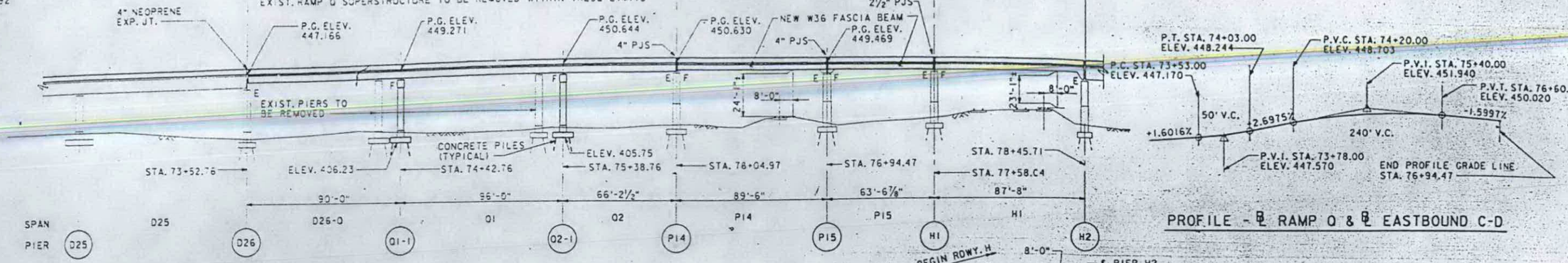
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	138
		ILLINOIS PROJECT		

* 82-3HVB-2R-1

BENCH MARK D-27

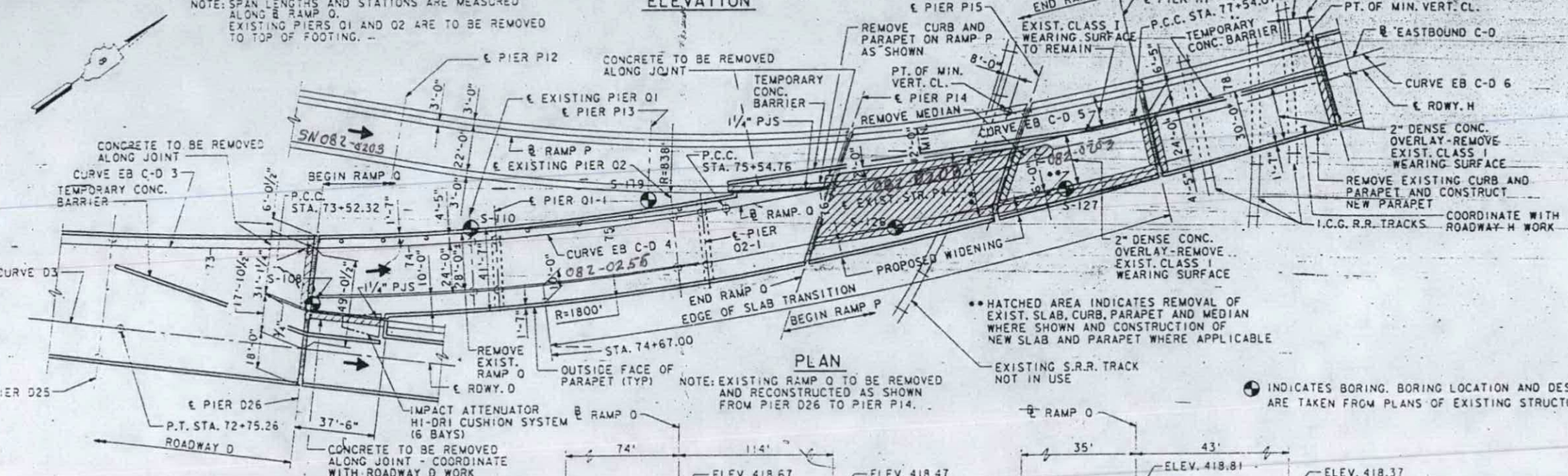
CHISELED "X" IN CONC. FOUNDATION AT N. END OF PIER D-27 ON E.B. C-D
ELEV. 412.92



ELEVATION

PROFILE - ℄ RAMP Q & ℄ EASTBOUND C-D

NOTE: SPAN LENGTHS AND STATIONS ARE MEASURED ALONG ℄ RAMP Q.
EXISTING PIERS Q1 AND Q2 ARE TO BE REMOVED TO TOP OF FOOTING.



PLAN

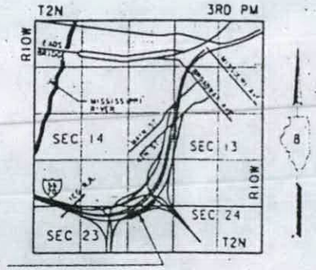
** HATCHED AREA INDICATES REMOVAL OF EXIST. SLAB, CURB, PARAPET AND MEDIAN WHERE SHOWN AND CONSTRUCTION OF NEW SLAB AND PARAPET WHERE APPLICABLE

NOTE: EXISTING RAMP Q TO BE REMOVED AND RECONSTRUCTED AS SHOWN FROM PIER D26 TO PIER P14.

PROFILE - SOUTHERN R.R. TRACKS SPAN P14

PROFILE - I.C.G.R.R. TRACKS - SPAN H1

INDICATES BORING. BORING LOCATION AND DESIGNATION ARE TAKEN FROM PLANS OF EXISTING STRUCTURES.



PROPOSED NEW STRUCTURE & MODIFICATIONS

LOCATION SKETCH

REBUILT 198_ BY
STATE OF ILLINOIS
F.A.I. 70 SEC. 82-3HVB-2R-1
PROJ. IR-70-1(155)1
LOADING HS20 AND ALT.
STR. NO. 082-0255 (RAMP Q)
STR. NO. 082-0203 (RAMP P)
STR. NO. 082-0256 (ROWY H)

NAME PLATE
(SEE ILL. STD. 2113)

NOTE: LOCATION OF NEW NAME PLATE SHALL BE LOCATED ADJACENT TO EXISTING NAME PLATE ON WINGWALL OF ABUT. H5.

DESIGN STRESSES - NEW STRUCTURES

DESIGN SPECIFICATIONS: AASHTO 1983 AND APPLICABLE 1984 THRU 1987 INTERIMS. AASHTO 1980 GUIDE TO HORIZONTALLY CURVED HIGHWAY BRIDGES AND 1981 & 1982 INTERIMS

LOADING: HS20-44 AND ALTERNATE

REINFORCED CONCRETE:
DECK SLAB f'c=3500 psi
SUBSTRUCTURE f'c=3500 psi
REINFORCING fy=60,000 psi

STRUCTURAL STEEL: fy=36,000 psi (M183)

FUTURE WEARING SURFACE = 25 psf

DESIGN STRESSES - WIDENING

LOAD FACTOR DESIGN (DECK ONLY)
SERVICE LOAD DESIGN ALL ELSE

LOADING: HS20-44 AND ALTERNATE

REINFORCED CONCRETE:
DECK SLAB f'c=3500 psi
SUBSTRUCTURE fc=1400 psi
Vc=75 psi - FOOTINGS
REINFORCING fy=60,000 psi

STRUCTURAL STEEL: fs=20,000 psi (M183)

CURVE DATA - EB C-D 4
P.I. STA. = 74+53.78
Δ = 9° - 36' - 57" LT.
D = 4° - 45' - 00"
R = 1206.23'
T = 101.46'
L = 202.44'
E = 4.26'
P.C.C. STA. = 73+52.32
P.C.C. STA. = 75+54.76

CURVE DATA - EB C-D 5
P.I. STA. = 76+54.45
Δ = 3° - 59' - 43" LT.
D = 2° - 00' - 16"
R = 2858.27'
T = 99.69'
L = 199.31'
E = 1.74'
P.C.C. STA. = 75+54.76
P.C.C. STA. = 77+54.07

CURVE DATA - EB C-D 6
P.I. STA. = 81+11.46
Δ = 21° - 37' - 50" LT.
D = 3° - 03' - 45"
R = 1870.81'
T = 357.39'
L = 706.28'
E = 33.83'
P.C.C. STA. = 77+54.07
P.C.C. STA. = 84-60.35

NOTES

FOR PAY ITEM "TEMPORARY CONCRETE BARRIER", SEE ROADWAY PLANS
PILE DATA FOR CAPACITY AND LENGTH ARE ESTIMATED FROM THE ORIGINAL CONSTRUCTION PLANS.

APPROVED
FOR STRUCTURAL DESIGN
James J. Raybeck
CARLOS A. LIZANA-FARIAS
81-3956
REGISTERED STRUCTURAL ENGINEER

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLEX

RAMPS Q AND P AND ROADWAY H
GENERAL PLAN AND ELEVATION

STRUCTURE NO. 082-0256 (ROWY H)
STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 32

DESIGNED	C. LIZANA
CHECKED	G.J. DEE
DRAWN	L. SCHURMAN/ S. STEGMAN
CHECKED	R.F. BECK

10320 075548 FILE: 0S2N224.1DET33E.DGN PRF: DET33E
LEVELS PLOTTED: 2,3,20,24,26,35,38,39,42,50,54,55,63
DATE: OCT. 14, 1987

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	139
		ALL SHEETS	PROJECT	

*82-3HV8-2R-1

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: THE 1988 EDITION OF THE STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADDENDA AND THE SPECIAL PROVISIONS SHALL GOVERN.

CALCULATED WEIGHT OF ERECTING STRUCTURAL STEEL:

341,480 LBS. (M183) FABRICATED UNDER SEPARATE CONTRACT.
(SEE SPECIAL PROVISIONS FOR FIELD PAINTING REQMTS.)

BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS. IN THE EVENT OF GRINDING, ANY GRINDING WILL PERMIT FREE DRAINAGE OF THE BEARING SEAT.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING CROSS FRAMES AND DIAPHRAGMS OVER SUPPORTS.

THE ZINC - SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUC. STEEL EXCEPT WHERE OTHERWISE NOTED.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31, M42 OR M53, GRADE 60.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL DRIVE CONCRETE TEST PILE IN A PERMANENT LOCATION, AS SHOWN ON PLANS AT PIERS 01-1 AND 02-1 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND SURVEY DATA 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 WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

ALL DIMENSIONS ARE MEASURED AT A TEMPERATURE OF 50°F.

ALL TRANSVERSE AND LONGITUDINAL DIMENSIONS ARE MEASURED HORIZONTALLY.

FOR STRUCTURAL STEEL NOTES, SEE SHEET 22.

FOR BEARING NOTES, SEE SHEET 23.

SEE PROPOSAL FOR BORING DATA.

PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES WHERE BRIDGE DECK CONCRETE OVERLAY IS APPLIED.

FOR MAINTENANCE AND CONSTRUCTION SIGN SUPPORT DETAILS AND LOCATION SEE SHEET 292 OF 320.

INDEX OF DRAWINGS

1 GENERAL PLAN AND ELEVATION
2 GENERAL NOTES, ESTIMATED QUANTITIES AND INDEX OF DRAWINGS.
3 FOOTING LAYOUT - RAMP Q
4 TOP OF SLAB ELEVATIONS-SPANS D26-0, 01, AND 02
5 SUPERELEVATION TRANSITION
6 SLAB - SPANS D26-0, 01 AND 02.
7 SLAB - SPANS D26-0, 01 AND 02
8 WEST PARAPET - SPANS D26-0 AND 01
9 EAST PARAPET - SPANS D26-0, 01 AND 02
10 TOP OF SLAB ELEVATIONS-SPANS P14 AND P15
11 DEMOLITION DETAILS - SPANS P13 THRU P15 AND SPAN H1
12 SLAB - SPANS P14 AND P15
13 SLAB - SPANS P14 AND P15
14 EAST PARAPET - SPANS P14 AND P15
15 EAST PARAPET - SPAN H1
16 ——— NOT USED ———
17 FLOOR DRAINS
18 NEOPRENE EXPANSION JOINT - 4"
19 PREFORMED JOINT SEALS - 1¼", 2½" AND 4"
20 PREFORMED JOINT SEALS - 1¼", 2½" AND 4"
21 FRAMING PLAN AND GIRDER ELEVATION - SPANS D26-0, 01 AND 02
22 FIELD SPLICES AND CROSS FRAME DETAILS
23 BEARING DETAILS
24 ANCHOR BOLT DETAILS FOR BEARINGS
25 CROSS GIRDER AT PIERS D26 AND P14
26 STRESS TABLES, CAMBER DIAGRAMS AND EDGE OF SLAB ORDINATES
27 FRAMING PLAN - SPANS P14 AND P15
28 MISCELLANEOUS STEEL DETAILS - SPANS P14 AND P15
29 BRACKET DETAILS - SPANS P14 AND P15
30 PIER 01-1
31 PIER 02-1
32 CONCRETE PILES (FIVE ALTERNATES)

TOTAL BILL OF MATERIAL RAMPS Q AND P AND ROADWAY H

ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
STRUCTURE EXCAVATION	CU.YDS.	———	180	180
CLASS X CONCRETE SUPERSTRUCTURE	CU.YDS.	449.3	———	449.3
CLASS X CONCRETE	CU.YDS.	———	219.0	219.0
REINFORCEMENT BARS	LBS.	———	37,330	37,330
REINFORCEMENT BARS, EPOXY COATED	LBS.	121,920	———	121,920
FURNISHING CONCRETE PILES	LIN. FT.	———	1810	1810
DRIVING CONCRETE PILES	LIN. FT.	———	1810	1810
TEST PILE CONCRETE	EACH	———	2	2
NEOPRENE EXPANSION JOINT (4")	LIN. FT.	80	———	80
PREFORMED JOINT SEAL (4")	LIN. FT.	82	———	82
PREFORMED JOINT SEAL (2½")	LIN. FT.	30	———	30
PREFORMED JOINT SEAL (1¼")	LIN. FT.	87	———	87
BRIDGE DECK CONCRETE OVERLAY OPTION	SQ. YDS.	420	———	420
REMOVAL OF EXISTING STRUCTURE (NO. 1)	EACH	———	———	1
CONCRETE REMOVAL	CU. YDS.	153.8	———	153.8
DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	7	———	7
DECK SLAB REPAIR (PARTIAL)	SQ. YDS.	60	———	60
BITUMINOUS CONCRETE SURFACE REMOVAL (BRIDGE DECK)	SQ. YDS.	407	———	407
FURNISHING AND ERECTING STRUCTURAL STEEL	LBS.	7630	———	7630
ERECTING STRUCTURAL STEEL	LUMP SUM	1	———	1
STUD SHEAR CONNECTORS	EACH	3573	———	3573
FLOOR DRAINS	EACH	8	———	8
* PROTECTIVE COAT	SQ. YDS.	276	———	276
NAME PLATE	EACH	1	———	1
INSTALLING ELASTOMERIC BEARING ASSEMBLIES (SPECIAL)	EACH	14	———	14
IMPACT ATTENUATOR HI-DRI CUSHION SYSTEM (6 BAYS)	EACH	1	———	1
CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ. YDS.	407	———	407

*QUANTITY DOES NOT INCLUDE BRIDGE DECK SURFACE.

PARAPET RECONSTRUCTION FOR SPAN H1 IS BILLED WITH SPANS H2 THRU H4.

DESIGNED	C. LIZANA
CHECKED	G.J. DEE
DRAWN	D. RIEHL
CHECKED	P. CLARK R. BECK

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMPS Q AND P AND ROADWAY H
GENERAL NOTES, ESTIMATED QUANTITIES AND INDEX OF DRAWINGS

STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

REV. 8/26/88
Rev. 11-18-88

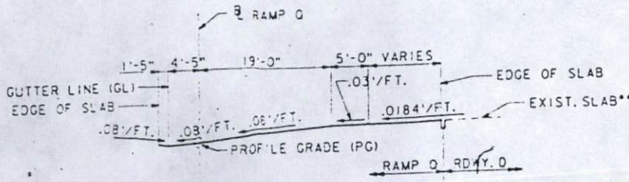
SHEET NO. 2 OF 32

DATE: OCT. 14, 1987
LEVEL'S PLO... 35, 56, 58, ...
FIL... 224.10ET34E.DGN
PR... 4E
10136
87S549

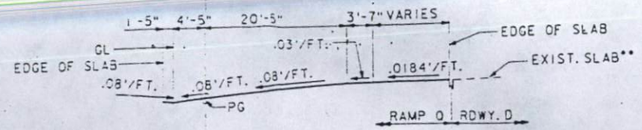
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	142
		ILLINOIS PROJECT		

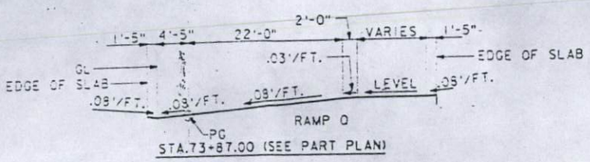
*82-3HV8-2R-1



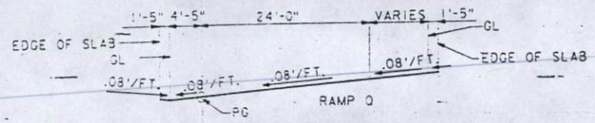
STA. 73+49.00 TO STA. 73+51.00



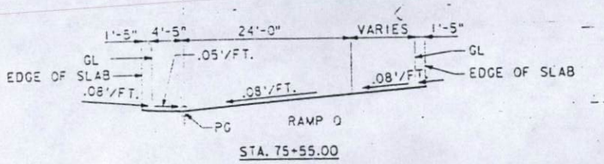
STA. 73+68.00



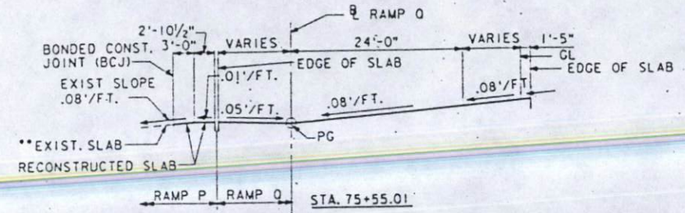
STA.73+87.00 (SEE PART PLAN)



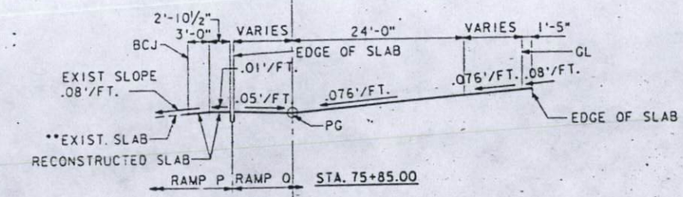
STA. 74+11.00 TO STA. 75+25.00



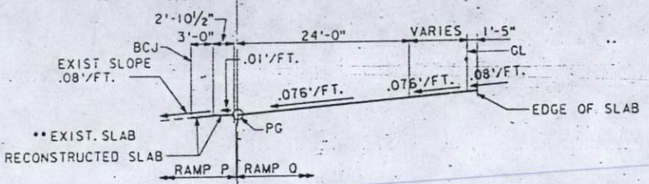
STA. 75+55.00



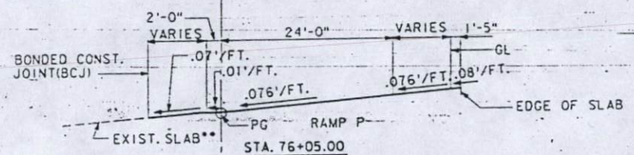
STA. 75+55.01



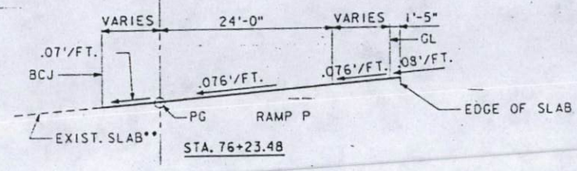
STA. 75+85.00



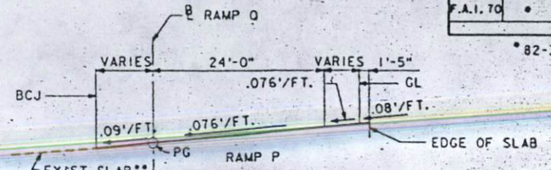
STA.75+97.85



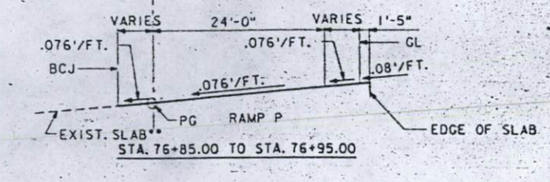
STA. 76+05.00



STA. 76+23.48



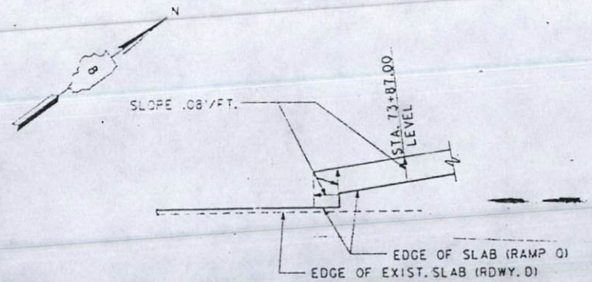
STA. 76+45.00 TO STA. 76+65.00



STA. 76+85.00 TO STA. 76+95.00

SUPERELEVATION TRANSITION

** INDICATES TOP OF CLASS I WEARING SURFACE ON EXISTING SLAB.
NOTE: STATIONING SHOWN IS ALONG ℄ RAMP Q.



PART PLAN AT STA. 73+87.00

R.F. BECK	DESIGNED
R. WINKELMANN	CHECKED
D. RIEHL	DRAWN
R.F. BECK	CHECKED

10320 | FILE: 2F3(110,1)DET36E.DGN | LEVELS PLOTTED | DATE: OCT. 14, 1987
BTS551 | PRF: DET36E | 35, 56, 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI --55/70 COMPLEX
RAMPS Q AND P
SUPERELEVATION TRANSITION
STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 5 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

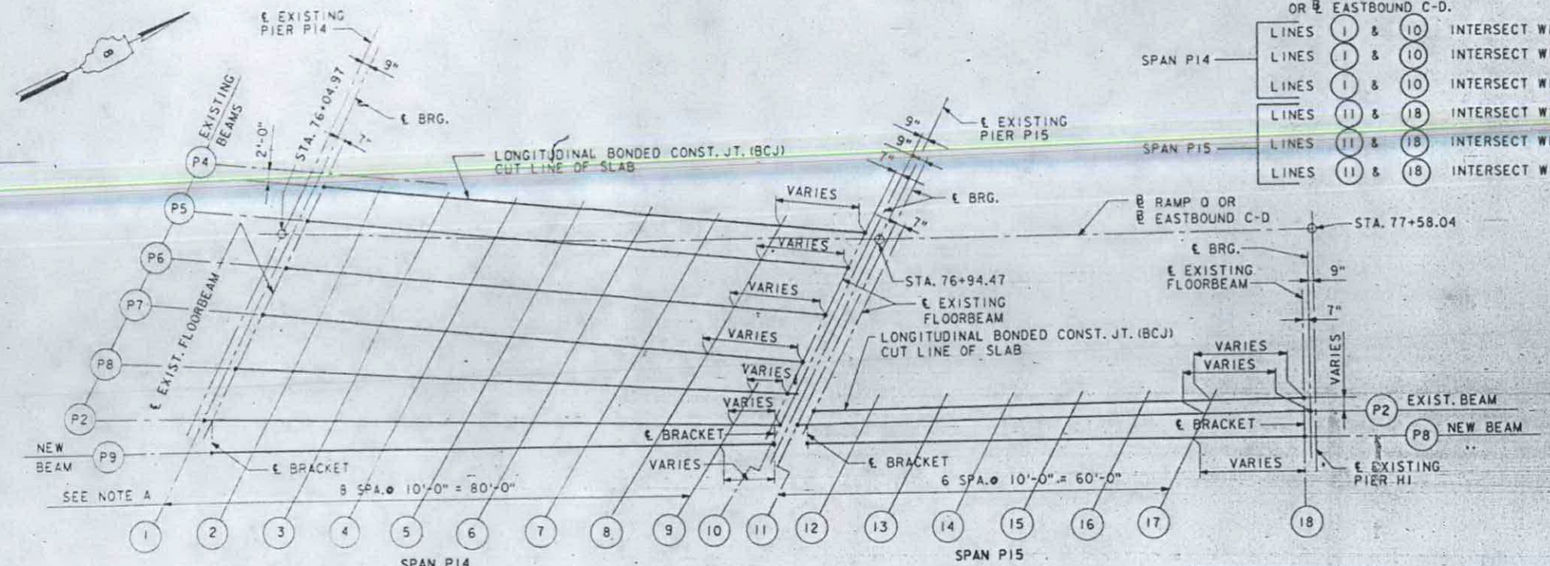
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	147
	ALL HWYS	PROJECT		

*82-3HV8-2R-1

NOTE A: INCREMENTS FOR ELEVATIONS ARE ALONG EACH INDIVIDUAL GIRDER AND BONDED CONST. JOINT. STATIONS AND OFFSETS ARE GIVEN ALONG AND FROM ℄ RAMP Q OR ℄ EASTBOUND C-D.

SPAN P14
- LINES (1) & (10) INTERSECT WITH P9 AT ℄ BRACKET.
- LINES (1) & (10) INTERSECT WITH P2 AT ℄ BRG.
- LINES (1) & (10) INTERSECT WITH P8 THRU BCJ AT ℄ FLOORBEAM.

SPAN P15
- LINES (11) & (18) INTERSECT WITH P8 AT ℄ BRACKET.
- LINES (11) & (18) INTERSECT WITH P2 AT ℄ BEARING.
- LINES (11) & (18) INTERSECT WITH BCJ AT ℄ FLOORBEAM.



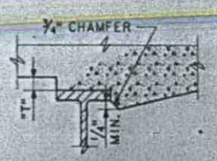
PLAN

NOTE: FOR TRANSVERSE BEAM DIMENSIONS AT END FLOORBEAMS, SEE FRAMING PLAN.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
1	BCJ	76 + 09.983	-7.728	450.143	450.143
1	P 5	76 + 07.650	-2.643	450.530	450.561
1	P 6	76 + 04.440	4.382	450.966	450.996
1	P 7	76 + 01.247	11.411	451.518	451.545
1	P 8	75 + 97.656	19.359	452.141	452.157
1	P 2	75 + 93.449	27.316	452.765	452.765
1	P 9	75 + 94.126	32.186	453.132	453.132
2	BCJ	76 + 19.978	-6.937	450.054	450.054
2	P 5	76 + 17.627	-1.861	450.445	450.570
2	P 6	76 + 14.394	5.153	450.955	451.063
2	P 7	76 + 11.177	12.170	451.513	451.606
2	P 8	76 + 07.583	19.699	452.110	452.185
2	P 2	76 + 03.354	27.248	452.710	452.764
2	P 9	76 + 04.010	31.883	453.059	453.106
3	BCJ	76 + 29.966	-6.111	449.955	449.955
3	P 5	76 + 27.598	-1.044	450.368	450.562
3	P 6	76 + 24.342	5.958	450.930	451.094
3	P 7	76 + 21.102	12.964	451.492	451.633
3	P 8	76 + 17.506	20.074	452.064	452.183
3	P 2	76 + 13.260	27.214	452.641	452.735
3	P 9	76 + 13.897	31.614	452.970	453.052
4	BCJ	76 + 39.949	-5.250	449.857	449.857
4	P 5	76 + 37.564	-0.192	450.318	450.356
4	P 6	76 + 34.288	6.799	450.889	451.009
4	P 7	76 + 31.021	13.793	451.457	451.628
4	P 8	76 + 27.428	20.483	452.003	452.149
4	P 2	76 + 23.166	27.215	452.557	452.677
4	P 9	76 + 23.785	31.380	452.867	452.971
5	BCJ	76 + 49.926	-4.355	449.781	449.781
5	P 5	76 + 47.524	0.696	450.259	450.514
5	P 6	76 + 44.221	7.674	450.834	451.048
5	P 7	76 + 40.934	14.656	451.407	451.589
5	P 8	76 + 37.346	20.928	451.927	452.085
5	P 2	76 + 33.071	27.251	452.457	452.590
5	P 9	76 + 33.675	31.180	452.749	452.863
6	BCJ	76 + 59.896	-3.425	449.714	449.714
6	P 5	76 + 57.477	1.617	450.183	450.431
6	P 6	76 + 54.151	8.583	450.763	450.971
6	P 7	76 + 50.841	15.553	451.341	451.518
6	P 8	76 + 47.261	21.407	451.837	451.990
6	P 2	76 + 42.976	27.321	452.343	452.474
6	P 9	76 + 43.566	31.015	452.616	452.728
7	BCJ	76 + 69.859	-2.460	449.650	449.650
7	P 5	76 + 67.424	2.573	450.097	450.312
7	P 6	76 + 64.075	9.527	450.679	450.859
7	P 7	76 + 60.742	16.485	451.261	451.414
7	P 8	76 + 57.173	21.920	451.731	451.865
7	P 2	76 + 52.881	27.426	452.214	452.329
7	P 9	76 + 53.458	30.885	452.468	452.565
8	BCJ	76 + 79.816	-1.460	449.587	449.587
8	P 5	76 + 77.364	3.563	450.013	450.170
8	P 6	76 + 73.993	10.506	450.595	450.726
8	P 7	76 + 70.637	17.452	451.177	451.287
8	P 8	76 + 67.081	22.468	451.615	451.713
8	P 2	76 + 62.785	27.565	452.071	452.156
8	P 9	76 + 63.351	30.789	452.307	452.376
9	P 8	76 + 76.985	23.051	451.501	451.548
9	P 2	76 + 72.687	27.739	451.926	451.967
9	P 9	76 + 73.244	30.728	452.144	452.174
10	BCJ	76 + 93.019	-0.080	449.486	449.486
10	P 5	76 + 90.539	4.931	449.907	449.933
10	P 6	76 + 87.128	11.856	450.488	450.511
10	P 7	76 + 83.734	18.786	451.068	451.085
10	P 8	76 + 81.518	23.329	451.449	451.458
10	P 2	76 + 79.946	27.889	451.821	451.821
10	P 9	76 + 79.249	30.708	452.046	452.046
11	BCJ	76 + 84.384	23.495	451.410	451.410
11	P2	76 + 81.598	27.895	451.785	451.786
11	P9	76 + 82.286	30.636	452.000	452.000
12	BCJ	76 + 94.303	23.500	451.310	451.310
12	P2	76 + 91.500	27.759	451.677	451.731
12	P9	76 + 92.175	30.280	451.870	451.913
13	BCJ	77 + 04.221	23.540	451.230	451.230
13	P2	77 + 01.404	27.658	451.594	451.685
13	P9	77 + 02.065	29.956	451.770	451.843
14	BCJ	77 + 14.139	23.609	451.130	451.130
14	P2	77 + 11.308	27.592	451.478	451.590
14	P9	77 + 11.958	29.672	451.640	451.730
15	BCJ	77 + 24.057	23.667	451.020	451.020
15	P2	77 + 21.212	27.560	451.368	451.485
15	P9	77 + 21.853	29.420	451.510	451.603
16	BCJ	77 + 33.975	23.708	450.890	450.890
16	P2	77 + 31.117	27.563	451.239	451.345
16	P9	77 + 31.749	29.202	451.360	451.443
17	BCJ	77 + 43.893	23.730	450.760	450.760
17	P2	77 + 41.021	27.601	451.100	451.178
17	P9	77 + 41.646	29.020	451.200	451.260
18	BCJ	77 + 56.441	23.733	450.580	450.580
18	P2	77 + 56.972	27.735	450.893	450.893
18	P9	77 + 56.385	28.812	450.990	450.990

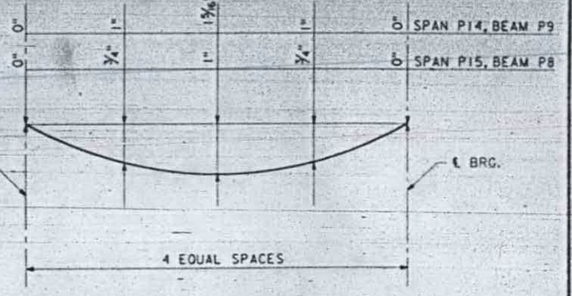
TABLE OF HAUNCH HEIGHTS

BEAM	LINE LOCATION - SPAN P14				
	1	3	5	7	10
P5	10"	9 3/4"	10 1/4"	8 1/8"	6 7/8"
P6	9 13/16"	10"	9 11/16"	9 1/8"	7"
P7	9 1/8"	10 5/8"	11 3/16"	9 1/8"	7"
P8	11 3/16"	11 5/16"	1'-0 1/16"	10 9/16"	6 7/8"
P2	11 3/4"	1'-1 5/16"	1'-2 1/8"	1'-0 1/16"	7"
P9	1 1/4"	2 1/2"	3"	2 1/8"	1 1/4"
BEAM	LINE LOCATION - SPAN P15				
	11	13	15	17	18
P2	5 1/8"	5 7/16"	5 11/16"	3 1/8"	2 15/16"
P8	1"	1 1/16"	1 3/16"	1 1/8"	1"



FILLET HEIGHTS

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT THE INTERVALS SHOWN ON PLAN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR THE DEAD LOAD DEFLECTION" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "T" ABOVE TOP FLANGE OF BEAM.



DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)

NOTE: THE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD DEFLECTIONS".

A. MYERS	DESIGNED
R. WINKELMANN	CHECKED
D. FRIERDICH	DRAWN
R. BECK	CHECKED

10320	FILE: ZF3(110,)DET4E.DGN	DATE: OCT. 14, 1987
875552	PRF: DET4E	LEVELS PLOTTED 35 56 58 63

REHABILITATION FOR

FAI - 55/70 COMPLEX

RAMP P

TOP OF SLAB ELEVATIONS

SPANS P14 AND P15

STRUCTURE NO. 082-0203

STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

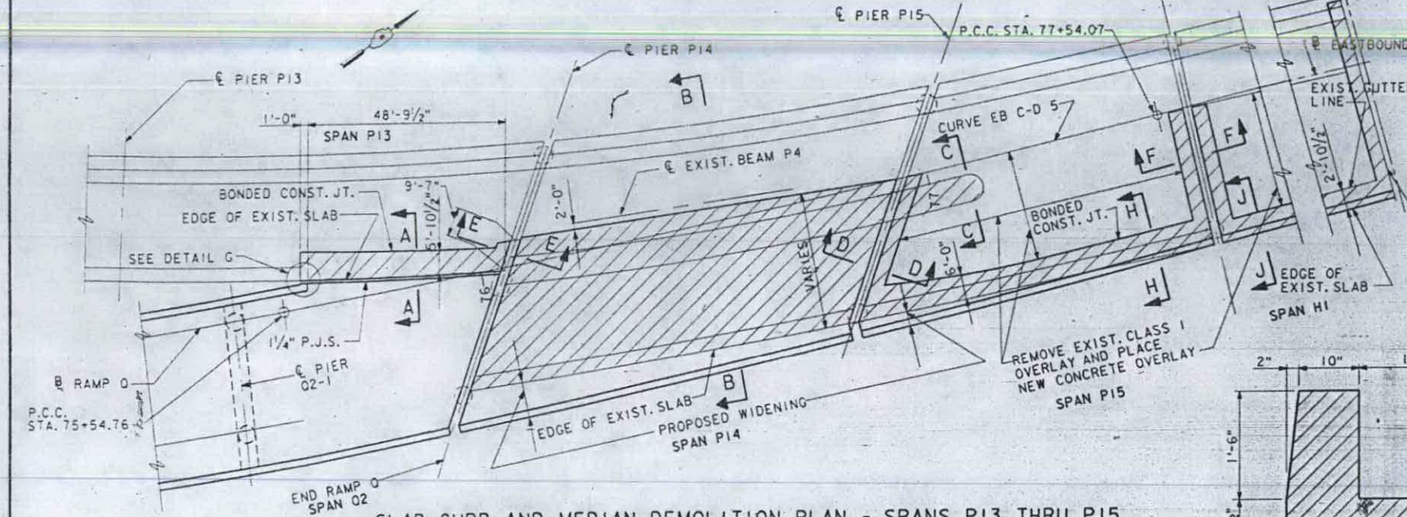
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SHEET NO. 10 OF 32

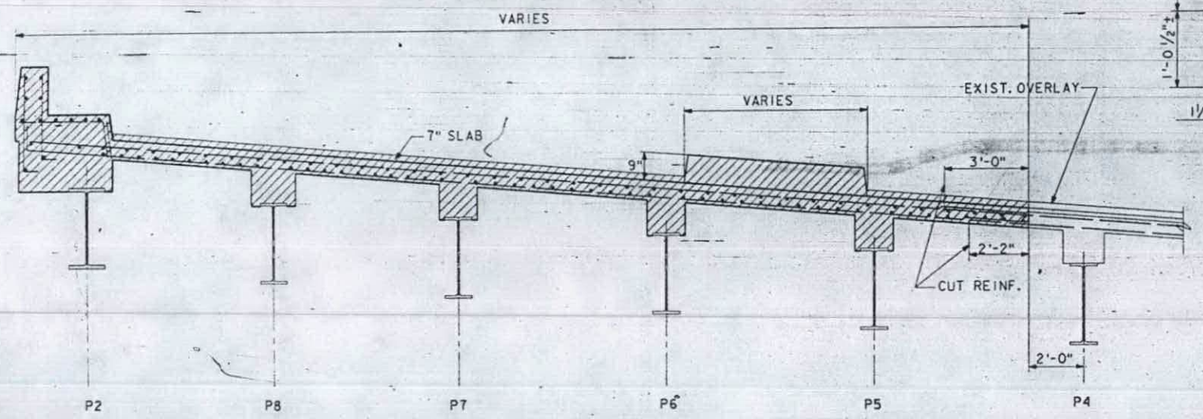
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	148
FED. ROAD DIST. NO. 8	ALL PHASES	PROJECT		

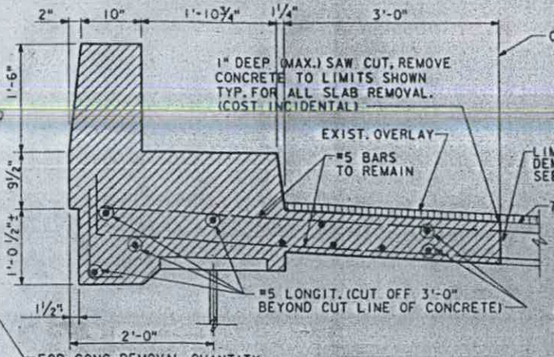
*82-3HV8-2R-1



SLAB, CURB AND MEDIAN DEMOLITION PLAN - SPANS P13 THRU P15



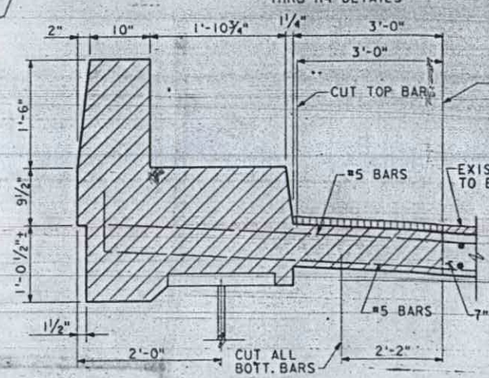
SECTION B-B



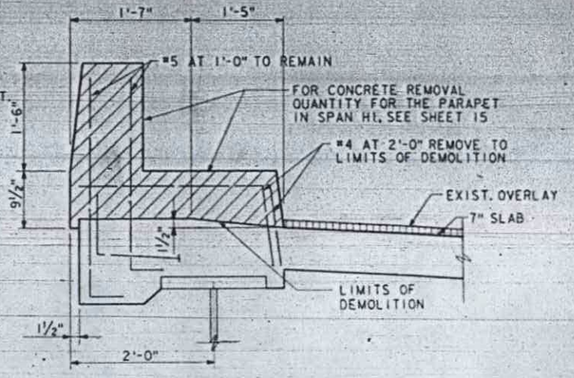
SECTION A-A

BILL OF MATERIAL	
CONCRETE REMOVAL IN SPANS P13, P14, P15 & H1	53.8 CU. YDS.
BITUMINOUS CONCRETE SURFACE REMOVAL IN SPAN P15	171 SQ. YDS.
BRIDGE DECK CONCRETE OVERLAY OPTION. IN SPAN P15	171 SQ. YDS.

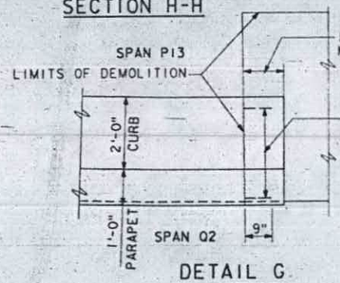
NOTE B:
CHIPPING HAMMERS HEAVIER THAN A NOMINAL 15 POUND CLASS SHALL NOT BE USED FOR CONCRETE REMOVAL IN AREA AT TOP FLANGE OF BEAMS.



SECTION H-H



SECTION J-J



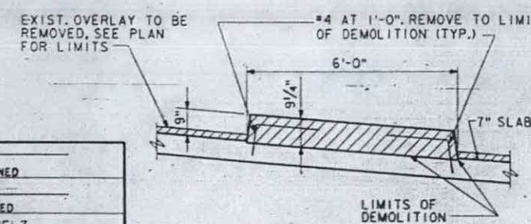
DETAIL G

NOTES

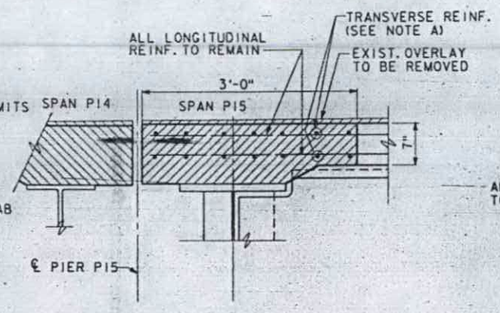
EXISTING REINF. BARS EXTENDING INTO REMOVAL AREA SHALL BE CLEANED AND STRAIGHTENED AND INCORPORATED INTO THE NEW CONSTRUCTION. COST INCIDENTAL.

HATCHED AREA INDICATED THUS ▨ REPRESENTS THE AREA OF CONCRETE TO BE REMOVED.

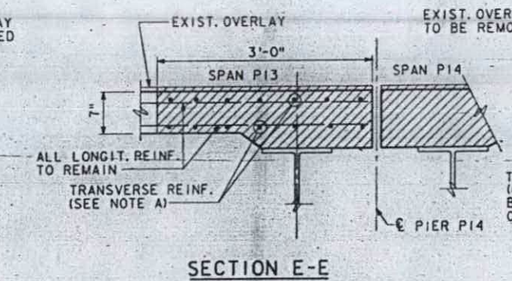
NOTE A:
TRANSVERSE BARS NOTED MAY BE LEFT IN PLACE OR CUT OFF AT THE OPTION OF THE CONTRACTOR. IF CUT, LEAVE 3'-0" EXPOSED BEYOND CUT LINES OF CONCRETE.



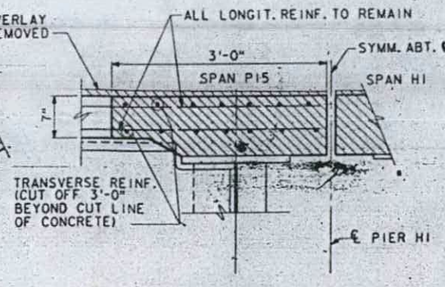
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

DESIGNED	
CHECKED	E. WELZ
DRAWN	
CHECKED	R. BECK

10320 875660 FILE: ZF3(110,1)DET143E.DGN PRF: DET143E
LEVELS PLOTTED 35 56 57 58 63
DATE: OCT. 14, 1987

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

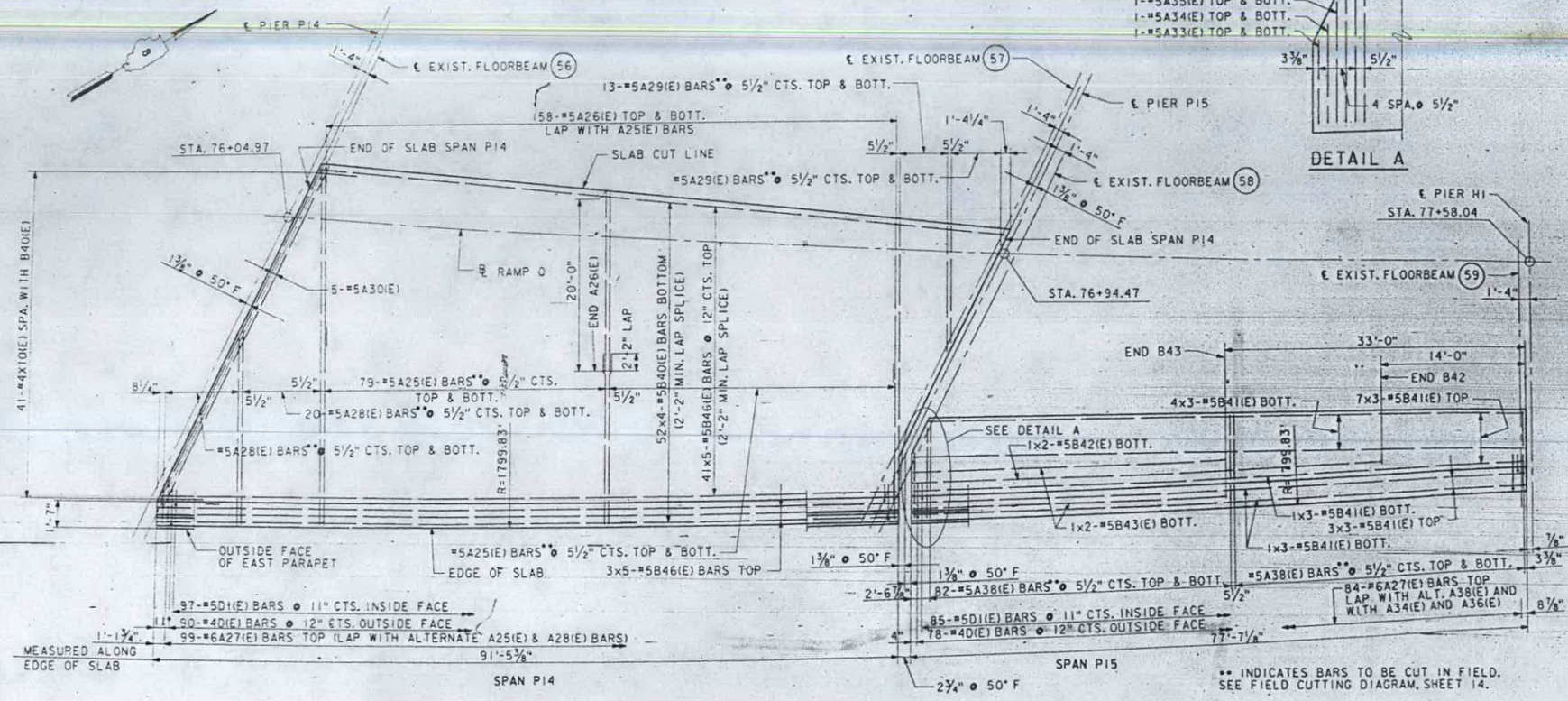
REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMPS Q AND P
DEMOLITION DETAILS SPANS P13 THRU P15 AND SPAN H1
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 11 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

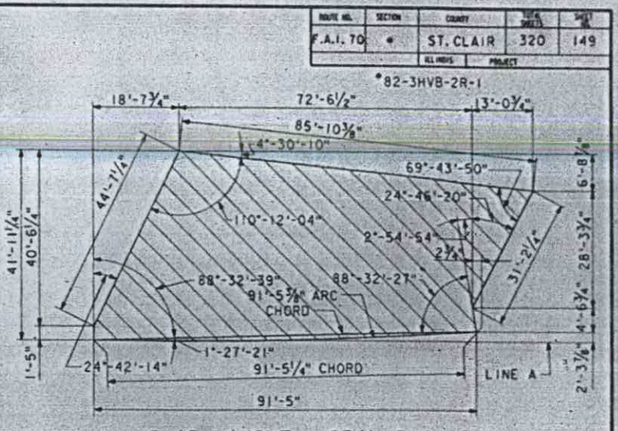
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	149
		ILLINOIS PROJECT		

*82-3HVB-2R-1

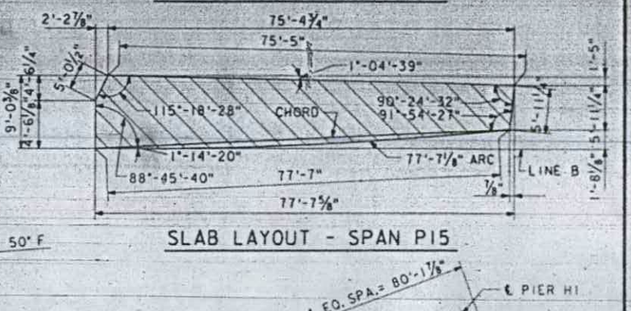


●● INDICATES BARS TO BE CUT IN FIELD. SEE FIELD CUTTING DIAGRAM, SHEET 14.

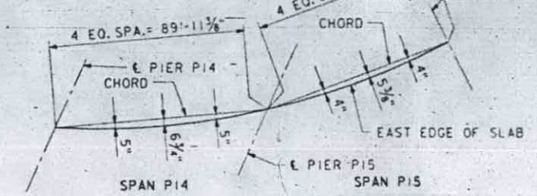
PLAN



SLAB LAYOUT - SPAN P14



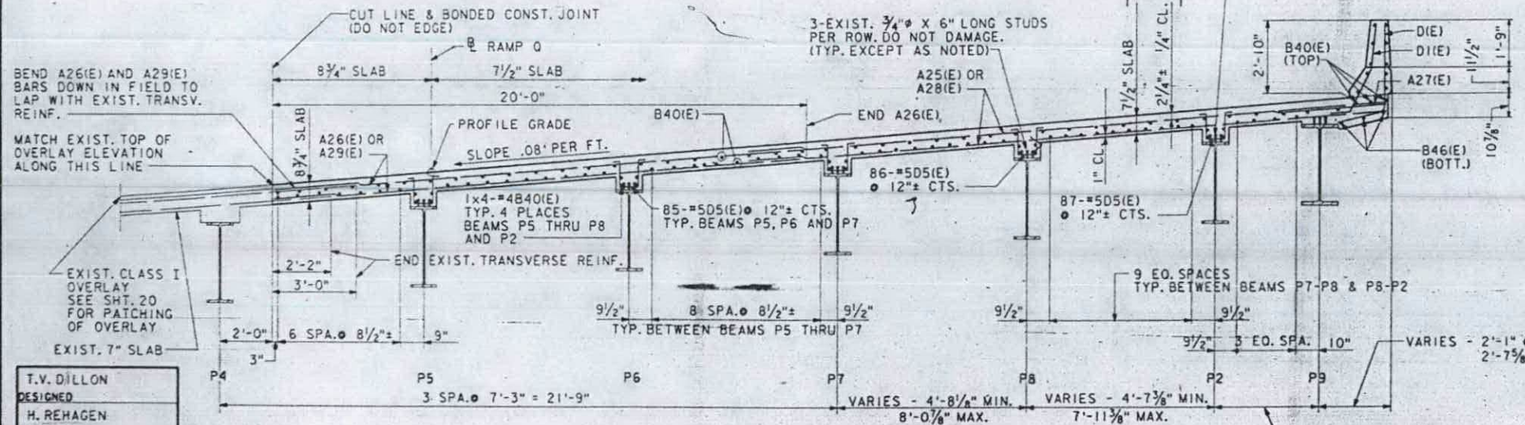
SLAB LAYOUT - SPAN P15



EDGE OF SLAB ORDINATES

NOTE: LONGITUDINAL DIMENSIONS ARE MEASURED ALONG CHORDS.

NOTE: TRANSVERSE BARS FOR SPAN P14 ARE PLACED NORMAL TO LINE A AND FOR SPAN P15 ARE PLACED NORMAL TO LINE B. FOR LINES A AND B SEE SEPARATE LAYOUT PLANS.



CROSS SECTION SPAN P14
(TAKEN NORMAL TO BEAMS P4 THRU P7)

NOTES

BEND OR CUT D5, D6 AND D7 BARS AS REQUIRED TO MAINTAIN CLEARANCE.
WORK THIS SHEET WITH SHEETS 10, 11 AND 13.

T.V. DILLON	DESIGNED
H. REHAGEN	CHECKED
S. STEGMAN	DRAWN
T. DILLON	CHECKED

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP P
SLAB - SPANS P14 AND P15

STRUCTURE NO. 082-0203
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

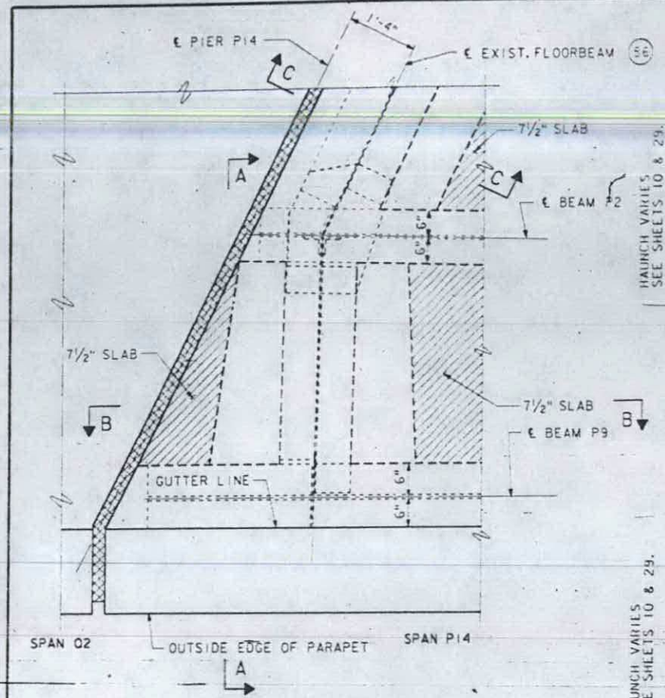
SHEET NO. 12 OF 32

10320 | 87S661 | FILE: ZF3:[110,1]DET144E.DGN | PRF: DET144E | LEVELS PLOTTED: 35 56 57 58 63 | DATE: OCT. 14, 1987

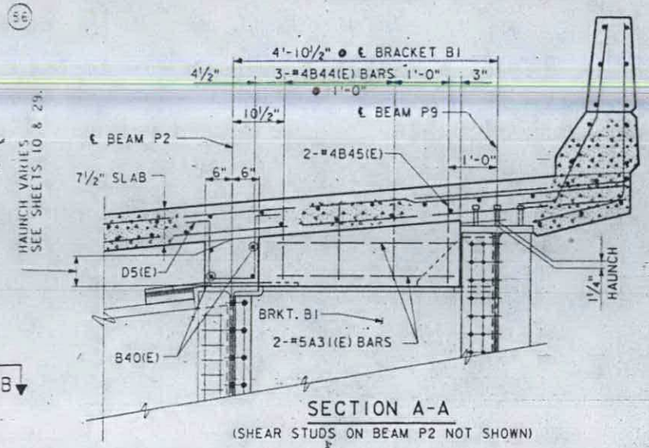
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	150
	ILLINOIS	PROJECT		

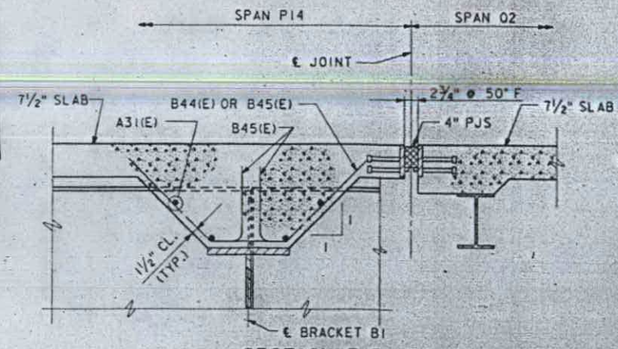
*82-3HVB-2R-1



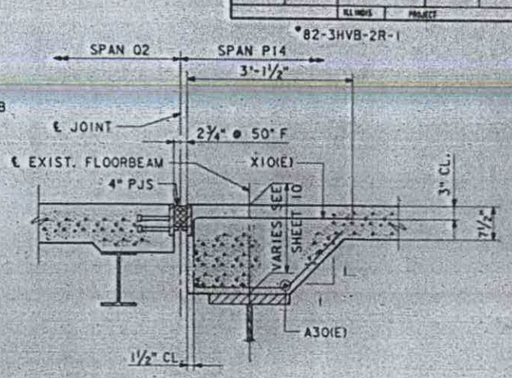
PART SLAB PLAN AT
PIER P14 - SPAN P14



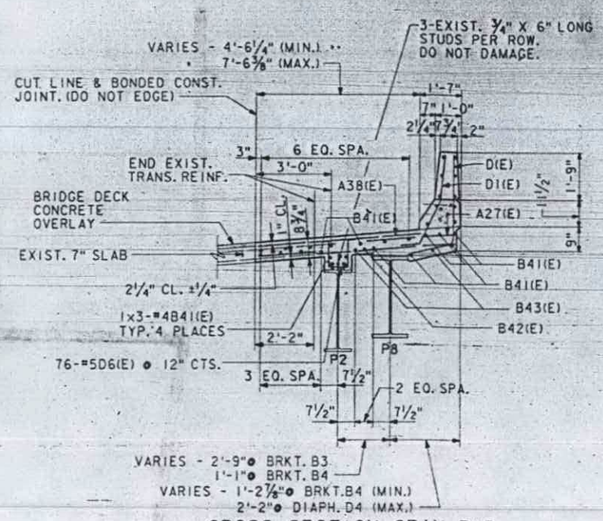
SECTION A-A
(SHEAR STUDS ON BEAM P2 NOT SHOWN)



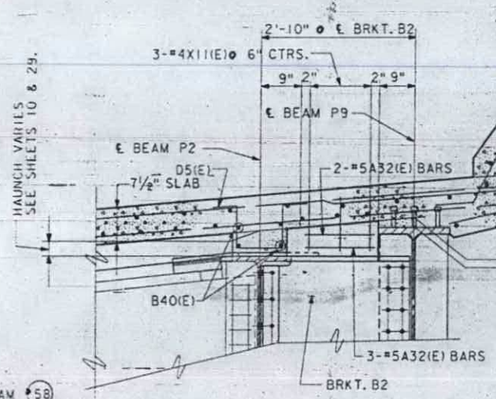
SECTION B-B
NOTE: NORMAL SLAB REINFORCING NOT SHOWN.



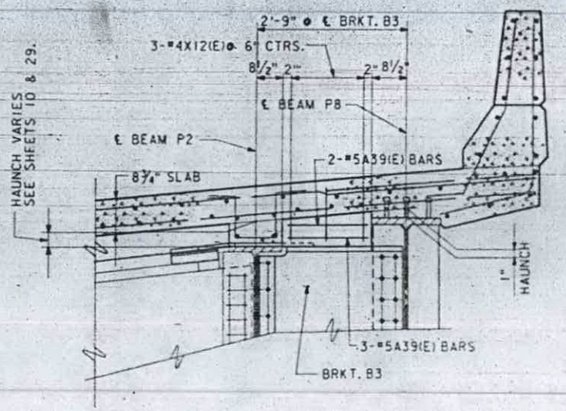
SECTION C-C
NOTE: NORMAL SLAB REINFORCING NOT SHOWN.



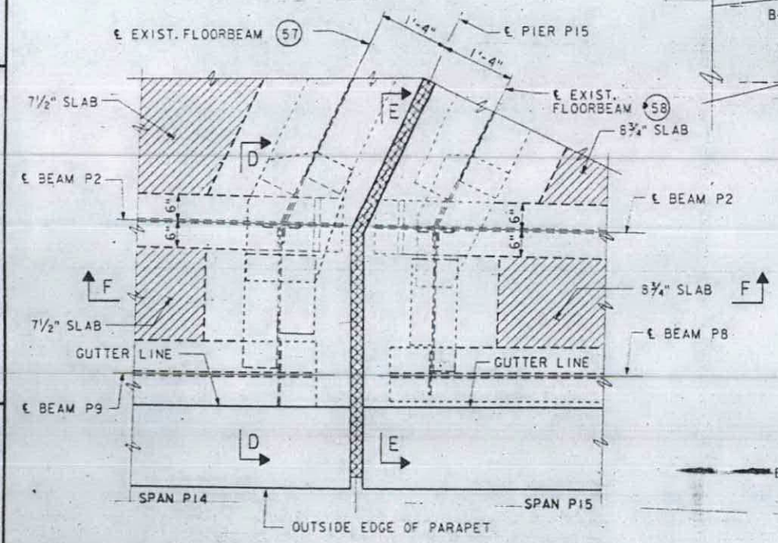
CROSS SECTION SPAN P15
NOTE: FOR DETAILS NOT SHOWN, SEE CROSS SECTION SPAN P14.



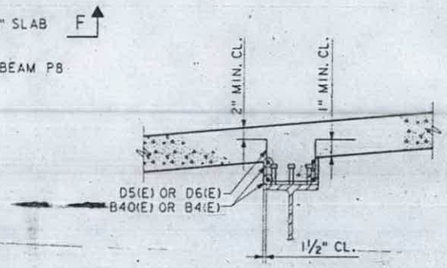
SECTION D-D
(SHEAR STUDS ON BEAM P2 NOT SHOWN)



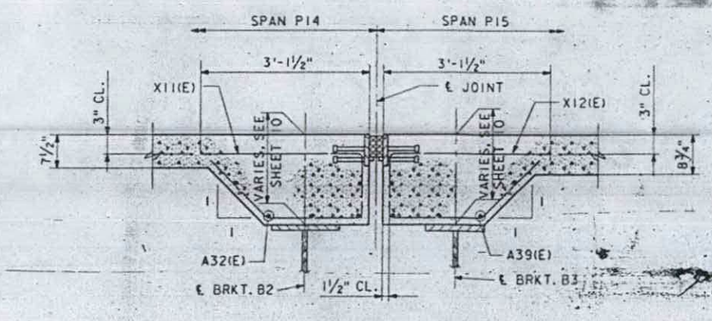
SECTION E-E
(SHEAR STUDS ON BEAM P2 NOT SHOWN)



PART SLAB PLAN AT PIER P15



TYPICAL PLACEMENT
OF BARS IN HAUNCHES
OF EXISTING BEAMS



SECTION F-F
NORMAL SLAB REINF. NOT SHOWN.

NOTES
WORK THIS SHEET WITH SHEET 12 OF 32.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP P
SLAB - SPANS P14 AND P15
STRUCTURE NO. 082-0203
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 13 OF 32

T. DILLON	DESIGNED
H. REHAGEN	CHECKED
S. STEGMAN	DRAWN
T. DILLON	CHECKED

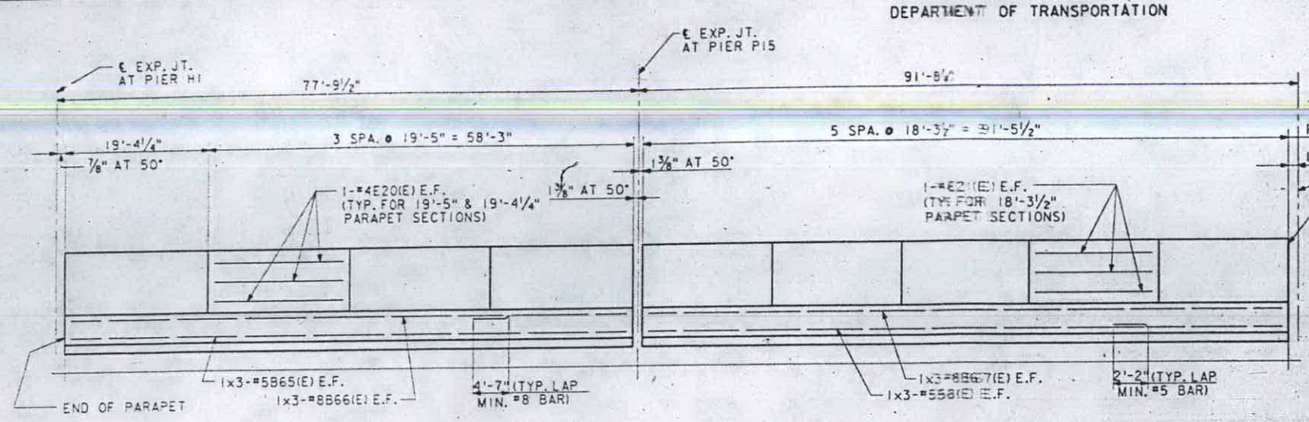
10320 B75662 | FILE: ZF3(110,1)DET145E.DGN | PRF: DET145E | LEVELS PLOTTED 35 56 57 58 63 | DATE: OCT. 14, 1987

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

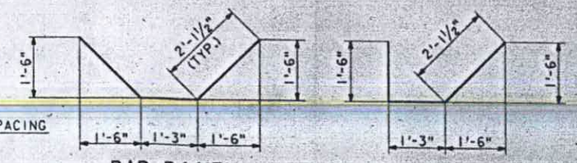
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.T. 70	•	ST. CLAIR	320	151
		ILLINOIS PROJECT		

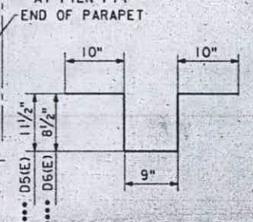
•82-3HVB-2R-1



INSIDE ELEVATION OF EAST PARAPET

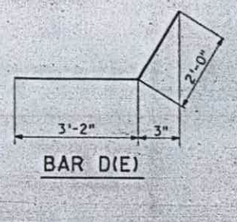
NOTE: E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.

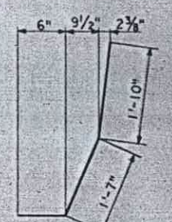


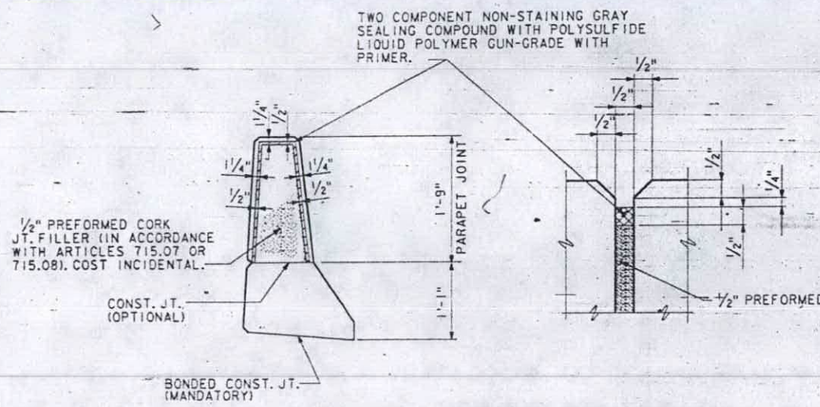


BARS D5(E) & D6(E)

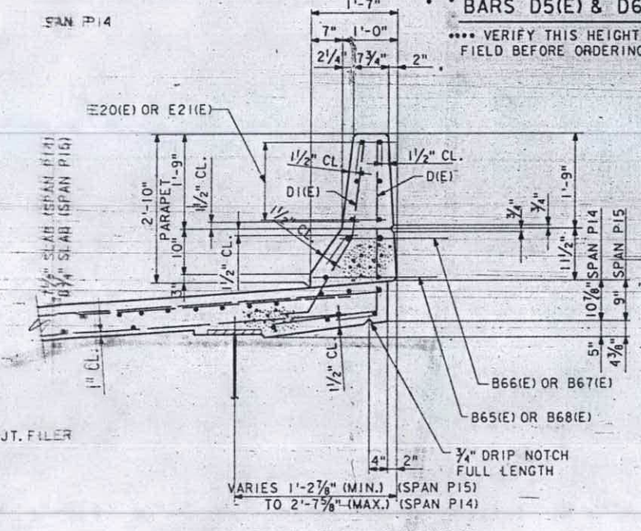
•••• VERIFY THIS HEIGHT IN FIELD BEFORE ORDERING





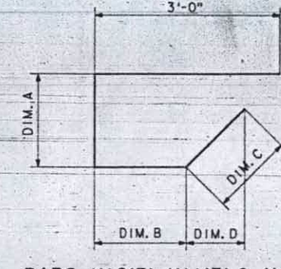


PARAPET JOINT DETAILS



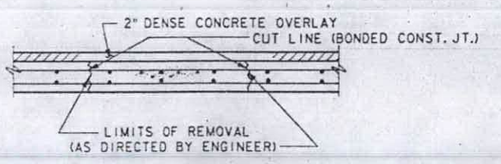
TYP. SECTION THRU PARAPET

NOET: ALL EDGES SHALL HAVE A ¾" CHAMFER UNLESS OTHERWISE NOTED.



BARS X10(E), X11(E) & X12(E)

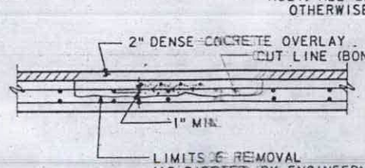
BAR	DIM. A	DIM. B	DIM. C	DIM. D
X10(E)	1'-2"	1'-9"	1'-6"	1'-0¾"
X11(E)	9¾"	1'-8½"	1'-2"	10"
X12(E)	10¾"	1'-6½"	1'-0"	8½"



FULL DEPTH PATCHING

NOTES:

1. REMOVE EXISTING CONCRETE THE FULL DEPTH OF THE DECK, WITHOUT DAMAGING EXISTING REINFORCING BARS.
2. REMOVE STAY-IN-PLACE PANELS THAT ARE PRESENT WITHIN THE LIMITS OF FULL DEPTH PATCH.
3. CLEAN EXISTING REINFORCING BARS AND INCORPORATE INTO NEW WORK.
4. REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE TO LEVEL OF ADJOINING CONCRETE.
5. NEW CONCRETE IS TO ATTAIN 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
6. SEE SPECIAL PROVISIONS.

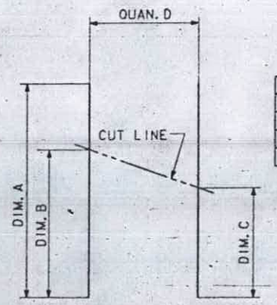


PARTIAL DEPTH PATCHING

NOTES:

1. REMOVE EXISTING CONCRETE TO A DEPTH OF MINIMUM 1" BELOW THE TOP REINFORCING BARS, LEAVING EXISTING REINFORCING BARS IN PLACE.
2. CLEAN EXISTING REINFORCING BARS AND INCORPORATE IN THE NEW WORK.
3. CLEAN PATCH AREA OF ANY LOOSE MATERIAL.
4. REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE TO THE LEVEL OF ADJOINING CONCRETE.
5. NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
6. SEE SPECIAL PROVISIONS.

SLAB REPAIR DETAILS



FIELD CUTTING DIAGRAM

BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A25(E)	38'-8"	23'-1"	19'-4"	79 BARS
A28(E)	43'-2"	40'-9"	22'-1"	20 BARS
A29(E)	30'-11"	28'-4"	16'-0"	13 BARS
A38(E)	13'-10"	8'-5"	6'-11"	82 BARS

ORDER A25(E), A28(E), A29(E) AND A38(E) BARS FULL LENGTH. CUT IN FIELD AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

BILL OF MATERIAL

SPAN P14 & P15

BAR	NO.	SIZE	LENGTH	SHAPE
A25(E)	158	#5	38'-8"	
A26(E)	158	#5	19'-10"	
A27(E)	183	#6	6'-0"	
A28(E)	40	#5	43'-2"	
A29(E)	26	#5	30'-11"	
A30(E)	5	#5	44'-6"	
A31(E)	4	#5	3'-5"	
A32(E)	5	#5	1'-5"	
A33(E)	2	#5	4'-6"	
A34(E)	2	#5	5'-5"	
A35(E)	2	#5	6'-4"	
A36(E)	2	#5	7'-3"	
A37(E)	2	#5	8'-2"	
A38(E)	164	#5	13'-10"	
A39(E)	5	#5	1'-3"	
B40(E)	288	#5	24'-5"	
B41(E)	63	#5	27'-3"	
B42(E)	2	#5	32'-10"	
B43(E)	2	#5	23'-5"	
B44(E)	3	#4	5'-6"	
B45(E)	2	#4	4'-1"	
B46(E)	220	#5	20'-0"	
B65(E)	6	#5	27'-3"	
B66(E)	6	#8	28'-10"	
B67(E)	6	#8	33'-6"	
B68(E)	6	#5	31'-10"	
D(E)	168	#4	5'-2"	
D1(E)	182	#5	3'-11"	
D5(E)	428	#5	4'-4"	
D6(E)	76	#5	3'-10"	
E20(E)	24	#4	19'-0"	
E21(E)	30	#4	18'-0"	
X10(E)	41	#4	7'-5"	
X11(E)	3	#4	6'-8"	
X12(E)	3	#4	6'-5"	
CLASS X CONCRETE SUPERSTRUCTURE		CU. YDS.	135.7	
REINFORCEMENT BARS (EPOXY COATED)		LBS.	36,294	
••• DECK SLAB REPAIR (FULL DEPTH)		SQ. YDS.	7	
••• DECK SLAB REPAIR (PARTIAL)		SQ. YDS.	60	

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

••• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

NOTES

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEETS 19 & 20.

DESIGNED	T.V.DILLON
CHECKED	H. REHAGEN
DRAWN	J. CORLEY / S. STEGMAN
CHECKED	R.F. BECK / T.V. DILLON

10320 87S663 FILE: 2F3I110.10DET146E.DGN PRF: DET146E LEVELS PLOTTED 35 54 56 57 63 DATE: OCT. 14, 1987

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP P
EAST PARAPET - SPANS P14 AND P15

STRUCTURE NO. 082-0203
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 14 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NBR.	SECT NBR	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	154
		ILL. NBR'S	PROJECT	

* 82-3HVB-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
~~2"~~	~~2"~~	~~1/2" Min.~~	
4"	3"	2 1/2" Min.	Piers 026 & H2

INSTALLATION NOTES

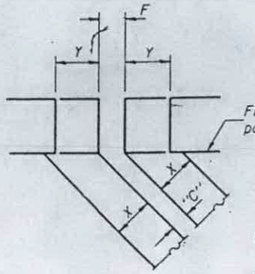
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

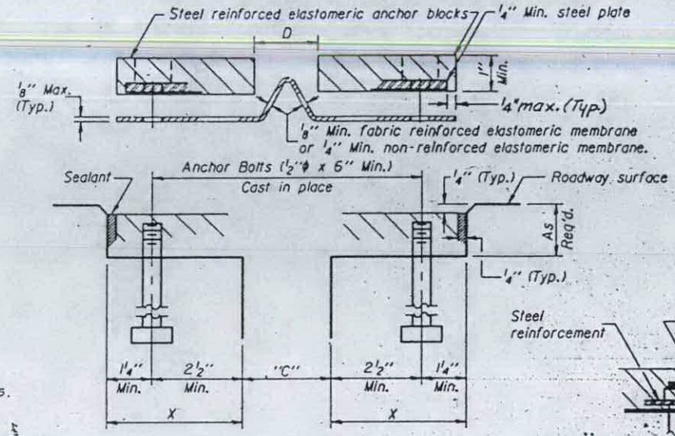
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of 1'2" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs ~~spaced~~ at 12" cts.



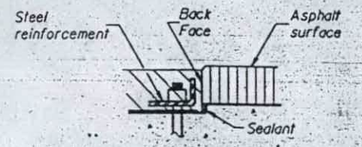
$Y = X - \left(\frac{F-C}{2}\right)$

For dimension "F" see parapet details.

FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions.

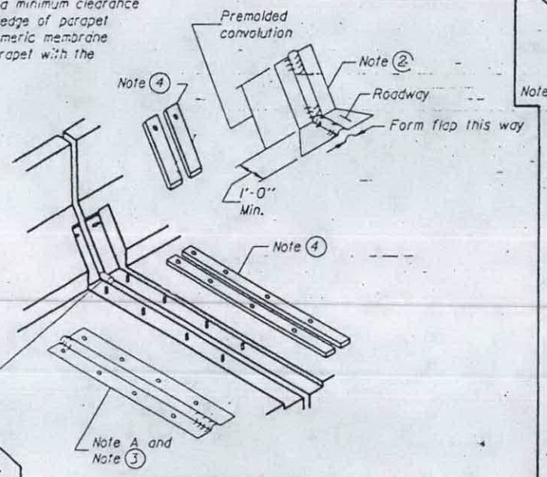
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

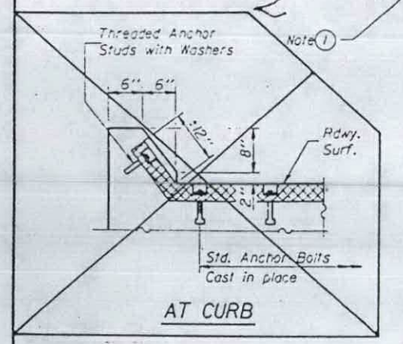
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

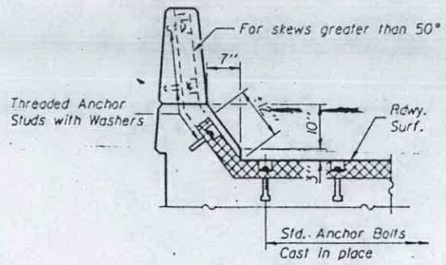
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



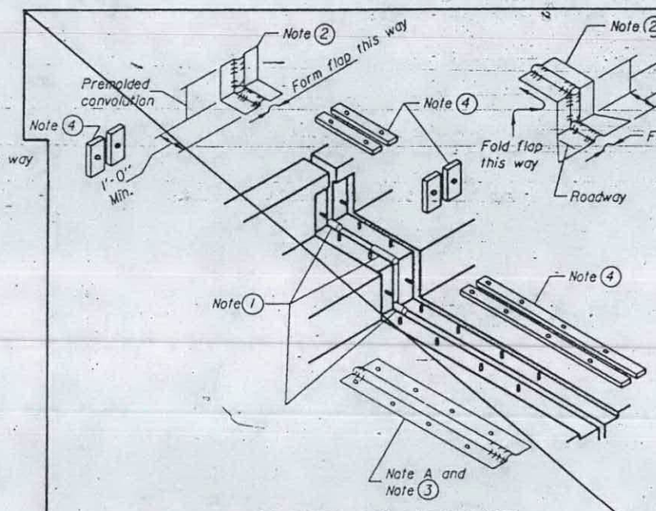
AT PARAPET



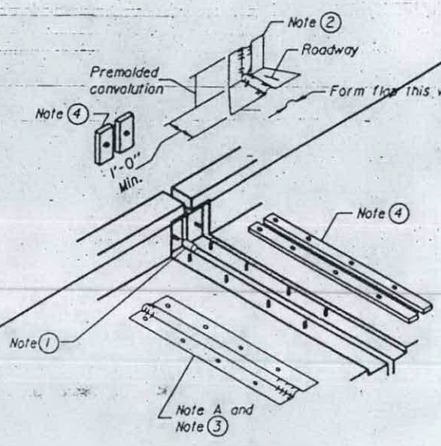
AT CURB



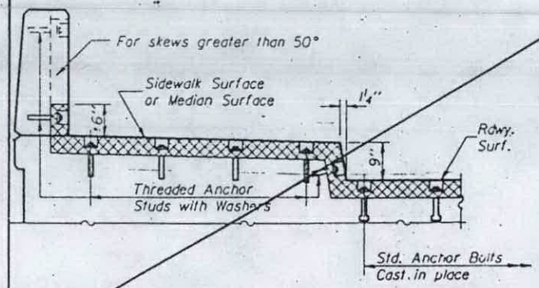
AT PARAPET



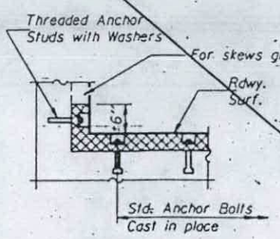
AT SIDEWALK OR MEDIAN



AT WALL



AT SIDEWALK OR MEDIAN



AT WALL

AT SIDEWALK OR MEDIAN
TYPICAL END TREATMENTS

DESIGNED	
CHECKED	
DRAWN	
CHECKED	G.J. Dec

EJ-CS 12-1-83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI —55/70 COMPLEX
CONTINUOUS SEAL TYPE
NEOPRENE EXPANSION JOINTS
FOR 4" MOVEMENT

STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STRUCTURE NO. 082-0256 (RDWY. H)

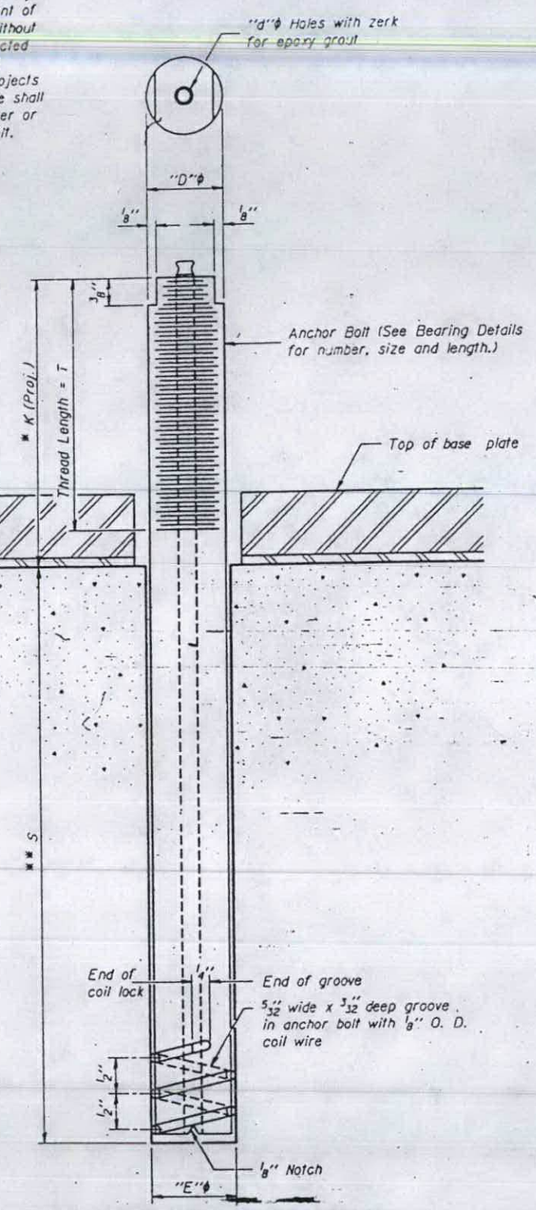
(FAI -70) ST. CLAIR CO.
SHEET NO. 18 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCOPE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	160
		ILL. NO.	PROJECT	
			82-3HVB-2R-1	

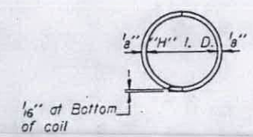
The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

D	E	H	K	"d"	T
1"	1 1/8"	7/16"	1 3/4"	1/4"	
1 1/4"	1 3/8"	1 1/16"	*	1/4"	4"
2"	2 1/8"	1 3/16"	*	1/2"	6"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"	



ILLINOIS COIL-LOCK ANCHOR BOLT

NOTES:
- * For dimension K, see Bearing Details on Sheet 23
- ** S(embedment) = Length - K.



PLAN-COIL WIRE

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A519, Grade 1026 and supplied with two hexagonal nuts.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C881, Type I, Grade I and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut shall be placed on the bolt. Nut shall be finger tight prior to placing epoxy grout.
2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.
3. After grout has set loosen nut to obtain the required clearance between the nut and the sole plate.

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes in accordance with the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or in accordance with the manufacturer's recommendation after beams or girders have been erected and adjusted.

Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming.

Installation of the Anchor Bolts shall be included in the unit bid price for "Erecting Structural Steel".

Furnishing of anchor bolts, epoxy grout or capsules, hexagonal nuts and washers is not part of this Contract. See Special Provisions.

Anchor bolts, nuts and washers shall be completely coated by either the hot-dipped process conforming with AASHTO M232 or the mechanical plating method conforming to ASTM B695, Class 50. Zinc coated bolts shall be tapped oversize in accordance with the requirements of AASHTO M291 and shall meet the supplementary requirements S1.1 thru S1.2.1 of the same specifications for lubricant and testing.

DESIGNED	
CHECKED	
DRAWN	F. A. Cordo
CHECKED	

ABB-1 12-1-83

7/14/87

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX

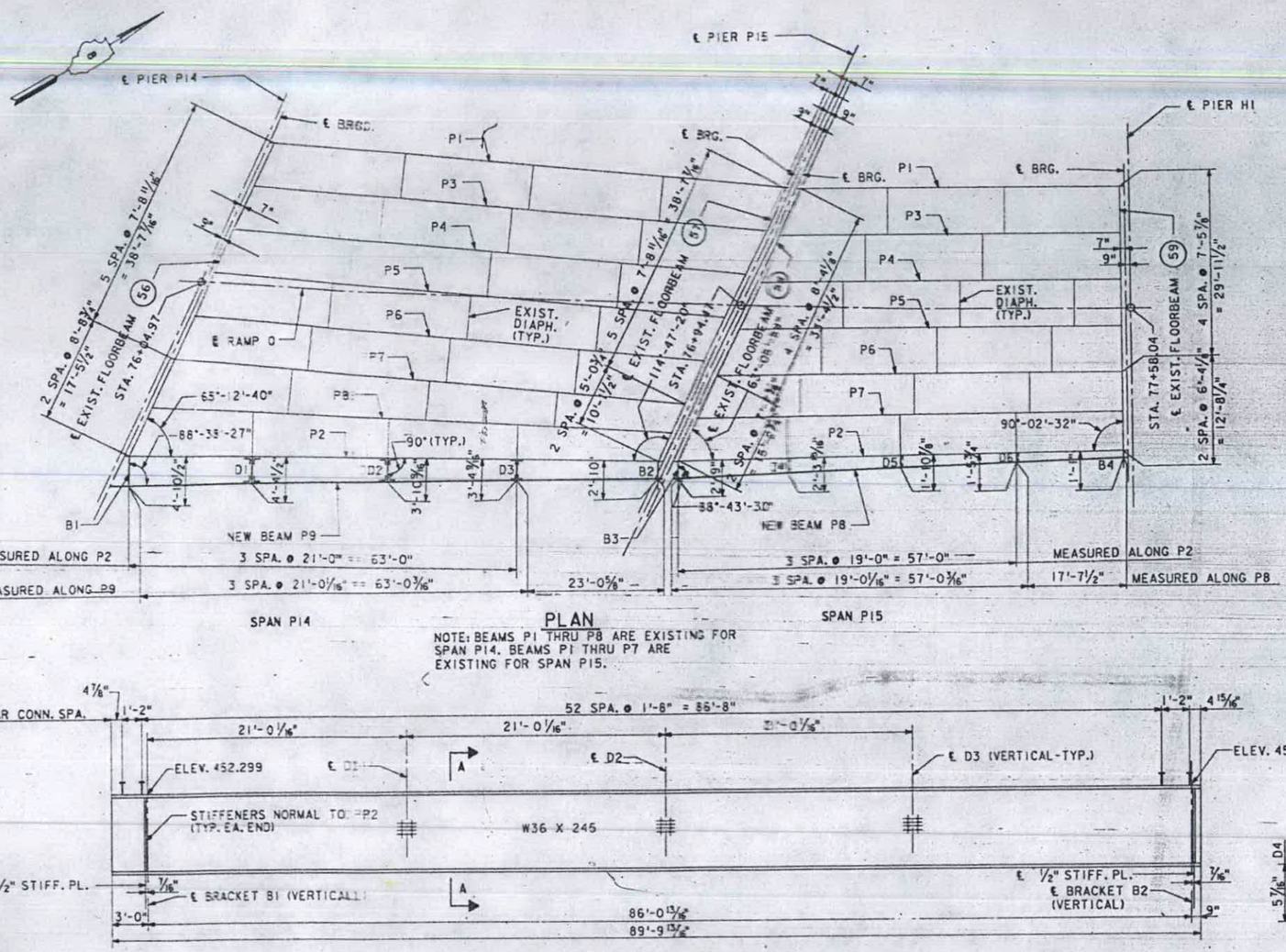
ANCHOR BOLT DETAILS FOR BEARINGS

STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	163
		ILLINOIS PROJECT		

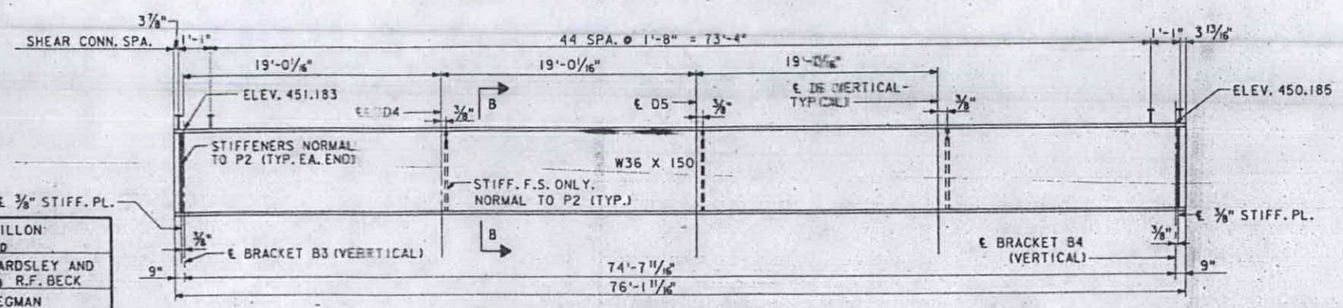
*82-3HVB-2R-1



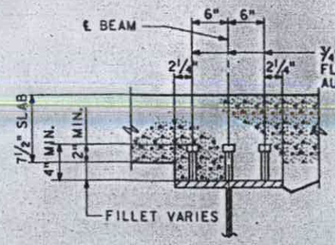
PLAN

NOTE: BEAMS P1 THRU P8 ARE EXISTING FOR SPAN P14. BEAMS P1 THRU P7 ARE EXISTING FOR SPAN P15.

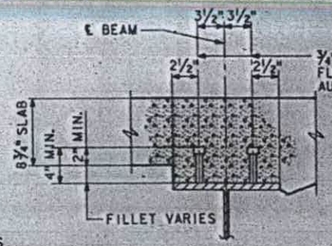
ELEVATION BEAM P9 - SPAN P14



ELEVATION BEAM P8 - SPAN P15

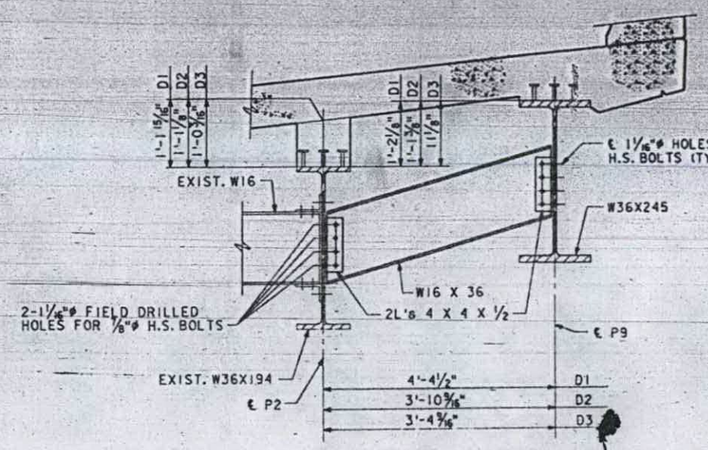


SECTION A-A

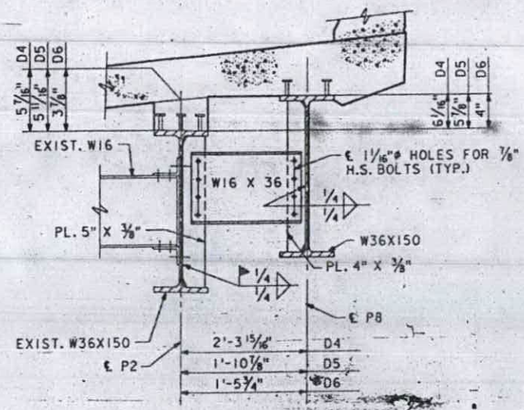


SECTION B-B

NOTE: 255 - ¾"ø STUDS REQUIRED FOR NEW BEAMS P8 AND P9.



DIAPHRAGMS D1 THRU D3



DIAPHRAGMS D4 THRU D6

NOTES

WORK THIS SHEET WITH SHEET 29.
FOR STRUCTURAL STEEL NOTES SEE SHEET 22.
SEE GENERAL NOTES SHEET 2 FOR DIMENSIONS RELATED TO EXISTING STRUCTURE.
ALL PLAN DIMENSIONS ARE HORIZONTAL MEASURED AT TOP OF NEW OR EXISTING BEAMS.
ALL BRACKETS AND DIAPHRAGMS ARE TO BE VERTICAL IN FINAL POSITION.
⅞"ø BOLTS FOR DIAPHRAGM CONNECTIONS SHALL HAVE TWO HARDENED WASHERS.
FURNISHING OF STRUCTURAL STEEL IS NOT PART THIS CONTRACT, UNLESS OTHERWISE NOTED.
FIELD DRILLING, FIELD WELDING, ERECTION OF STRUCTURAL STEEL, FURNISHING AND INSTALLATION OF SHEAR STUDS ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP P - FRAMING PLAN
SPANS P14 AND P15

STRUCTURE NO. 082-0203
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

10320	FILE: ZF3C110.IDET42R.DGN
87S354	PRF: DET42R
LEVELS PLOTTED	35 56 58 63
DATE: JUNE 23, 1987	

T.V. DILLON	DESIGNED
D. BEARDSLEY AND R.F. BECK	CHECKED
S. STEGMAN	DRAWN
T.V. DILLON AND R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

SHEET NO. 27 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	164
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

MOMENT TABLE
NEW BEAM FOR SPANS P14 & P15

	SPAN P14 BEAM P9	SPAN P15 BEAM P8
Is (In^4)	16100	9040
Ic n (In^4)	28860	17338
Ic 3n (In^4)	21637	12712
Ss In^3	895	504
Sc n (In^3)	1117	661
Sc 3n (In^3)	1009	588
℄ (KIPS/FT.)	0.718	0.475
M ℄ (FT.-KIPS)	664	343
fs ℄ non-comp. (ksi)	8.90	8.17
S ℄ (KIPS/FT.)	0.296	0.269
Ms ℄ (FT.-KIPS)	274	194
fs ℄ comp (ksi)	3.26	3.96
M ℄ (FT.-KIPS)	452	189
MI (FT.-KIPS)	108	47
fs ℄+I comp. (ksi)	6.02	4.28
fs (TOTAL) (ksi)	18.18	16.41
VR (KIPS)	28.6	13.9

REACTION TABLE
NEW BEAMS P9-SPAN P14 & P8-SPAN P15

	P9-SPAN P14	P8-SPAN P15
R ℄ (KIPS)	43.6	28.3
R ℄ (KIPS)	23.1	11.1
R I (KIPS)	5.1	2.8
R TOTAL (KIPS)	72.2	42.2

Is AND Ss ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING fs (TOTAL).
Ic AND Sc ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING fs (TOTAL).
VR IS THE MAXIMUM ℄ + IMPACT SHEAR RANGE IN SPAN.
M ℄ - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.
Ms ℄ - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.
M ℄ - MOMENT DUE TO LIVE LOAD ON COMPOSITE SECTION.
I - LIVE LOAD IMPACT

T.V.DILLON	DESIGNED
S. YORDY	CHECKED
S.STEGMAN	DRAWN
S. YORDY	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP P
MISCELLANEOUS STEEL DETAILS
SPANS P14 AND P15
STRUCTURE NO. 082-0203
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

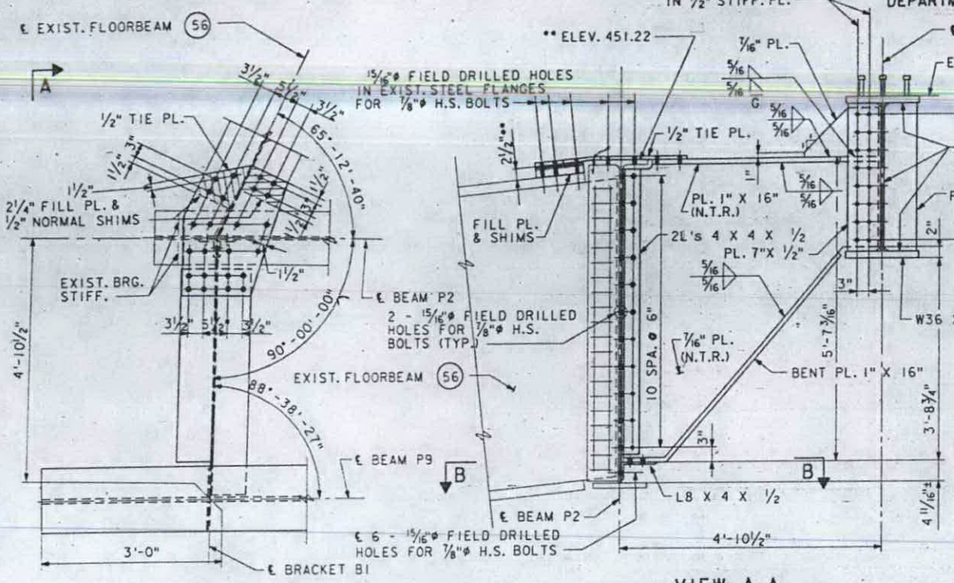
SHEET NO. 28 OF 32

10320	FILE: ZF3:[110.1]DET43E.DGN	LEVELS PLOTTED	DATE: OCT. 14, 1987
87S355	PRF: DET43E	35 56 58 63	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	165
	ILLINOIS	PROJECT		

* 82-3HVB-2R-1



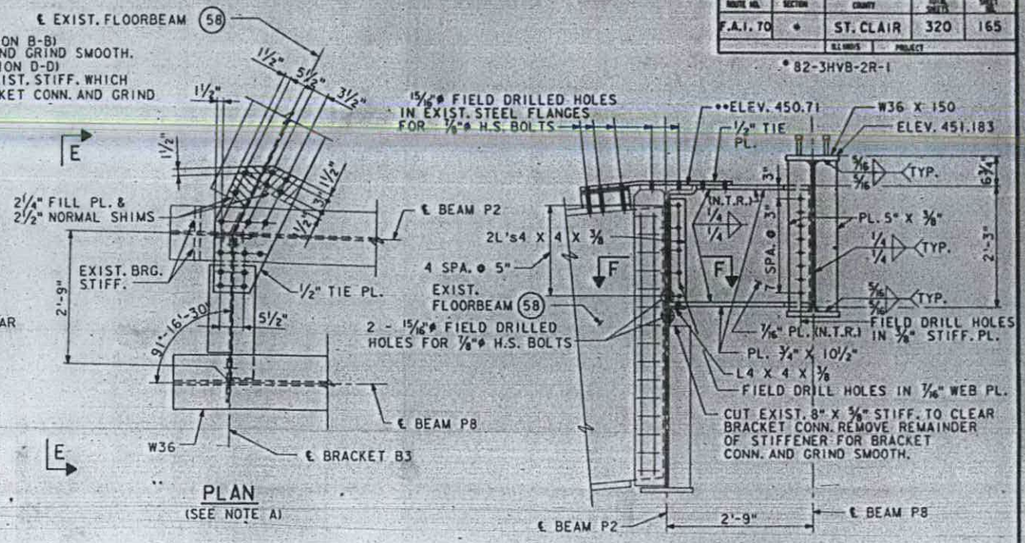
PLAN
(SEE NOTE A)

VIEW A-A

NOTE: BEARING STIFFENERS NOT SHOWN.

SECTION B-B

NOTE: SECTION D-D SIMILAR AND AS NOTED

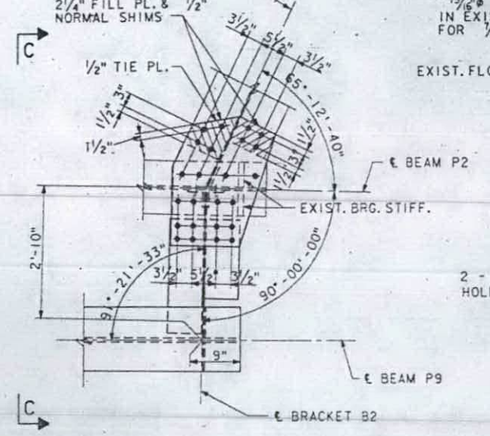


PLAN
(SEE NOTE A)

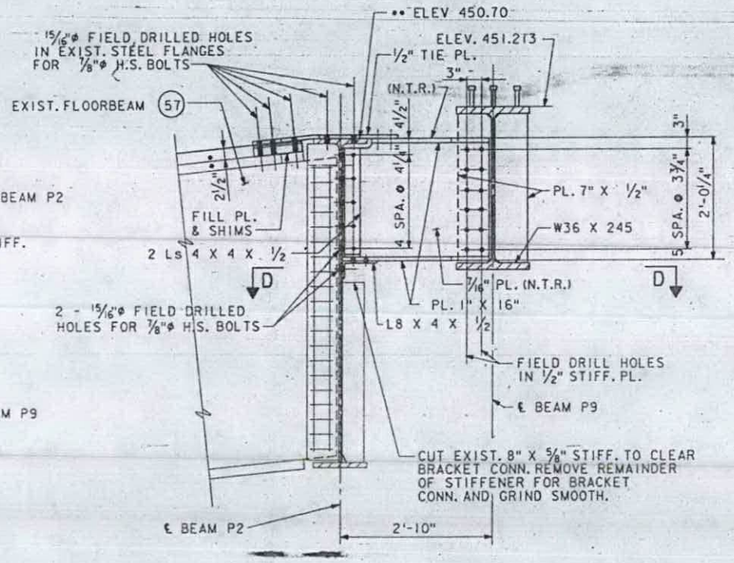
VIEW E-E

NOTE: BEARING STIFFENERS NOT SHOWN.

BRACKET B1



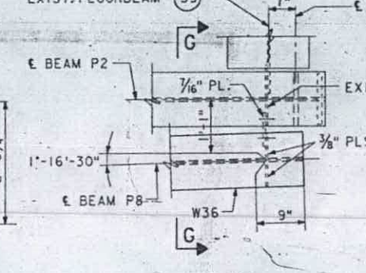
PLAN
(SEE NOTE A)



SECTION C-C

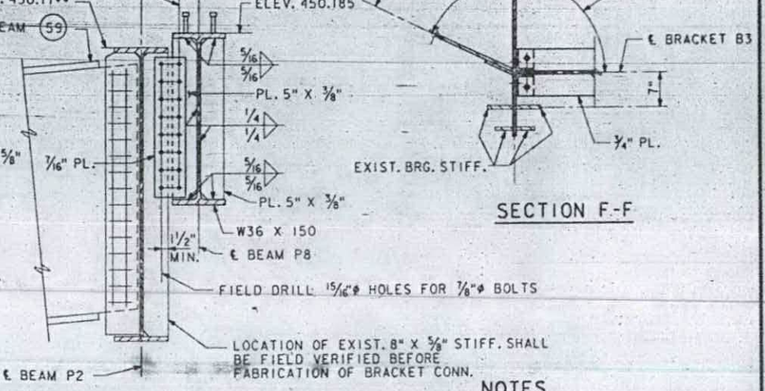
NOTE: WELDING OF BRACKET AND BARS TO BEAMS IS THE SAME AS FOR BRACKET B1.

BRACKET B2



PLAN

BRACKET B4



SECTION F-F

SECTION G-G

NOTES

WORK THIS SHEET WITH SHEETS 27 AND 28.
**INDICATES ELEVATIONS AND/OR DIMENSIONS ARE TO BE FIELD VERIFIED BEFORE ERECTION.
FOR DETAILS OF NEW BEAMS P9 OF SPAN P14, P8 OF SPAN P15 SEE SHEET 27.
FURNISHING OF STRUCTURAL STEEL IS NOT PART OF THIS CONTRACT, UNLESS OTHERWISE NOTED.
FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

NOTE A: EXISTING 3/4"ø STUDS ON BEAM P2 OF SPAN P14 AND SPAN P15 ARE NOT TO BE REMOVED EXCEPT SUFFICIENT ROWS SHALL BE REMOVED TO PLACE NEW 5/8" TIE PLATE AT BRACKET B1, BRACKET B2 AND BRACKET B3.

T.V. DILLON	DESIGNED
D. BEARDSLEY AND R.F. BECK	CHECKED
S. STEGMAN	DRAWN
T.V. DILLON AND R.F. BECK	CHECKED

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP P
BRACKET DETAILS
SPANS P14 AND P15

STRUCTURE NO. 082-0203
STA. 73+52.76 TO STA. 77+58.04 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

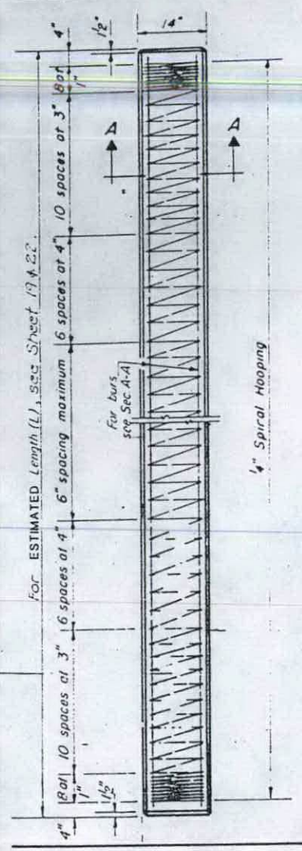
SHEET NO. 29 OF 32

10320 | 875356 | FILE: ZF3(110,1)DET44R.DGN | PRF: DET44R | LEVELS PLOTTED 35 56 58 63 | DATE: JUNE 23, 1987

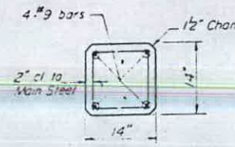
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	168
		ALL LINES	PROJECT	

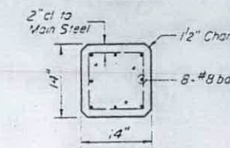
* 82-3HVB-2R-1



DETAIL OF PRECAST CONCRETE PILES

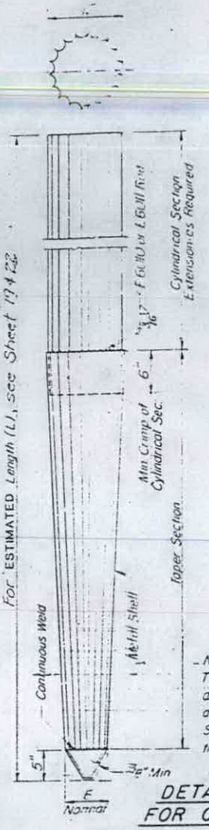


SECTION A-A
FOR PILES UNDER 45' LONG

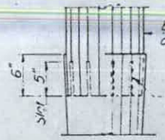


SECTION A-A
FOR PILES 45' OR MORE

Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12 L from each end and at mid point of pile.

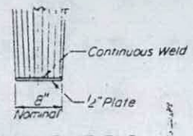


DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



FIELD CRIMP DETAIL

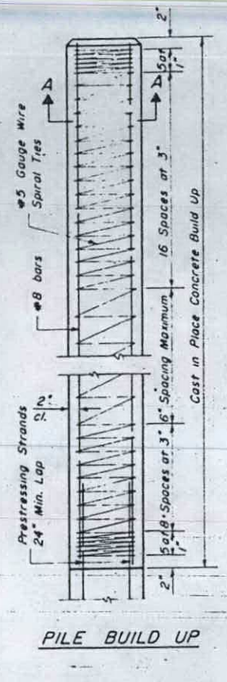
Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.



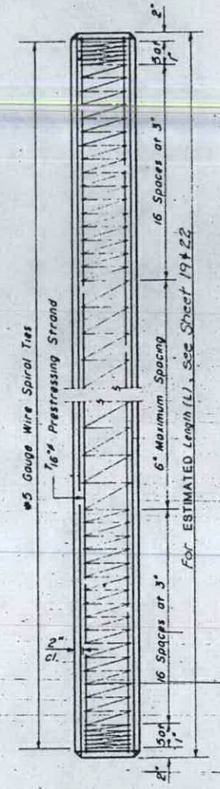
OPTIONAL FLAT END

ALLOWABLE TAPER SECTIONS
10' Length - Taper 1" in 2'-6"
17' Length - Taper 1" in 4'-0"
25' Length - Taper 1" in 7'-0"
30' Length - Taper 1" in 7'-0"

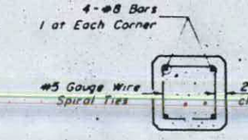
NOTE:
The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The steel shall be in accordance with Article 710.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 psi.



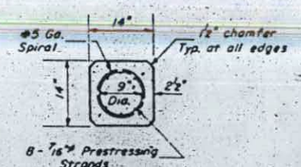
PILE BUILD UP



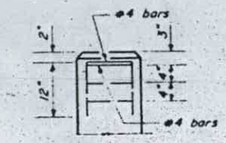
PILE PLAN



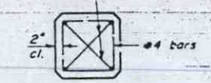
SECTION A-A



SECTION THRU PILE



ELEVATION
(End Reinforcement)



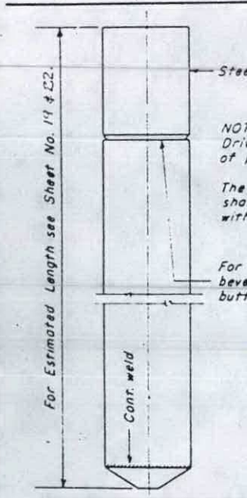
PLAN
(End Reinforcement)

DESIGN STRESSES
f'c = 5,000 psi.
f'ci = 4,000 psi.
fs = 270,000 psi. (31,000 lbs. - ⅝"ø or 41,300 lbs - ½"ø)
fs' = 189,000 psi. (21,700 lbs. - ⅝"ø or 28,900 lbs - ½"ø)

NOTES
Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be ½" and the minimum nominal cross-sectional area shall be 0.115 sq in or the equivalent 6-½"ø strands with a cross-sectional area of 0.153 sq in. may be used.

For Pile lengths up to 65', use two slings placed at a distance of 0.21 L * from each end. For Piles longer than 65', use three slings placed at a distance of 0.12 L * from each end and at mid-point of pile. * L = Over all length of pile to be handled.

PRECAST PRESTRESSED CONCRETE PILE



NOTE
Driving and bearing ends of pipe shall be cut square.

The thickness of the shell shall be 0.1793 inches with a tolerance of 5%.

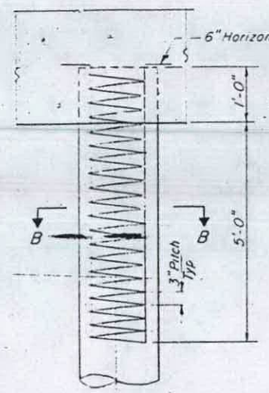
For field splice bevel edge and butt weld.

OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

DESIGNED	
CHECKED	
DRAWN	
CHECKED	K. Patel

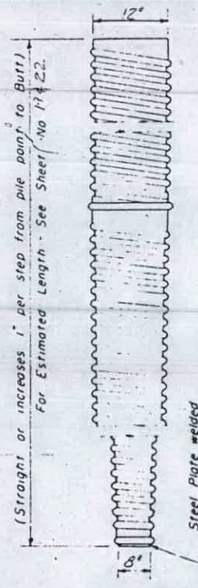
The cost of Reinforcement is incidental to the cost of furnishing piles



SECTION B-B

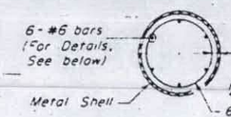
Reinforcement in top of pile shall be omitted under pier footings when placed in natural ground.

DETAIL OF REINFORCEMENT FOR METAL SHELLS



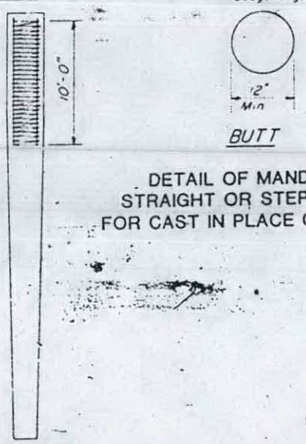
FILE REINFORCEMENT

Reinforcement is incidental to the cast of furnishing piles.



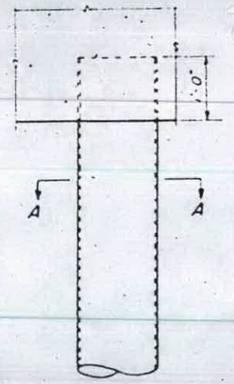
SECTION A-A

At least 10% of the length of pile shall have a Butt diameter equal to or greater than 12". Gauges are furnished to suit soil conditions (16 Gauge avg. min.)



BUTT

POINT
(Applies only to Step Taper type pile)



DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP - TAPER PILES FOR CAST IN PLACE CONCRETE PILES

REHABILITATION FOR
FAI - 55/70 COMPLEX
CONCRETE PILES
FIVE ALTERNATES

STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SHEET NO. 32 OF 32

SEE SHEET NO. ___ FOR INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	89	1
		ILLINOIS	PROJECT C-98-005-88	

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

P-98-021-85

THE STRUCTURES REHABILITATED IN THIS PROJECT WERE BUILT AS SECTIONS:

82-4HB
82-4HB-1
82-3HVF&E-1
82-4HVB

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALE IN FEET

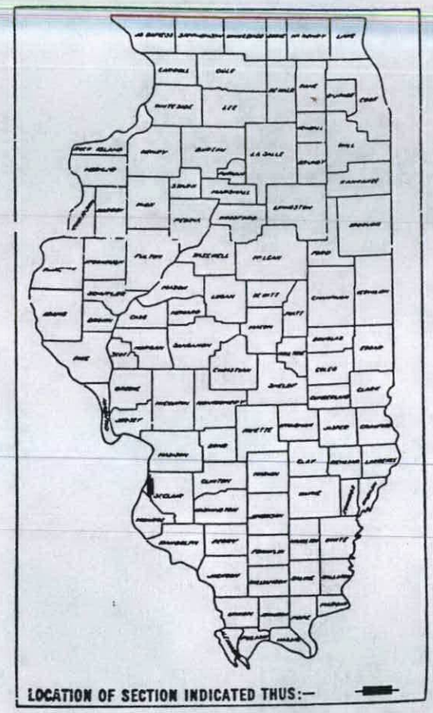
PLAN	1 INCH 50 FT.
PROFILE HOR.	1 INCH 50 FT.
VERT.	1 INCH 5 FT.
CROSS-SECTIONS	
HOR.	1 INCH 10 FT.
VERT.	1 INCH 5 FT.

F.A.I. ROUTE 70
SECTION 82 - 3HVB - 2R - 1(F)
PROJECT 70-1(157)I
ST. CLAIR COUNTY

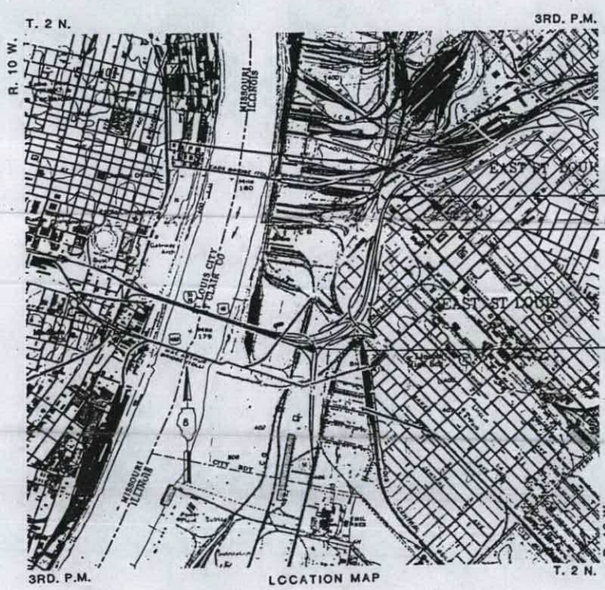
C-98-005-88

INDEX OF SHEETS

Sheet No.	
1	Title Sheet
2	Summary of Quantities
3-20	Roadway A, G & D Deck Rehabilitation
21-38	Ramp R
39-52	Ramp Q, P & Roadway H
53-57	Roadway H over Trendley Avenue
58-66	Ramp G over 4TH Street
67-73	Ramp C over 4TH Street
74-89	Roadway B & C over Broadway and Main Street



Sec. 82-3HVB-2R-1(F)
82-4
82-4DRS
82-4HB
82-3HVB-2R-1



LOCATION MAP

PROJECT
ENDS 115 + 34.53 E.B. I-55/70
EQUATION: 111 + 70.90 E.B. C-D BK. =
109 + 39.40 E.B. I-55/70 AHD.

PROJECT
BEGINS 58+00.14 E.B. C-D

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED _____ DISTRICT ENGINEER
EXAMINED 7-24-87 DISTRICT ENGINEER
PASSED 7-24-87 CHIEF ENGINEER
APPROVED 7-24-87 DIRECTOR OF HIGHWAYS

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

DESIGN DESIGNATION

C-D'S 2 LANES: 1800(06) TRUNK 17.6(C-20)

1000 0 1000 2000 3000
SCALE IN FEET

NET LENGTH OF PROJECT - 5,865.89 FT. - 1.111 MILES

Reels 8-166
8-107
8-63
8-59
8-171

CARLOS A. LIZANA-FARIAS
NO. 81-3956

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

CONTRACT NO. 42635

ST. CLAIR COUNTY SECTION 82-3HVB-2R-1(F) F.A.I. ROUTE 70

REEL 8-166
082-0203

5/19/87

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	NO.
F.A.I. TO	*	ST. CLAIR	89	
		ILLINOIS	PROJECT	

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

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY	CONSTRUCTION TYPE CODE								
				X 171-50	X 271-2A	X 571-50	X 171-50	X 171-50	X271-2A	X 271-2A	X 271-2A	X 571-50
				ROADWAY A BRIDGE OVER RAILROAD	ROADWAY G BRIDGE OVER ROAD	ROADWAY D BRIDGE OVER ROAD & R.R.	RAMP R BRIDGE OVER RAILROAD	RAMPS Q & P BRIDGE OVER RAILROAD	ROADWAY H BRIDGE OVER TRENDLEY AVE.	RAMP G BRIDGE OVER 4th STREET	ROADWAY C BRIDGE OVER 4th STREET	ROADWAY C BRIDGE OVER BROADWAY
X5032700	FURNISHING ELASTOMERIC BEARING ASSEMBLIES, TYPE 1	EACH	6	———	———	———	———	———	———	———	6	———
X5032800	FURNISHING ELASTOMERIC BEARING ASSEMBLIES, TYPE 2	EACH	3	———	———	———	———	———	———	———	3	———
50700200	FURNISHING STRUCTURAL STEEL	LUMP SUM	1	0.01	0.01	0.02	0.45	0.19	0.01	0.01	0.07	0.23
X0320235	FURNISHING REINFORCED NEOPRENE EXPANSION JOINT TREATMENT	LIN. FT.	224 -	37	41	146	———	———	———	———	———	———
X5033600	FURNISHING ELASTOMERIC BEARING ASSEMBLIES (SPECIAL)	EACH	36	———	———	———	36	———	———	———	———	———
X5072500	STORAGE OF STRUCTURAL STEEL	CAL.MONTH	12	0.5	0.5	1.0	3.0	2.0	0.25	0.75	1.5	2.5
X5072600	DELIVERY OF STRUCTURAL STEEL	LB.	1,817,535	11,520	12,940	44,455	823,780	341,480	5,840	25,100	131,440	420,980
65000100	MOBILIZATION	L. SUM	1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
				082-0141	082-0254	082-0144	082-0253	082-0255 082-0203 082-0256	082-~~0156~~ 0140			

SCHEDULE OF QUANTITIES - STRUCTURAL STEEL

ITEM	ROADWAY A	ROADWAY G	ROADWAY D	RAMP R	RAMPS Q & P	ROADWAY H OVER TRENDLEY	RAMP G OVER 4TH STREET	ROADWAY C OVER 4TH STREET	ROADWAY C OVER BROADWAY AND MAIN STREET	TOTAL (LBS.)
M-183	11,520	12,940	44,455	573,180	341,480	3525	25,100	131,440	420,000	1,563,640
M-223 (GRADE 50)	———	———	———	250,600	———	2315	———	———	980	253,895

10320	FILE: 2F3L110.1JSUMBRO.DGN	LEVELS PLOTTED	DATE: JUNE 23, 1987
81S461	PRF: SUMBRO	1 2 63	

CHK. BY: G.F.D.

SUMMARY OF QUANTITIES

SHEET NO. 1 OF 1

Revised

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	89	3
		ILLINOIS PROJECT		

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF DRAWINGS

1 GENERAL NOTES, ESTIMATED QUANTITIES AND INDEX OF DRAWINGS

ROADWAY A
2 GENERAL PLAN AND ELEVATION SPANS A18 THRU A24
3 CROSS SECTIONS AND DETAILS
4 ~~PARAPETS - SPANS A18 THRU A20~~
5 ~~PARAPETS - SPANS A21 THRU A24~~
6 ~~PARAPET DETAILS~~
7 PARAPETS - SLIDING PLATE DETAILS
8 ~~PARAPET TRANSITION - SPAN A18~~
9 ~~SCUPPER DETAILS AND FLOOR DRAINS~~
10 FINGER PLATE DETAILS AT PIER A25
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11 GENERAL PLAN AND ELEVATION SPANS G1 THRU G4
12 GENERAL PLAN AND ELEVATION SPANS G5 THRU G13
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14 ~~PARAPETS - SPANS G5 THRU G8~~
15 ~~PARAPETS - SPANS G8 THRU G13~~
16 ~~PARAPET DETAILS~~
17 ~~PARAPET TRANSITION - SPAN G1~~
18 ~~EXPANSION JOINT DETAILS~~
18A FINGER PLATE DETAILS AT PIER G5
19 ~~SCUPPER DETAILS~~
20 MISCELLANEOUS DETAILS

ROADWAY D
20A GENERAL PLAN AND ELEVATION SPANS D1 THRU D17
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21 GENERAL PLAN AND ELEVATION SPANS D22 THRU D25
22 GENERAL PLAN AND ELEVATION SPANS D26 THRU D32
23 ~~PARAPETS - SPANS D22 THRU D25~~
24 ~~PARAPETS - SPANS D26 THRU D29~~
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27 EXPANSION JOINT DETAILS AND PARAPET TRANSITION
28 EXPANSION JOINT DETAILS
29 FINGER PLATE DETAILS AT PIERS D22, D28 & D33
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30 ~~SCUPPER DETAILS~~
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ROADWAYS A,G & D
32 ~~NEOPRENE EXPANSION JOINTS - 2", 2½" AND 4"~~
33 ~~STEEL DRAINAGE SCUPPER~~
34 ~~ALTERNATE - CAST IRON DRAINAGE SCUPPER~~

NOT IN CONTRACT

GENERAL NOTES

The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel except where otherwise noted.

~~REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31, M-42 OR M 53, GRADE 60.~~ — NOT IN CONTRACT

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 BEFORE ORDERING OF MATERIALS. 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.

DIMENSIONS ARE MEASURED AT A TEMPERATURE OF 50°F.

ALL TRANSVERSE AND LONGITUDINAL DIMENSIONS ARE MEASURED HORIZONTALLY.

~~IF SECTION MONUMENTS AND/OR PERMANENT BENCHMARKS ARE ENCOUNTERED WITHIN THE PAVEMENT OR PARAPET AREAS BEING REHABILITATED, THE CONTRACTOR SHALL ADJUST SAME AS DIRECTED BY THE ENGINEER. PAYMENT TO BE MADE IN ACCORDANCE WITH ARTICLE 109.04 OF THE "STANDARD SPECIFICATIONS".~~ — NOT IN CONTRACT

THE ROADWAY EXPANSION PLATES SHALL BE FLAME CUT AS PROVIDED IN ARTICLE 507.04 (I) OF THE STANDARD SPECIFICATIONS.

CALCULATED WEIGHT OF STRUCTURAL STEEL (M-183):
ROADWAY A = 11,520 LB.
ROADWAY G = 12,940 LB.
ROADWAY D = 44,455 LB.

* INDICATES HIGH STRENGTH BOLT, SHOP OR FIELD INSTALLED UNLESS OTHERWISE NOTED.

Roadway expansion guards shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection

NOT IN CONTRACT

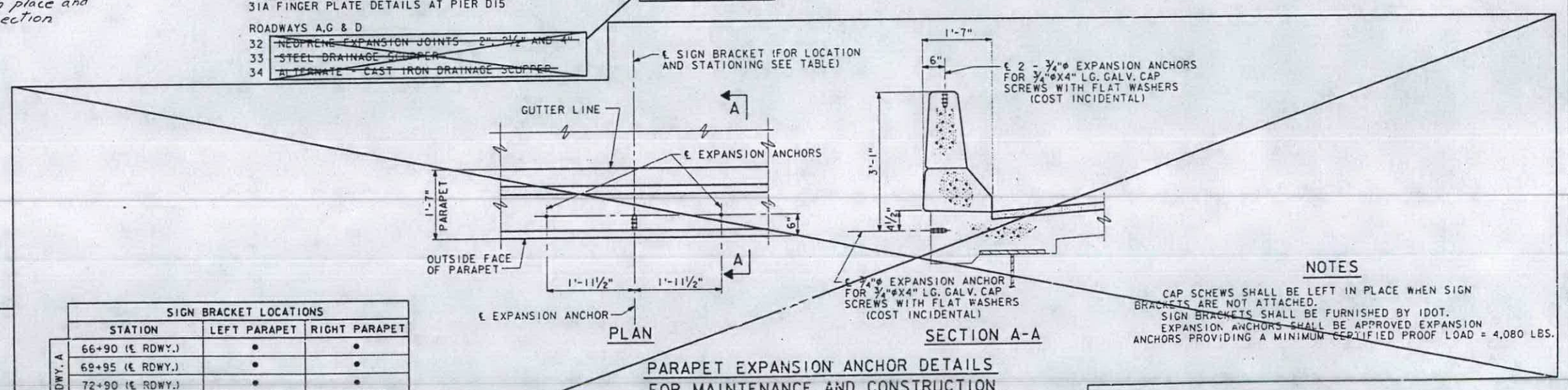
NOT IN CONTRACT

NOT IN CONTRACT

NOT IN CONTRACT

TOTAL BILL OF MATERIAL

ITEM	UNIT	ROADWAY A SUPERSTR. TOTAL	ROADWAY G SUPERSTR. TOTAL	ROADWAY D SUPERSTR. TOTAL
FURNISHING STRUCTURAL STEEL	LUMP SUM	.01	.01	.02
FURNISHING REINFORCED NEOPRENE EXPANSION JOINT TREATMENT	LIN. FT.	37	41	146



SIGN BRACKET LOCATIONS

	STATION	LEFT PARAPET	RIGHT PARAPET
RDWY. A	66+90 (℄ RDWY.)	•	•
	69+95 (℄ RDWY.)	•	•
	72+90 (℄ RDWY.)	•	•
RDWY. D	69+10 (℄ RDWY.)	•	•
	72+55 (℄ RDWY.)	•	•
	75+45 (℄ RDWY.)	•	•
	79+15 (℄ RDWY.)	•	•
RDWY. G	76+50 (℄ RDWY.)	•	•
	80+50 (℄ RDWY.)	•	•
	83+65 (℄ RDWY.)	•	•
	87+30 (℄ RDWY.)	—	•

NOTE: LEFT AND RIGHT PARAPETS ARE ORIENTED LOOKING AHEAD STATIONING.

NOTES

CAP SCREWS SHALL BE LEFT IN PLACE WHEN SIGN BRACKETS ARE NOT ATTACHED.
SIGN BRACKETS SHALL BE FURNISHED BY IDOT.
EXPANSION ANCHORS SHALL BE APPROVED EXPANSION ANCHORS PROVIDING A MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS.

PARAPET EXPANSION ANCHOR DETAILS FOR MAINTENANCE AND CONSTRUCTION SIGN SUPPORT BRACKETS

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLE
ROADWAYS A,G AND D-DECK REHABI ON
GENERAL NOTES, ESTIMATED QUANT IES AND INDEX OF DRAWINGS
STRUCTURE NO. 082-0141 (ROADWAY A)
STRUCTURE NO. 082-0254 (ROADWAY G)
STRUCTURE NO. 082-0144 (ROADWAY D)
(FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 34

DESIGNED	
CHECKED	D. RIEHL
DRAWN	G. DEE
CHECKED	

10320 87S305 | FILE: ZF3:(110.1)DETI.DGN | PRF: DETI | LEVELS PLOTTED: 35, 56, 58, 63 | DATE: JUNE 23, 1987

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	89	39
		ILLINOIS PROJECT		

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

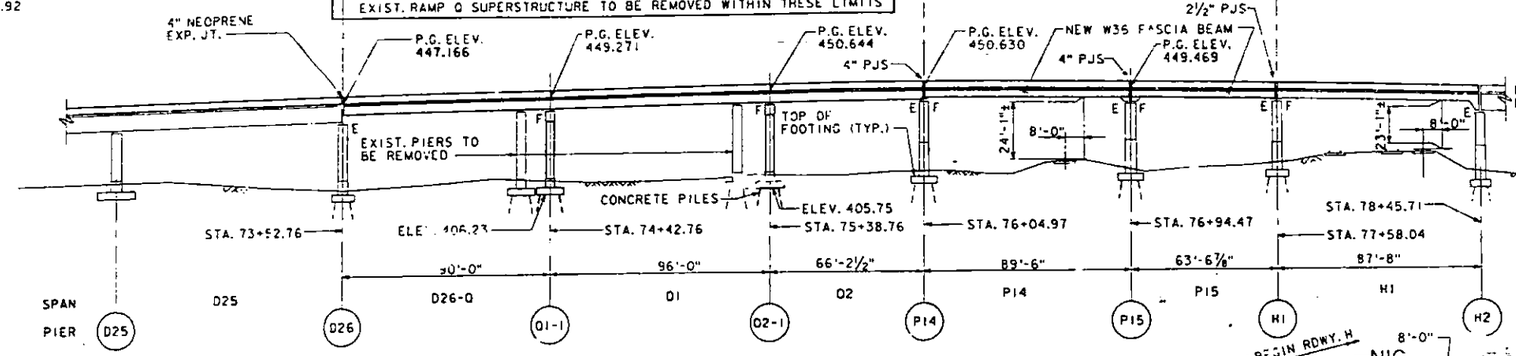
BENCH MARK D-27

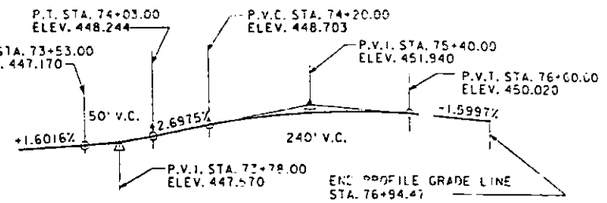
CHISELED "D" IN CONC. FOUNDATION AT N. END OF PIER D-27 ON E.B. C-D
ELEV. 412.92

NIC

LIMITS OF RAMP Q RECONSTRUCTION = 252'-2½"
3 SPAN CONTINUOUS COMPOSITE 60" WELDED PLATE GIRDERS
EXIST. RAMP Q SUPERSTRUCTURE TO BE REMOVED WITHIN THESE LIMITS

LIMITS OF RAMP P WIDENING = 153'-0⅞"

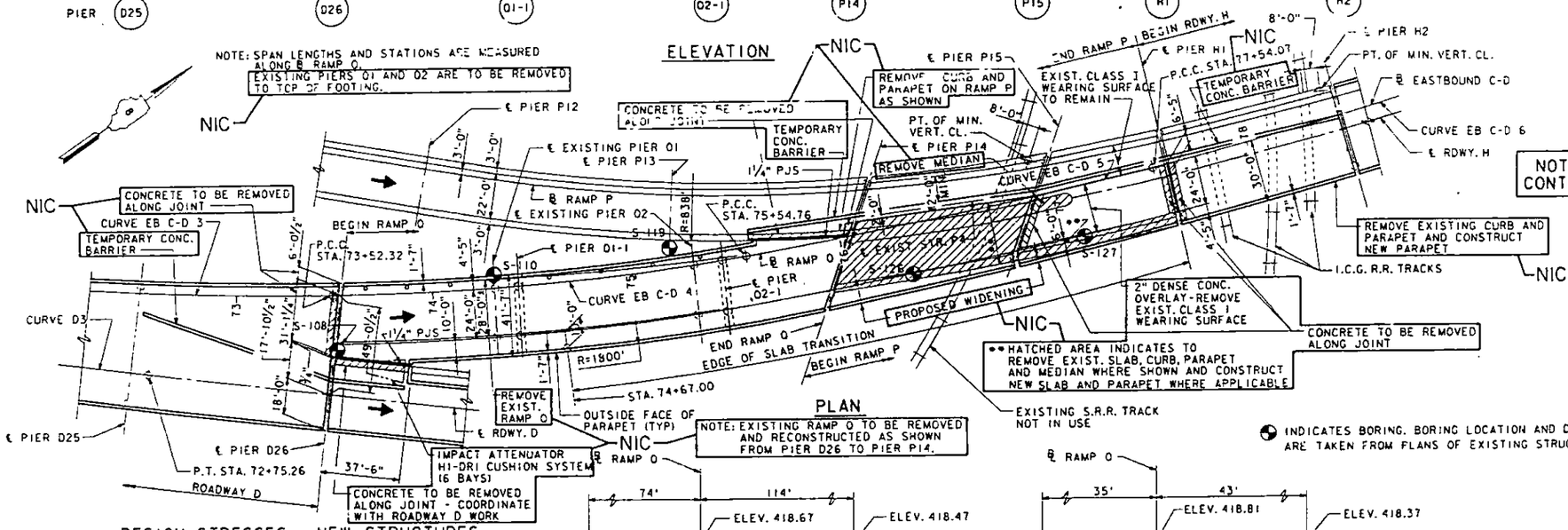




PROFILE - ℄ RAMP Q & ℄ EASTBOUND C-D

ELEVATION

NOTE: SPAN LENGTHS AND STATIONS ARE MEASURED ALONG ℄ RAMP Q.
EXISTING PIERS 01 AND 02 ARE TO BE REMOVED TO TOP OF FOOTING.



NOT IN CONTRACT

BUILT 198_ BY
STATE OF ILLINOIS
F.A.I. 70 SEC. 82-3HVB-2R-1
PROJ. FRI-70-1(155)
LOADING HS20 AND ALT.
STR. NO. 082-0255 (RAMP Q)
STR. NO. 082-0283 (RAMP P)

NAME PLATE
(SEE ILL. STD. 2113)
NOTE: LOCATION OF NEW NAME PLATE SHALL BE LOCATED ADJACENT TO EXISTING NAME PLATE ON WINGWALL OF ABUT. H5.

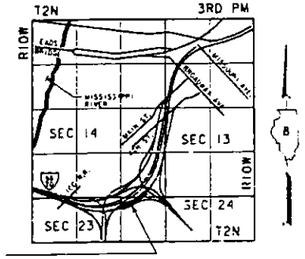
PLAN

NOTE: EXISTING RAMP Q TO BE REMOVED AND RECONSTRUCTED AS SHOWN FROM PIER D26 TO PIER P14.

PROFILE - SOUTHERN R.R. TRACKS SPAN P14

PROFILE - I.C.G.R.R. TRACKS - SPAN H1

INDICATES BORING. BORING LOCATION AND DESIGNATION ARE TAKEN FROM PLANS OF EXISTING STRUCTURES.



PROPOSED NEW STRUCTURE & MODIFICATIONS

LOCATION SKETCH

DESIGN STRESSES - NEW STRUCTURES

DESIGN SPECIFICATIONS: AASHTO 1983 AND APPLICABLE 1984 AND 1985 INTERIMS. AASHTO 1980 GUIDE TO HORIZONTALLY CURVED HIGHWAY BRIDGES AND 1981 & 1982 INTERIMS

LOADING: HS20-44 AND ALTERNATE

REINFORCED CONCRETE:	
DECK SLAB	f'c=3500 psi
SUBSTRUCTURE	f'c=3500 psi
REINFORCING	fy=60,000 psi

NIC

STRUCTURAL STEEL: fy=36,000 psi (M183)

FUTURE WEARING SURFACE = 25 psf

DESIGN STRESSES - WIDENING

LOAD FACTOR DESIGN (DECK ONLY)
SERVICE LOAD DESIGN ALL ELSE

LOADING: HS20-44 AND ALTERNATE

REINFORCED CONCRETE:	
DECK SLAB	f'c=3500 psi
SUBSTRUCTURE	fc=1400 psi Vc=75 psi - FOOTINGS
REINFORCING	fy=60,000 psi

NIC

STRUCTURAL STEEL: fs=20,000 psi (M183)

CURVE DATA - EB C-D 4

P.I. STA. = 74+53.78
Δ = 9°- 36'- 57" LT.
D = 4° - 45'- 00"
R = 1206.23'
T = 101.46'
L = 202.44'
E = 4.26'
P.C.C. STA. = 73+52.32
P.C.C. STA. = 75+54.76

CURVE DATA - EB C-D 5

P.I. STA. = 76+54.45
Δ = 3°- 59'- 43" LT.
D = 2° - 00'- 16"
R = 2858.27'
T = 99.69'
L = 199.31'
E = 1.74'
P.C.C. STA. = 75+54.76
P.C.C. STA. = 77+54.07

CURVE DATA - EB C-D 6

P.I. STA. = 81+11.46
Δ = 21°- 37'- 50" LT.
D = 3° - 03'- 45"
R = 1870.81'
T = 357.39'
L = 706.28'
E = 33.83'
P.C.C. STA. = 77+54.07
P.C.C. STA. = 84+60.35

NOTES

FOR PAY ITEM "TEMPORARY CONCRETE BARRIER", SEE ROADWAY PLANS

NIC = NOT IN CONTRACT

APPROVED

REHABILITATION FOR
FAI - 55/70 COMPLE

RAMPS Q AND P & RDWY. H
GENERAL PLAN AND ELEVATION

STRUCTURE NO. 082-0256 (RDWY H)
STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 32

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

DESIGNED	
CHECKED	L. SCHURMAN/
DRAWN	S. STEGMAN
CHECKED	R.F. BECK

10320	FILE: 052H224.IDGT33.DGN	LEVELS PLOTTED	DATE: JUNE 23, 1987
87S345	PRF: IDT33	2,3,20,24,26,35,38,39,42,50,54,55,63	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	89	40
		ILLINOIS PROJECT		

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: THE 1983 EDITION OF THE STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADDENDUMS AND THE SPECIAL PROVISIONS SHALL GOVERN.

CALCULATED WEIGHT OF STRUCTURAL STEEL:
341,480 LBS. M183

ALL HIGH STRENGTH BOLT CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF NOV. 13, 1985 ISSUE OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325(M164) OR A490(M253) BOLTS FOR SLIP-CRITICAL CONNECTIONS, EXCEPT TIGHTENING METHODS USING EITHER THE LOAD INDICATING WASHERS OR THE CALIBRATED WRENCH ARE NOT ALLOWED.

BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS. IN THE EVENT OF GRINDING, ANY GRINDING WILL PERMIT FREE DRAINAGE OF THE BEARING SEAT.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING CROSS FRAMES AND DIAPHRAGMS OVER SUPPORTS.

THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL EXCEPT AS OTHERWISE NOTED.

REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31, M42 OR M53, GRADE 60.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL DRIVE CONCRETE TEST PILE IN A PERMANENT LOCATION, AS SHOWN ON PLANS AT PIERS 01-1 AND 02-1 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

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 BEFORE ORDERING OF MATERIALS. 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.

ALL DIMENSIONS ARE MEASURED AT A TEMPERATURE OF 50°F.

ALL TRANSVERSE AND LONGITUDINAL DIMENSIONS ARE MEASURED HORIZONTALLY.

FOR STRUCTURAL STEEL NOTES, SEE SHEET 22.

FOR BEARING NOTES, SEE SHEET 23.

INDEX OF DRAWINGS

1 GENERAL PLAN AND ELEVATION - RAMPS Q AND P
2 GENERAL NOTES, ESTIMATED QUANTITIES AND INDEX OF DRAWINGS
3 FOOTING LAYOUT - RAMP Q
4 TOP OF SLAB ELEVATIONS-SPANS D26-0, 01, AND 02
5 SUPERELEVATION TRANSITION
6 SLAB - SPANS D26-0, 01 AND 02.
7 SLAB - SPANS D26-0, 01 AND 02
8 WEST PARAPET - SPANS D26-0 AND 01
9 EAST PARAPET - SPANS D26-0, 01 AND 02
10 TOP OF SLAB ELEVATIONS-SPANS P14 AND P15
11 DEMOLITION DETAILS - SPANS P13 THRU P15 AND SPAN H1
12 SLAB - SPANS P14 AND P15
13 SLAB - SPANS P14 AND P15
14 EAST PARAPET - SPANS P14 AND P15
15 EAST PARAPET - SPAN H1
16 PARAPET TRANSITION - SPAN H1
17 FLOOR DRAINS
18 NEOPRENE EXPANSION JOINT - 4"
19 PREFORMED JOINT SEALS - 1¼", 2½" AND 4"
20 PREFORMED JOINT SEALS - 1¼", 2½" AND 4"
21 FRAMING PLAN AND GIRDER ELEVATION - SPANS D26-0, 01 AND 02
22 FIELD SPLICES AND CROSS FRAME DETAILS - RAMP Q
23 BEARING DETAILS - RAMP Q
24 ANCHOR BOLT DETAILS FOR BEARINGS
25 CROSS GIRDER AT PIERS D26 AND P14
26 STRESS TABLES, CAMBER DIAGRAMS AND EDGE OF SLAB ORDINATES - RAMP Q
27 FRAMING PLAN - SPANS P14 AND P15
28 MISCELLANEOUS STEEL DETAILS - SPANS P14 AND P15
29 BRACKET DETAILS - SPANS P14 AND P15
30 PIER 01-1
31 PIER 02-1
32 CONCRETE PILES (FIVE ALTERNATES)

NOT IN CONTRACT

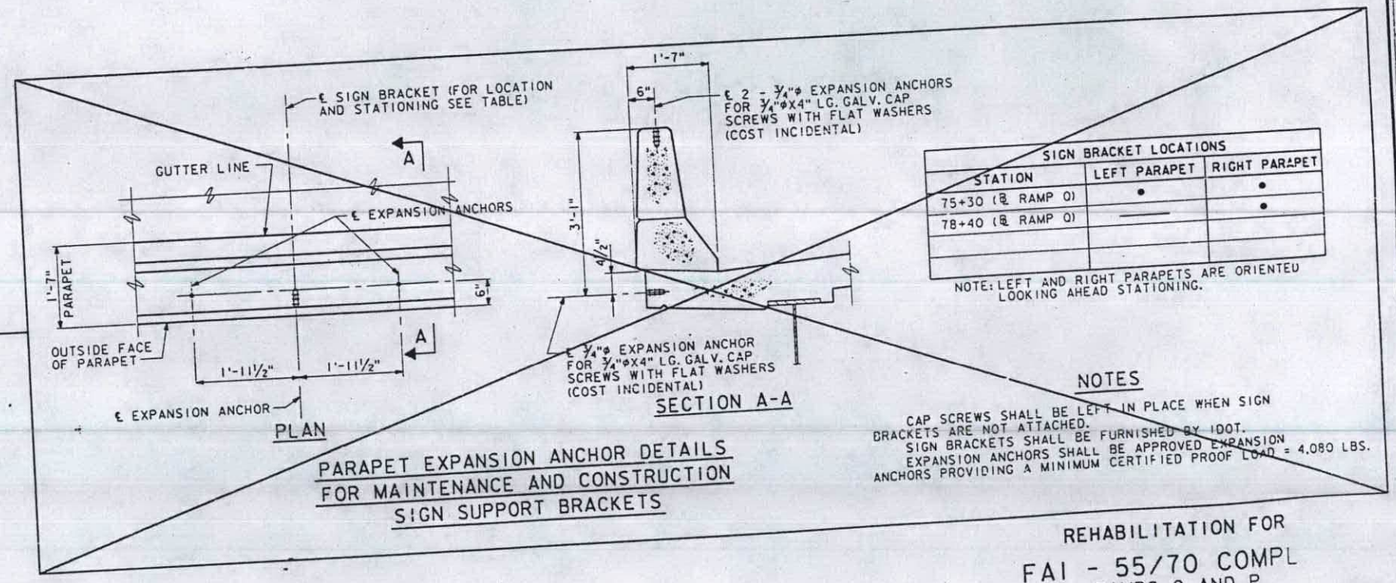
NOT IN CONTRACT

NOT IN CONTRACT

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
FURNISHING STRUCTURAL STEEL	LUMP SUM	1	———	1
ELASTOMERIC BEARING ASSEMBLIES (SPECIAL) **	EACH	14	———	14

** SEE SPECIAL PROVISIONS



PARAPET EXPANSION ANCHOR DETAILS
FOR MAINTENANCE AND CONSTRUCTION
SIGN SUPPORT BRACKETS

SIGN BRACKET LOCATIONS		
STATION	LEFT PARAPET	RIGHT PARAPET
75+30 (℄ RAMP Q)	•	•
78+40 (℄ RAMP Q)	———	•

NOTE: LEFT AND RIGHT PARAPETS ARE ORIENTED LOOKING AHEAD STATIONING.

NOTES

CAP SCREWS SHALL BE LEFT IN PLACE WHEN SIGN BRACKETS ARE NOT ATTACHED.
SIGN BRACKETS SHALL BE FURNISHED BY IDOT.
EXPANSION ANCHORS SHALL BE APPROVED EXPANSION ANCHORS PROVIDING A MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS.

REHABILITATION FOR

FAI - 55/70 COMPL
RAMPS Q AND P
GENERAL NOTES, ESTIMATED QUANTITIES AND INDEX OF DRAWINGS

STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

REV. 8-3-87 SHEET NO. 2 OF 32

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

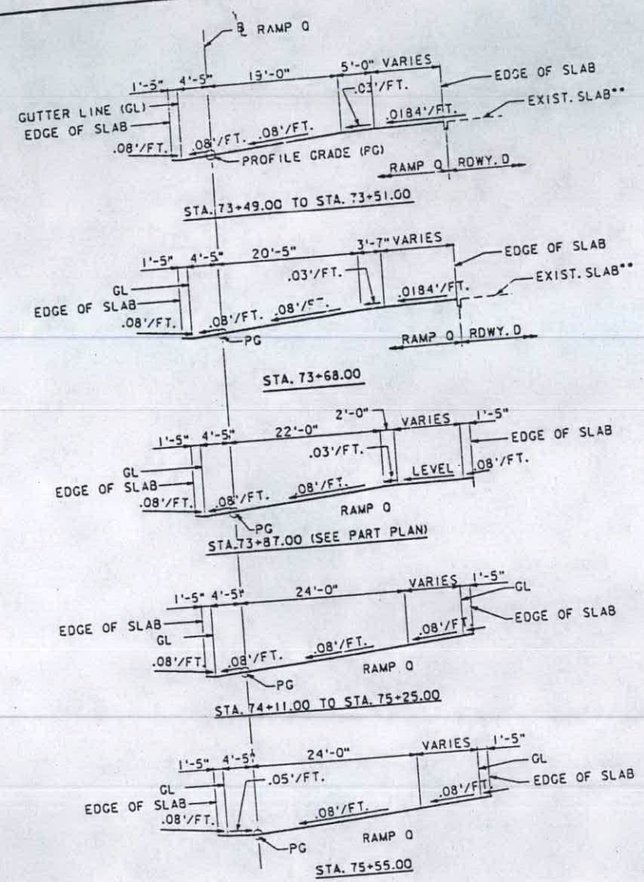
DESIGNED	———
CHECKED	———
DRAWN	D. RIEHL
CHECKED	P. CLARK R. BECK

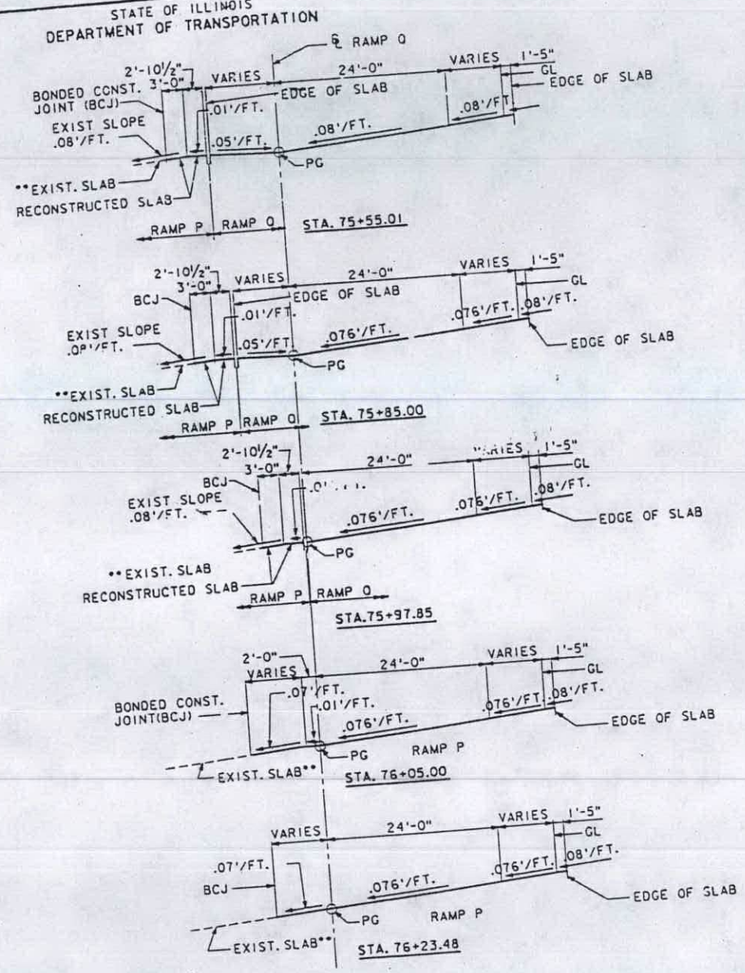
10320
87S316
FILE: ZF3:C110.1)DET34.DGN
PRF: DET34
LEVELS PLOTTED
35, 56, 58, 63
DATE: JUNE 23, 1987

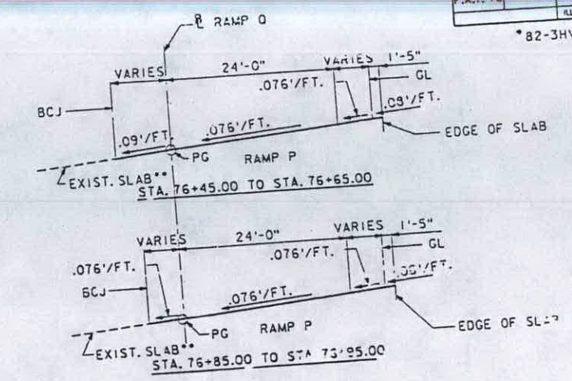
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	89	42
	ILLINOIS	PROJECT		

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

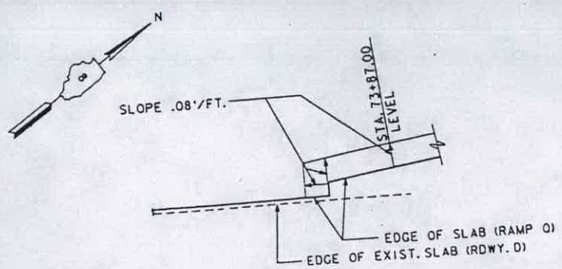






SUPERELEVATION TRANSITION

** INDICATES TOP OF CLASS I WEARING SURFACE ON EXISTING SLAB.
NOTE: STATIONING SHOWN IS ALONG ℄ RAMP Q.



PART PLAN AT STA. 73+87.00

FOR INFORMATION ONLY

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMPS Q AND P
SUPERELEVATION TRANSITION
STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 5 OF 32

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

R.F. BECK	
DESIGNED	
R. WINKELMANN	
CHECKED	
D. RICHI	

LEVELS PLOTTED 35, 56, 63
DATE: JUNE 23, 1987
FILE: ZF3:[110,.DET36.DGN
REF: DET36

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. ROUTE NO.	DEC	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	11	1

* 82-3HVB-IR

P-98-078-83

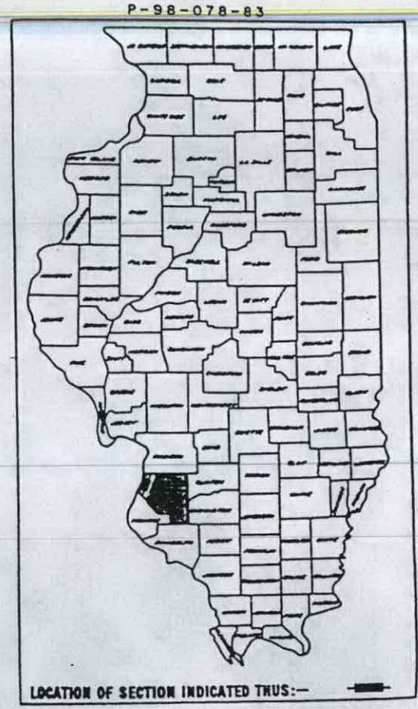
PLANS FOR PROPOSED SUPERSTRUCTURE REPAIRS

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

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

C-98-115-85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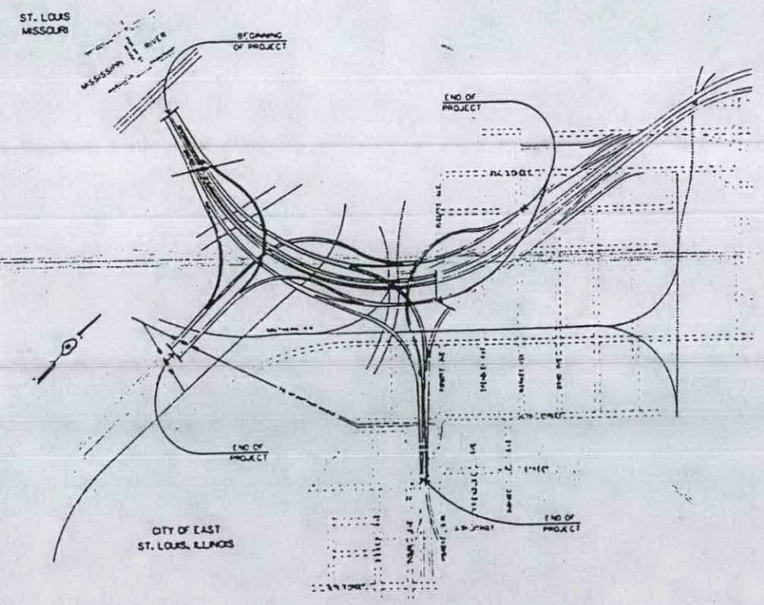


MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUBMITTED 3/5/86
DRAWN March 27, 86
CHECKED March 27, 86
APPROVED March 27, 86
DIRECTOR OF HIGHWAYS

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

B-159

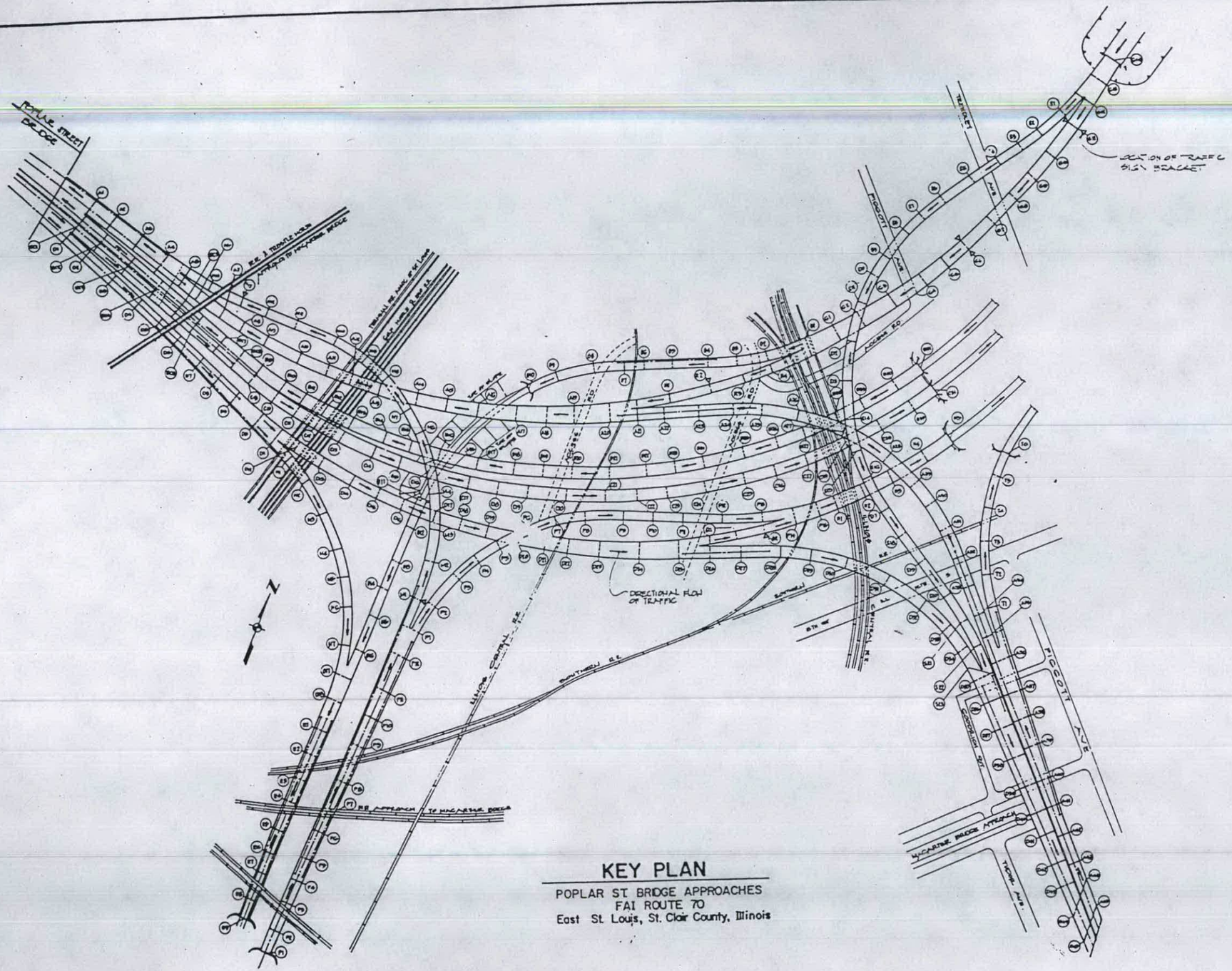
CONTRACT NO. 40769

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

NET LENGTH OF PROJECT = 1.66 MILES

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

70	[illegible]	ST. CLAIR	11	2



KEY PLAN

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

SUMMARY OF QUANTITIES SFTY-3D

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
Z10527	TRAINEES	HOUR	1,000
650001	MOBILIZATION	L SUM	1

* CONST. CODE Y080

GENERAL NOTES

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 ϕ, 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

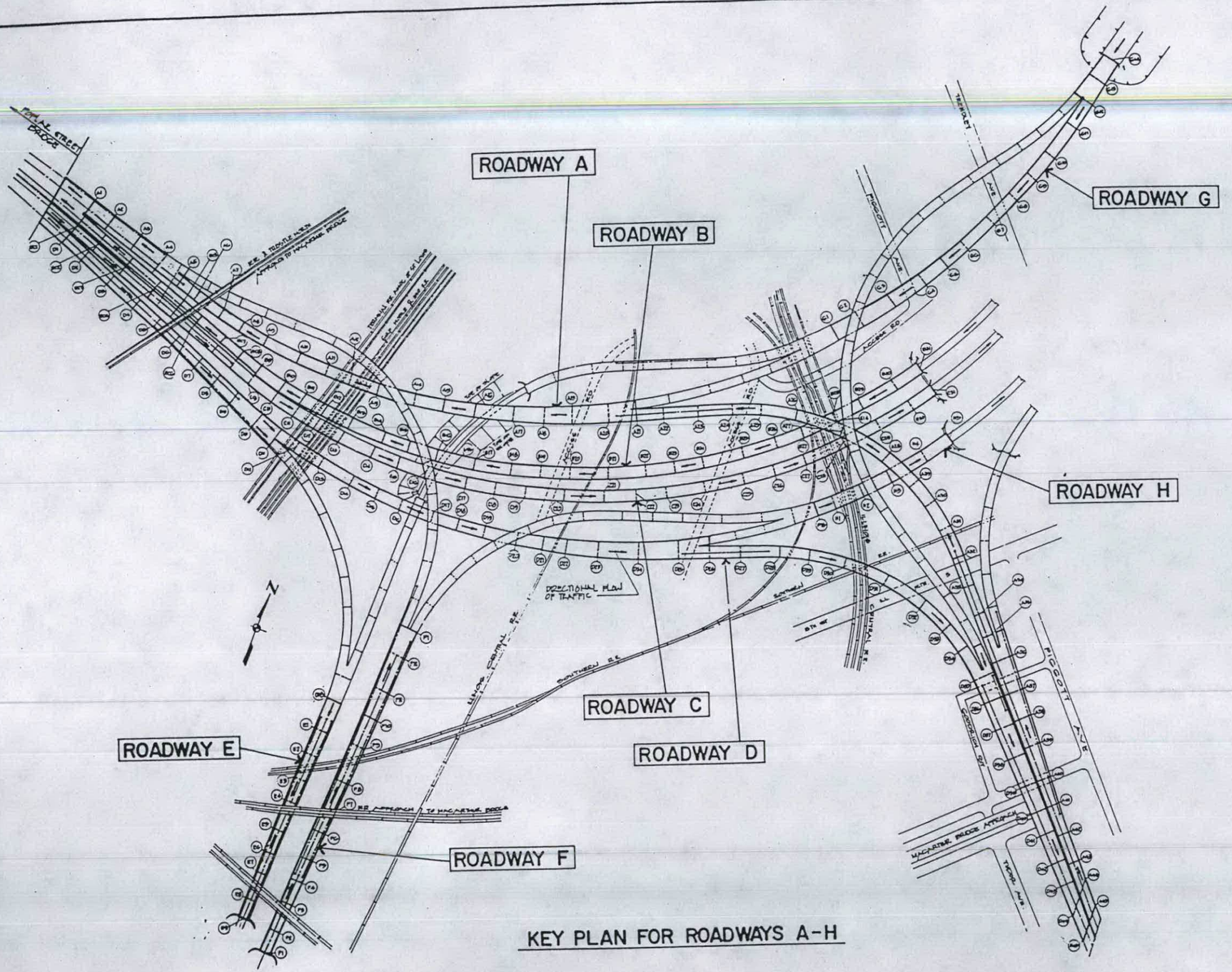
1. Installation of structural steel repair Type I at bearing stiffener connections between floor beams above piers and main girders above piers at continuous supports.
2. Installation of structural steel repair Type 2 at non-bearing stiffener connections between first interior floor beams and main girders.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

PROJECT KEY PLAN

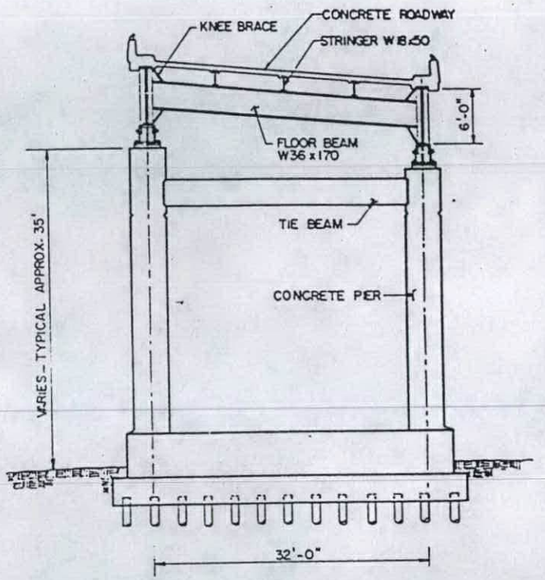
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE REPAIRS
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

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

70	82-3HRB-R	ST. CLAIR	11	3



KEY PLAN FOR ROADWAYS A-H



TYPICAL SECTION THROUGH ROADWAY
(Section through Ramp Similar)

KEY PLAN FOR ROADWAYS A-H

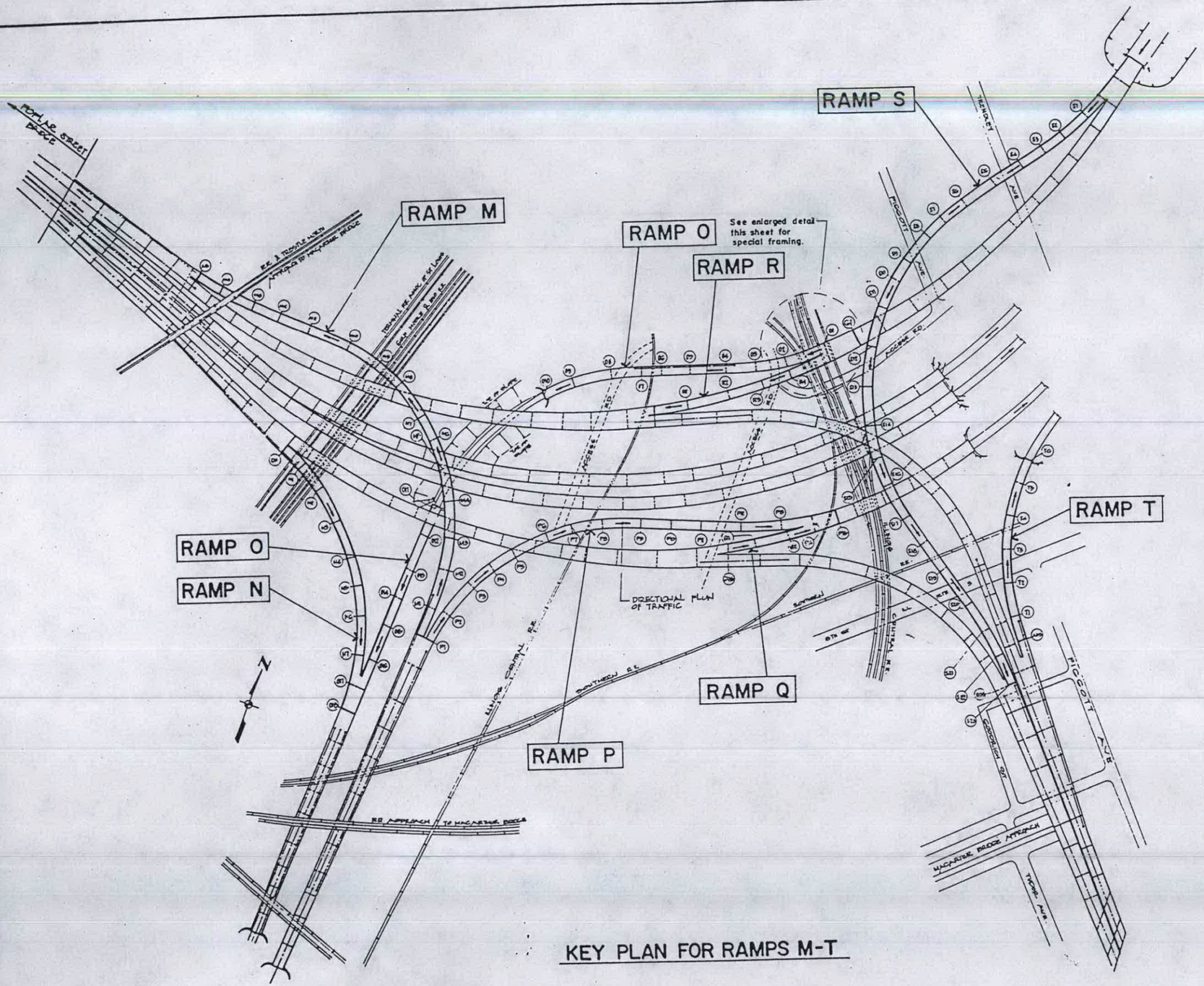
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE REPAIRS

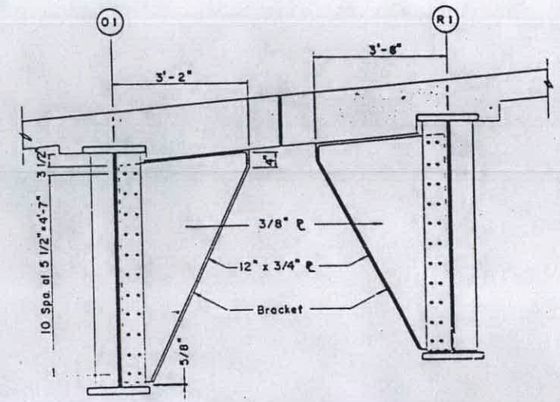
FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

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

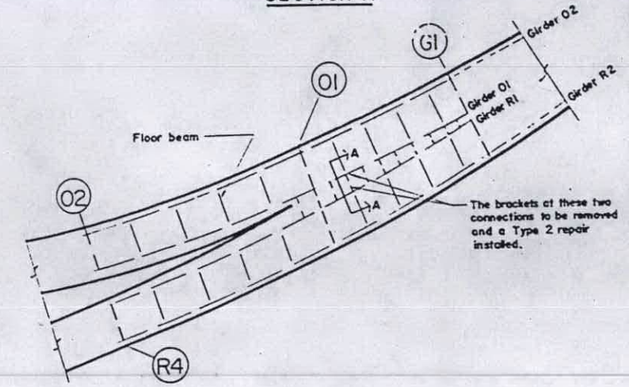
70	82-3HBR	ST. CLAIR	11	4



KEY PLAN FOR RAMPS M-T



SECTION A



PLAN

EXISTING BRACKETS AT RAMP O AND RAMP R INTERSECTION

NOTE: Brackets are to be removed at two locations (OIN int - IE and OIS int - IE) 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

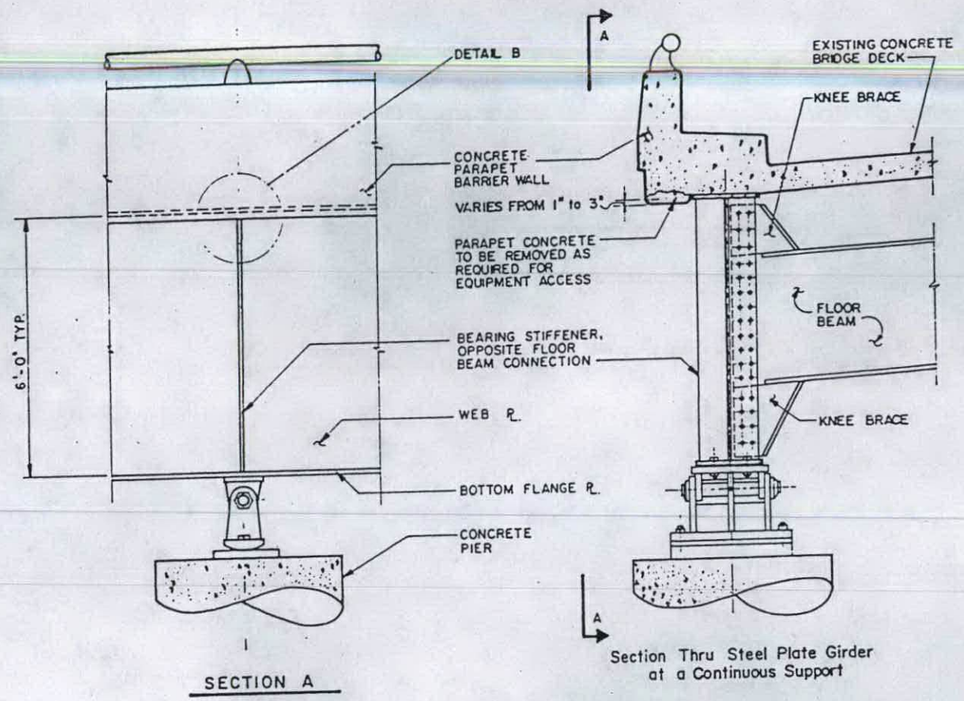
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE REPAIRS

FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

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

70	82-3HVB-3R	ST CLAIR	11	5



SECTION A

Section Thru Steel Plate Girder at a Continuous Support

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.

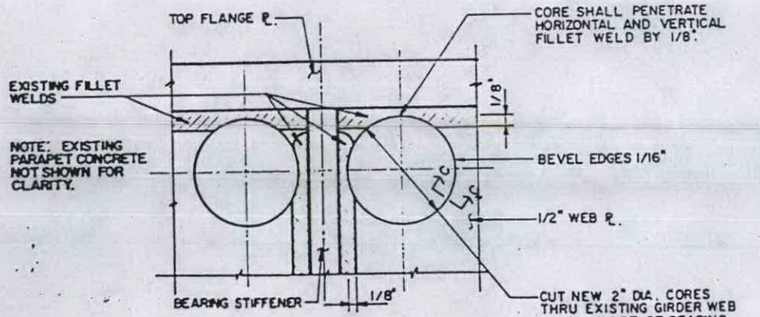
QUANTITIES

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	8

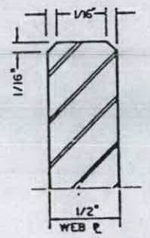
DETAILS FOR REPAIR OF GIRDER WEB CRACKING AT A FLOOR BEAM-TO-BEARING STIFFENER GIRDER CONNECTION

TYPE 1 REPAIR

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



DETAIL B



SECTION C

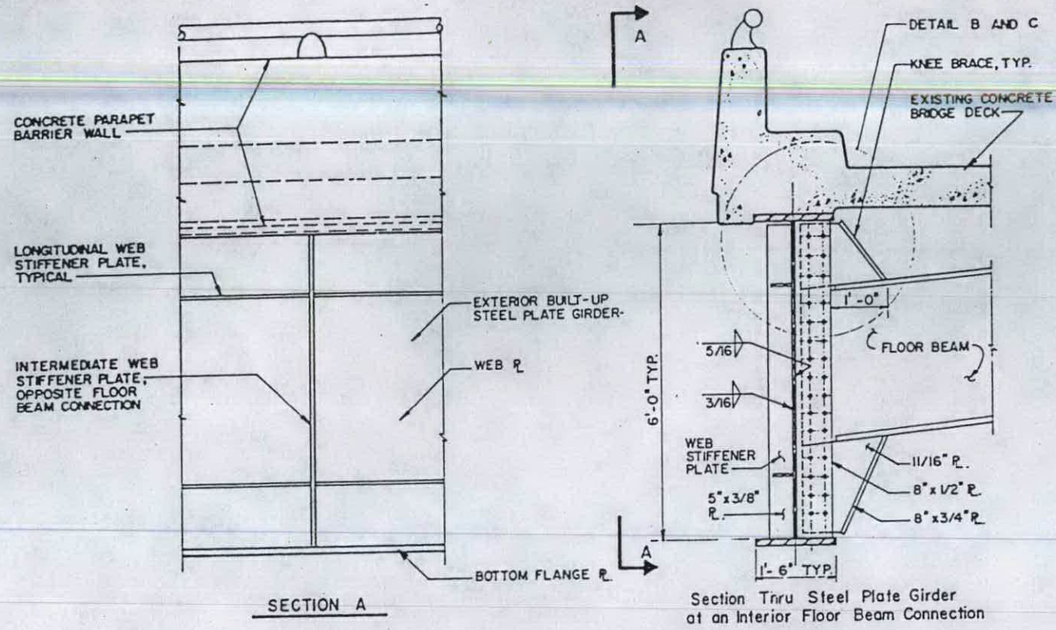
BEARING STIFFENER RETROFIT DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE REPAIRS

FAI ROUTE 70
POPLAR STREET BRIDGE APPROACHES
ST. CLAIR COUNTY

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

70	82-3M6-3R	ST. CLAIR	11	6



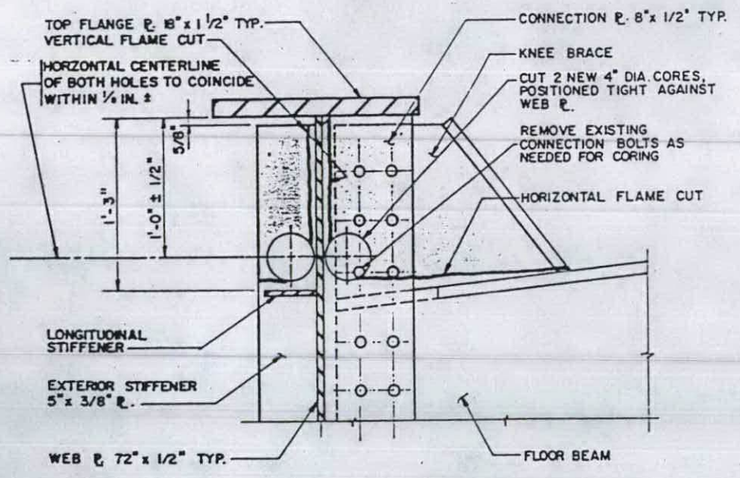
SECTION A

Section Thru Steel Plate Girder at an Interior Floor Beam Connection

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

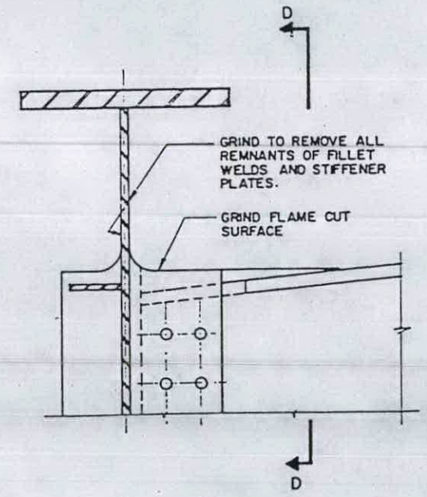
TYPE 2 REPAIR

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



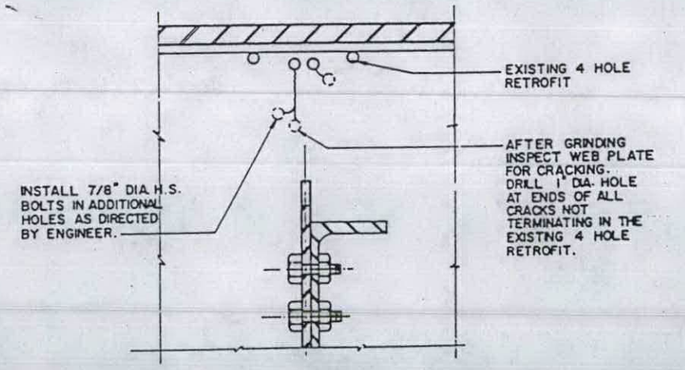
DETAIL B

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

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 (Ra) 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 (Ra) 250 or less. The final grinding shall be done parael 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-the-nut method", as specified in the AISC "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

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 — DRAWN BY : GSA
DATE 2/26/86 — CHECKED BY : TLR

F.A.I. ROUTE NO.	SEC	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	4	1
F.A.P. RTE. NO.		ILLINOIS	PROJECT IR-70-1(145)0	

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A.I. ROUTE 70

SECTION 82-3HVB-R-5

PROJECT IR-70-1(145)0

ST. CLAIR COUNTY

C-98-050-84

INDEX

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

STANDARDS:

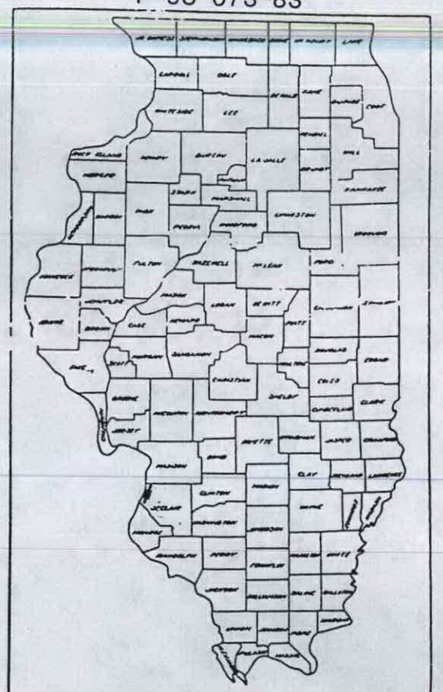
2298-7 2300-3
2299-10 2307-6

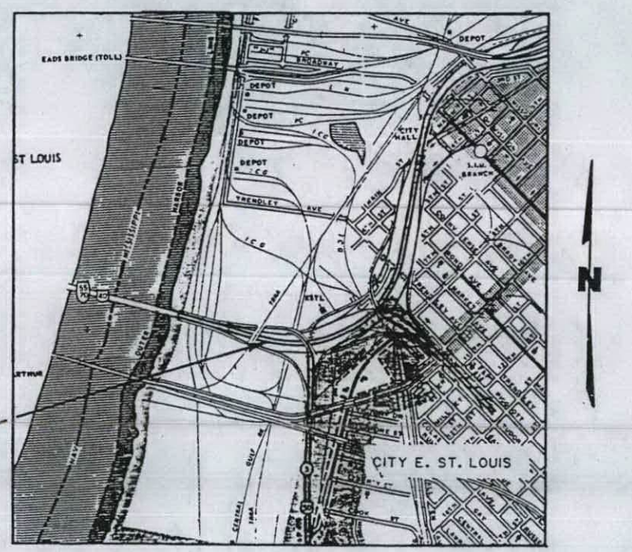
SUMMARY OF QUANTITIES

	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	HOURS	4,000

* CONSTRUCTION TYPE CODE Y007

** CONSTRUCTION TYPE CODE Y080





LOCATION MAP

0' 1200 2400

SCALE: 1"=1200FT.

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 11-27-97 Dist Engr
EXAMINED 12-20-97 Bureau of Highways
PASSED 12-30-97 Bureau of Design
APPROVED 12-30-97 Director of Highways

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____

AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

CONTRACT NO. 38649

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

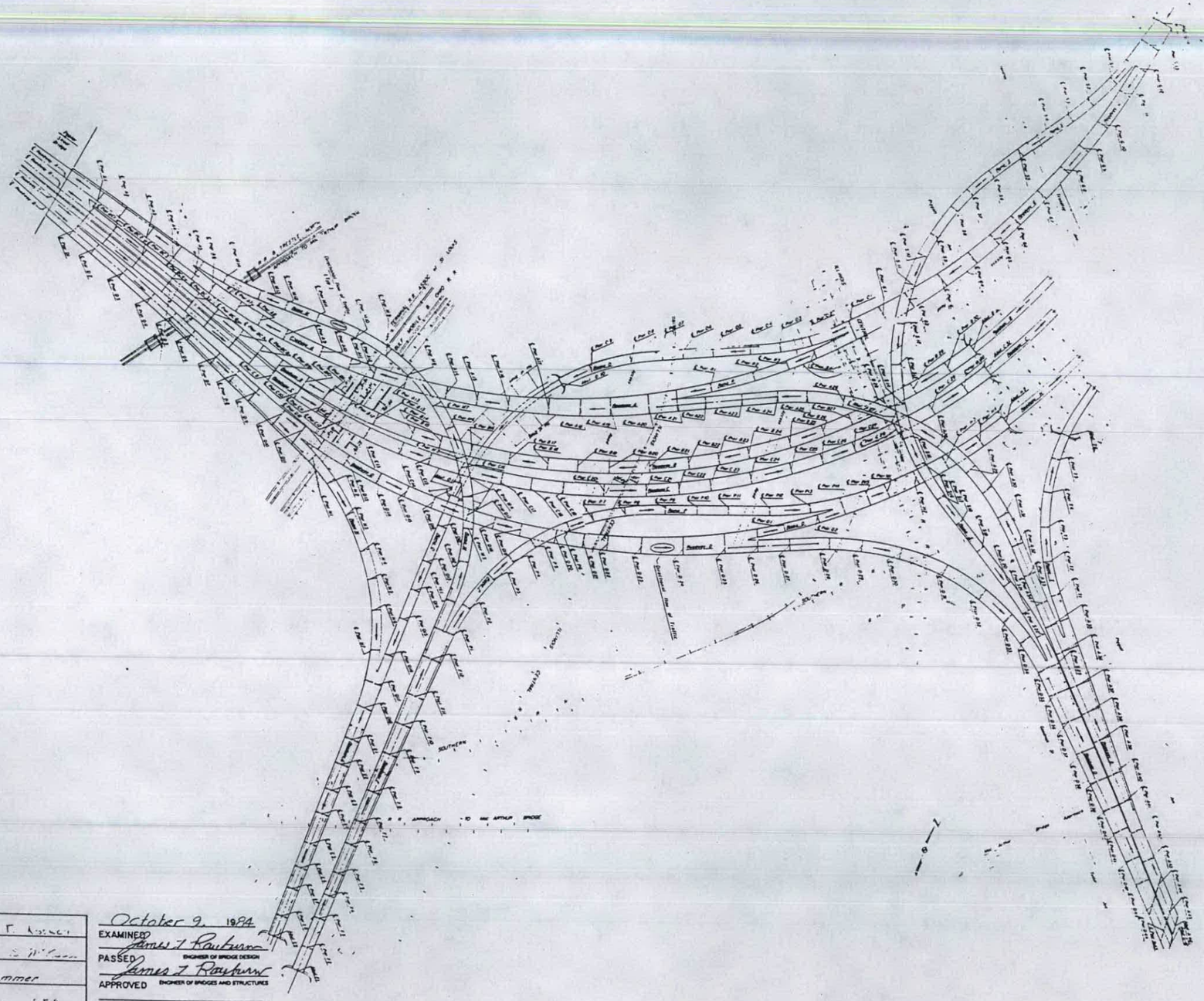
REEL 8-151

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		St. Clair	3	

FED. ROAD DIST. NO. | ILLINOIS | 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	[illegible]
CHECKED	[illegible]
DRAWN	A. Sommer
CHECKED	[illegible]

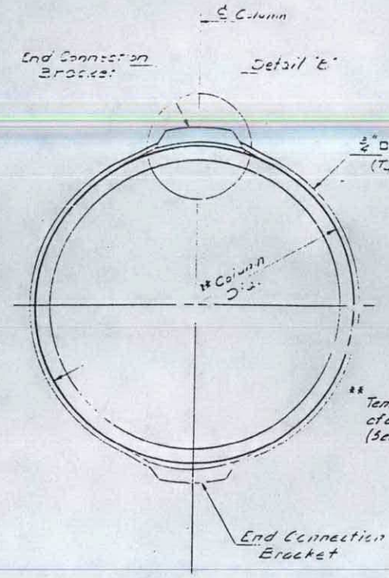
October 9, 1984
EXAMINED James T. Rayburn
ENGINEER OF BRIDGE DESIGN
PASSED James T. Rayburn
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

GENERAL PLA[illegible]
F.A.I. RT. 70 SEC. 82-3H[illegible]-R-5
ST. CLAIR COUNTY

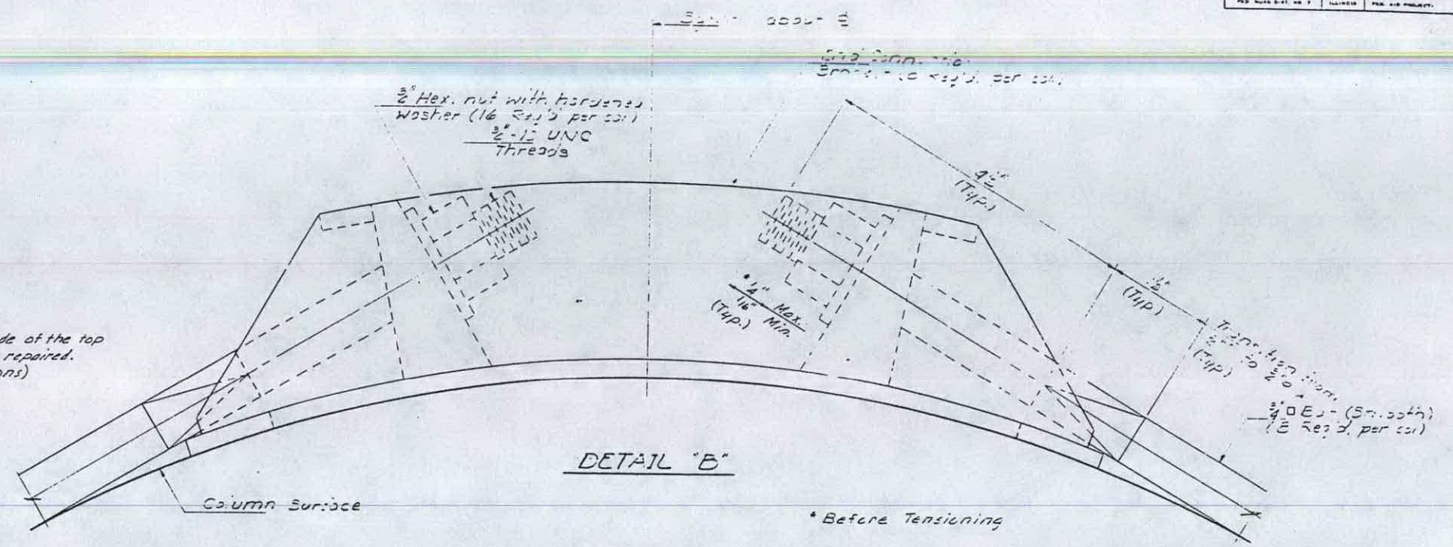
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			4	

SHEET NO. 2
3 SHEETS

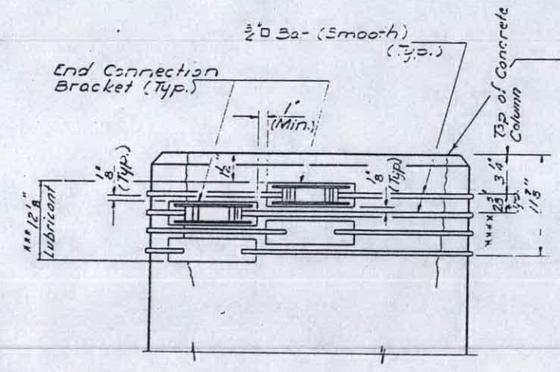


** Template shall be made of the top of each column to be repaired. (See Special Provisions)



DETAIL "B"

* Before Tensioning

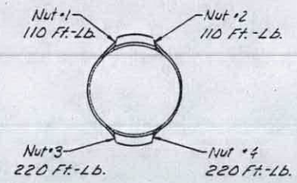


Clean and epoxy grout cracks before bar tensioning. See Special Provisions.

TOP OF PIER COLUMNS
For locations see Special Provisions

BAR TENSIONING PROCEDURE

The 3/4" □ bars shall be tensionsd 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
4'-0"	115	16	214
4'-6"	115	108	226
5'-0"	115	120	235
5'-6"	115	135	250
6'-0"	115	144	262
6'-6"	115	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.

*** A petroleum base lubricant approved by the Engineer shall cover the entire surface area between the 3/4" □ bars and the concrete surface. This shall be accomplished by placing lubricant on the concrete surface in the area shown around the entire circumference of the column.

**** The spacing of the Post Tensioning Bars shall be maintained throughout the perimeter of the columns, as shown, by using templates.

GENERAL NOTES

End Connection Bracket shall conform to the requirements of A.A.S.H.T.O. M223 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 DH.

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

DESIGNED	R. F. [illegible]
CHECKED	Rul S. McCoy
DRAWN	Colline J. SCHNELLER
CHECKED	P.S.M.E. R.F.R.

October 9 1984
EXAMINED James T. Rayburn
ENGINEER OF BRIDGE DESIGN
PASSED James T. Rayburn
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

POST-TENSIONING SYSTE
PIER COLUMNS REPAIR
F.A.I. RT. 70 SEC. 82-3HV3-R-5
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			4	4

SHEET NO. 3
3 SHEETS

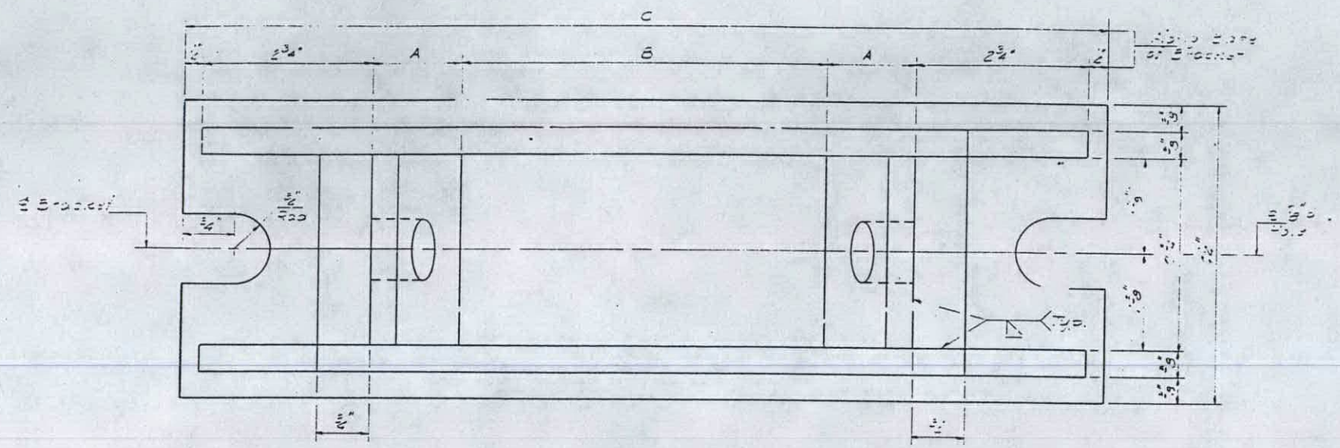
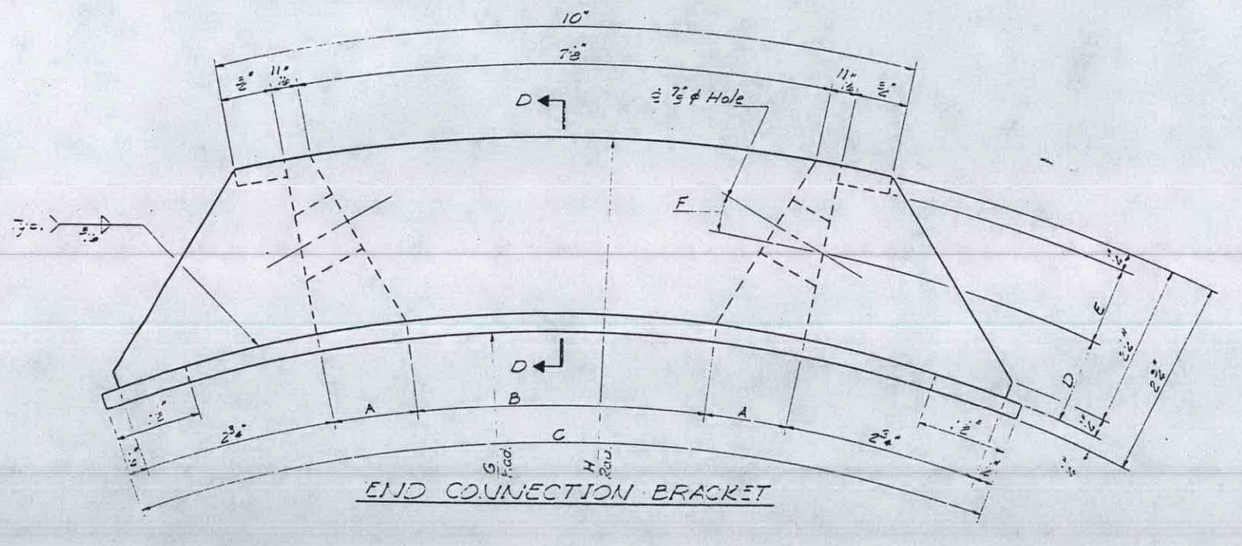
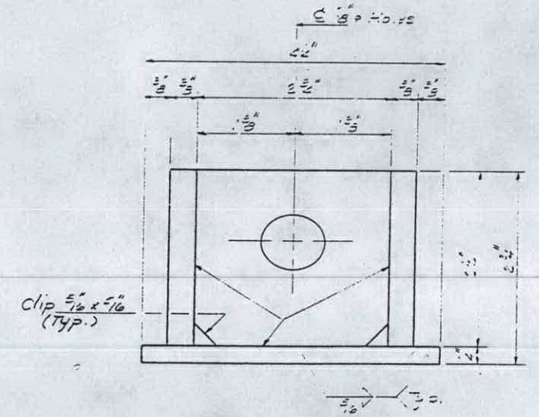


TABLE OF DIMENSIONS

COL. DIA.	A	B	C	D	E	F	G	H
4'-0"	1 7/16"	4¾"	13 5/8"	1 3/16"	1 1/16"	16°-40'-30"	24"	26¾"
4'-6"	1 3/8"	4 15/16"	13 11/16"	1 3/16"	1 1/16"	15°-50'-23"	27"	29¾"
5'-0"	1 3/8"	5"	13¾"	1 1/4"	1"	15°-28'-01"	30"	32¾"
5'-6"	1 5/16"	[illegible]	13 7/8"	1 1/4"	1"	14°-46'-31"	33"	35¾"
6'-0"	1 5/16"	5 1/4"	13 7/8"	1 1/4"	1"	14°-14'-13"	36"	38¾"
6'-6"	1 5/16"	5 5/16"	13 15/16"	1 5/16"	15/16"	13°-45'-10"	39"	41¾"
7'-0"	1 1/4"	5 1/2"	14"	1 5/16"	15/16"	13°-09'-07"	42"	44¾"



END CONNECTION BRACKET



SECTION D-D

DESIGNED	R. F. Rockey
CHECKED	Paul S. McCoy
DRAWN	Collins Sommer J. SCHNELLER
CHECKED	PSM&C RFR

October 9 1994
EXAMINED James T. Rauburn
ENGINEER OF BRIDGE DESIGN
PASSED James T. Rauburn
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

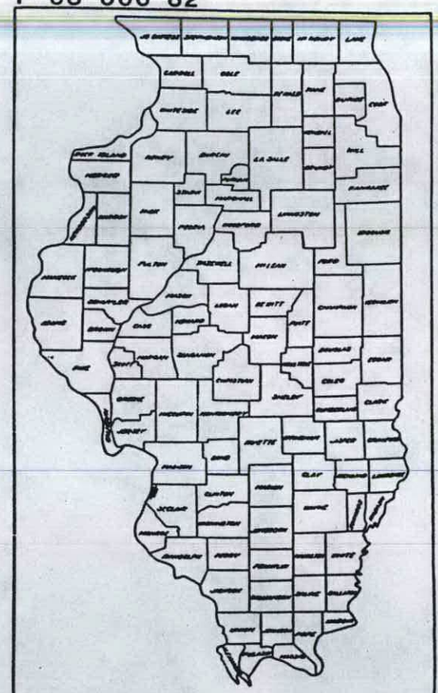
END CONNECTION BRACKET
POST-TENSIONING SYSTEM
PIER COLUMNS REPAIR
F.A.I. RT. 70 SEC. 82-3.HVB-R-5
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	St.Clair	4	1
F.H.W.A. ROD NO. 4	ILLINOIS	PROJECT		

*82-3HVB-R-4

P-98-066-82



LOCATION OF SECTION INDICATED THUS:—

INDEX

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

STANDARDS:

2298-7

2299-10

2300-3

2307-6

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

F.A.I. ROUTE 70
SECTION 82-3HVB-R-4
PROJECT IR-70-1(141)0
ST. CLAIR COUNTY

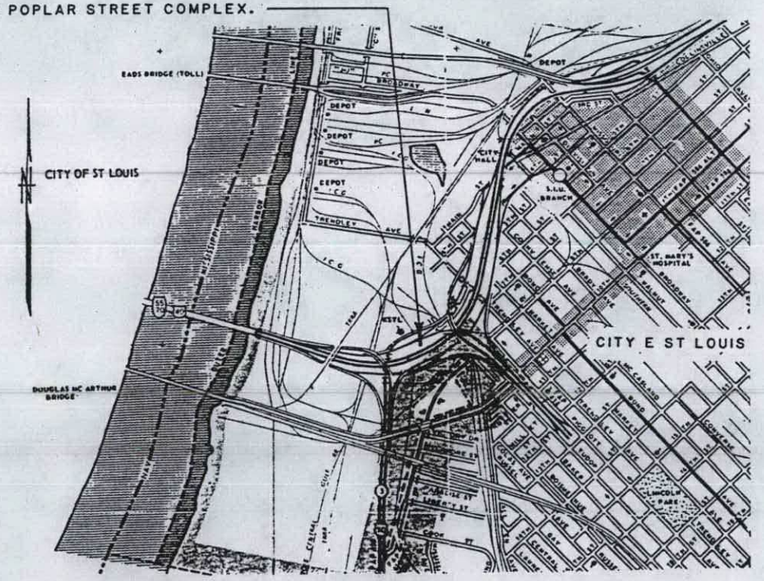
C-98-074-83

SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	QUANTITY*
X04748	MOBILIZATION	L SUM	1
X07723	PIER COLUMN REPAIR, TYPE I	EACH	80
X07724	PIER COLUMN REPAIR, TYPE II	EACH	28

* CONSTRUCTION TYPE CODE Y007

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



0 1200 2400

Scale 1" = 1200'

MICROFILMED _____

REEL NUMBER _____

AWARDED _____

RESIDENT ENGINEER _____

AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 1/24 1984 Dal L Kahl
DISTRICT ENGINEER

EXAMINED 2-3 1984 W.J. Wolan
DIVISION ENGINEER

PASSED 2-3 1984 John A. Ollie
ENGINEER OF DESIGN

APPROVED 2-13 1984 Bill Monroney
DIRECTOR OF HIGHWAYS

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

CONTRACT NO. 36877

8-147

St. Clair COUNTY SECTION 82-3HVB-R-4 F.A.I. Route 70

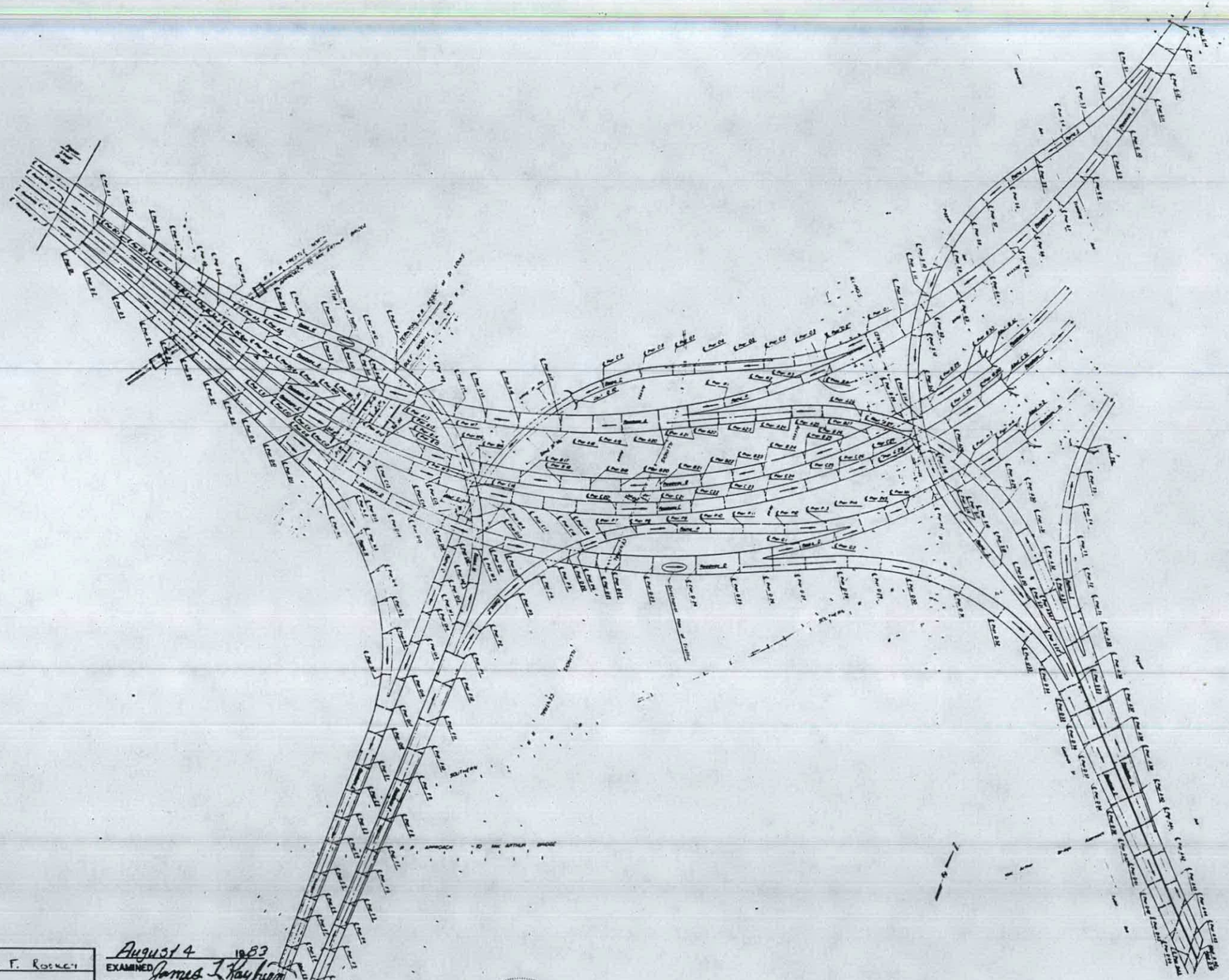
Rev. 2-9-84

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	4	2
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT-		

*82-3HVB-R-4

Sheet No. 1
3 Sheets



TOTAL BILL OF MATERIALS

ITEM	UNIT	TOTAL
* Pier Column Repair – Type I	Each	80
* Pier Column Repair – Type II	Each	28

*For pier locations see special provisions

DESIGNED	R. F. Rockey
CHECKED	[illegible] S. McCann
DRAWN	R. Sommer
CHECKED	[illegible] R.F.R.

August 4 1983
EXAMINED James T. Kayhern
PASSED [illegible] ENGINEER OF BRIDGE DESIGN
APPROVED [illegible] ENGINEER OF BRIDGES AND STRUCTURES
DIRECTOR OF HIGHWAYS

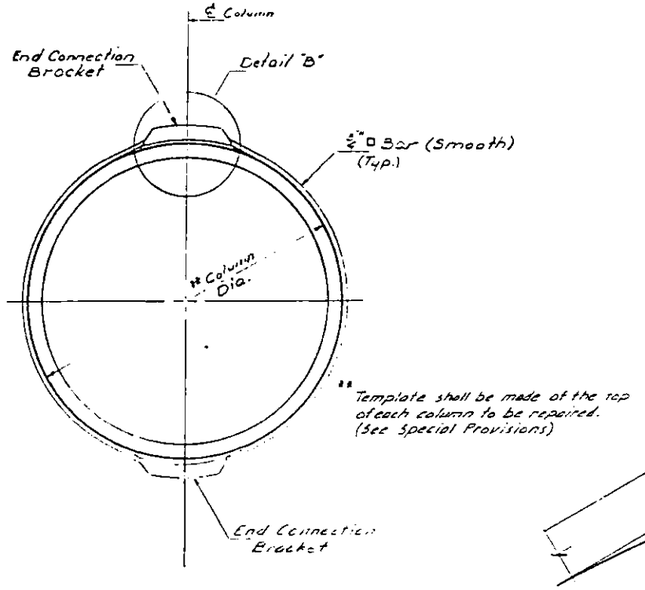
CARL E. THURMAN JR. STATE OF ILLINOIS 2287 REGISTERED STRUCTURAL ENGINEER

GENERAL PLAN
F.A.I. RT. 70 SEC. 82-3HVB-R-4
ST. CLAIR COUNTY

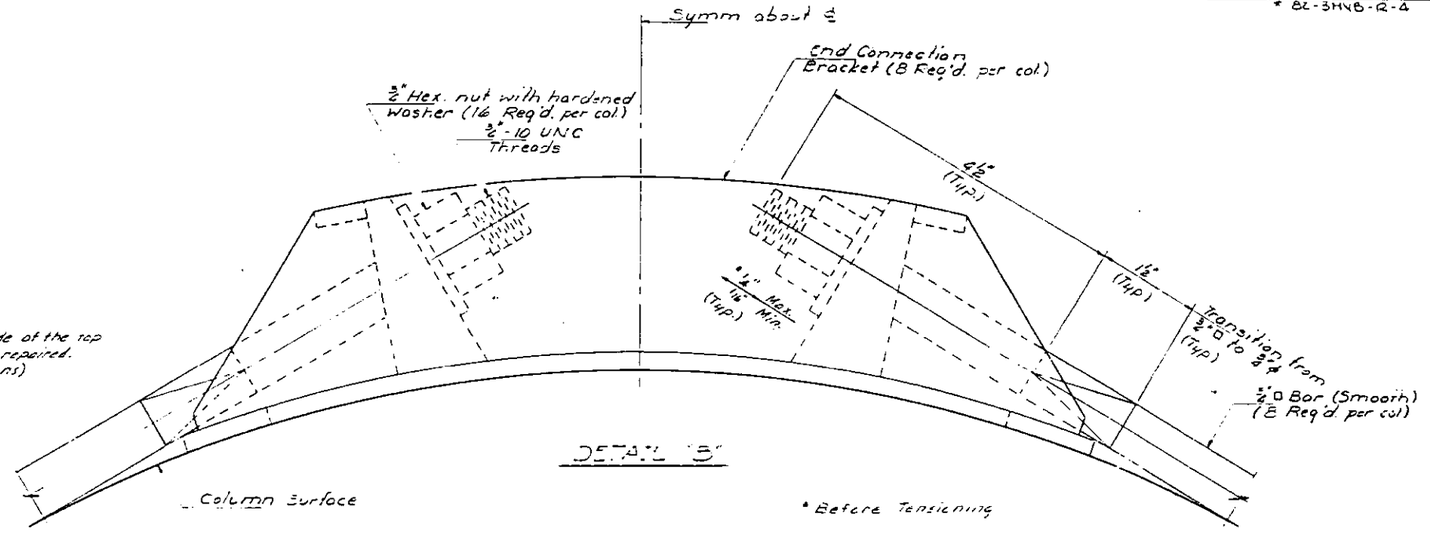
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

70	*	ST. CLAIR	4	3

SHEET NO. 2
3 SHEETS
* 82-3HVB-R-4

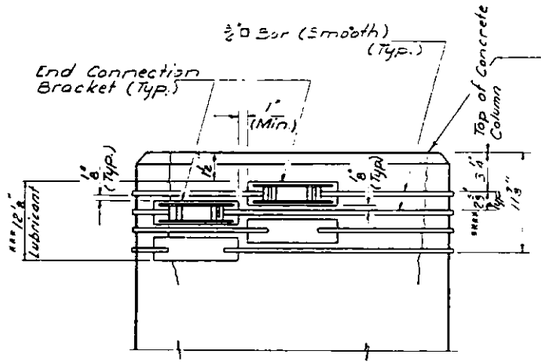


** Template shall be made of the top of each column to be repaired. (See Special Provisions)



DETAIL "B"

* Before Tensioning

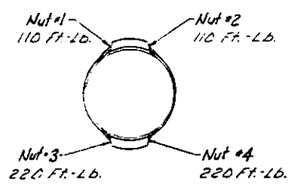


Clean and epoxy grout cracks before bar tensioning. See Special Provisions.

TOP OF PIER COLUMNS
For locations see Special Provisions

BAR TENSIONING PROCEDURE

The 3/4" ø bars shall be tensionsd 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
4'-0"	115	96	214
4'-6"	115	108	226
5'-0"	115	120	236
5'-6"	115	132	250
6'-0"	115	144	262
6'-6"	115	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.

***A petroleum base lubricant approved by the Engineer shall cover the entire surface area between the 3/4" □ bars and the concrete surface. This shall be accomplished by placing lubricant on the concrete surface in the area shown around the entire circumference of the column.

**** The spacing of the Post-Tensioning bars shall be maintained throughout the perimeter of the Columns, as shown, by using templates.

GENERAL NOTES

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

End Connection Bracket shall conform to the requirements of A.A.S.H.T.O. M223 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.

DESIGNED	R. F. Rocci
CHECKED	Rul S. McCarty
DRAWN	Colline R. Sommer / J. Schneider
CHECKED	PS MS KTR

August 4, 1983
EXAMINED James T. Rayburn
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

POST-TENSIONING SYSTEM
PIER COLUMNS REPAIR
F.A.I. RT. 70 SEC. 82-3HVB-R-4
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	4	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
3 SHEETS

* 82-3HVB-R-4

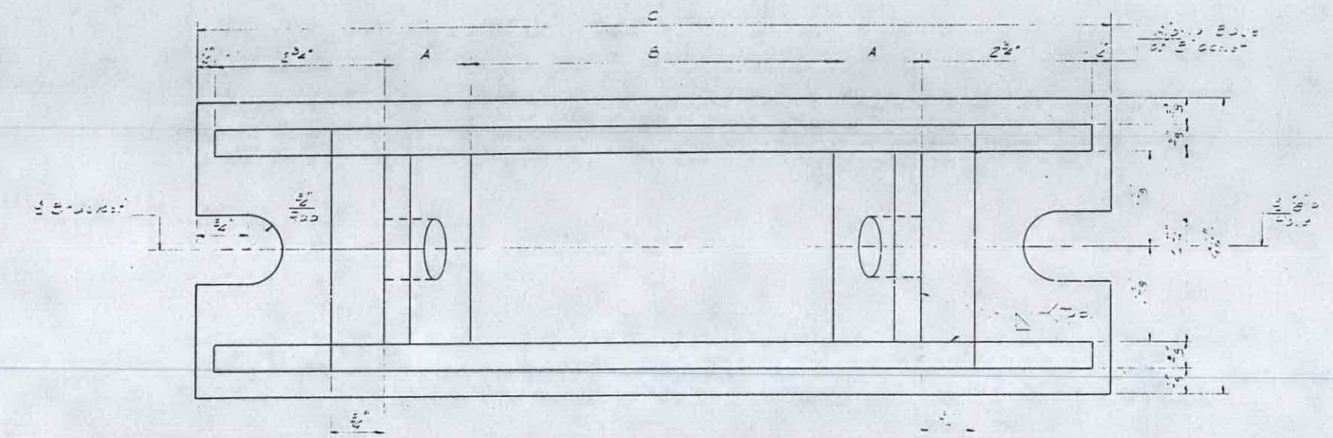
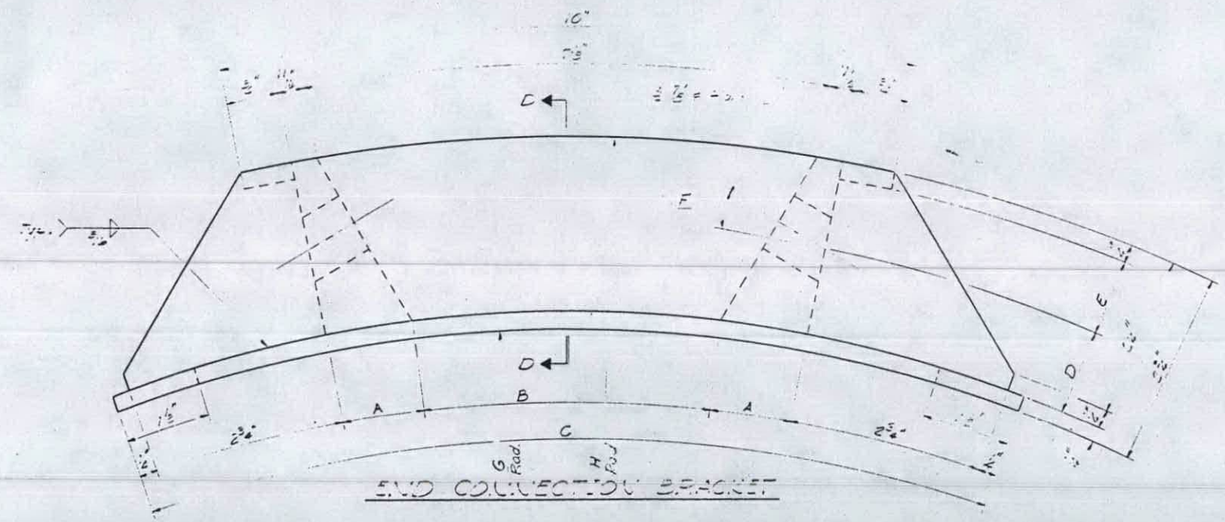
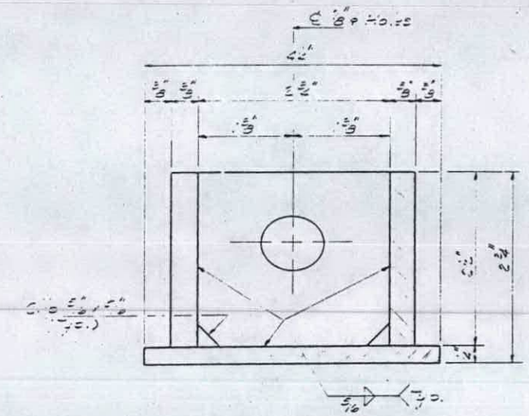


TABLE OF DIMENSIONS

COL. DIA	A	B	C	D	E	F	G	H
4'-0"	1 7/16"	4¾"	13 5/8"	1 3/16"	1 1/16"	16°-40'-30"	24"	26¾"
4'-6"	1 3/8"	4 15/16"	13 11/16"	1 3/16"	1 1/16"	15°-50'-23"	27"	29¾"
5'-0"	1 3/8"	5"	13¾"	1¼"	1"	15°-28'-01"	30"	32¾"
5'-6"	1 5/16"	5¼"	13 7/8"	1¼"	1"	14°-46'-31"	33"	35¾"
6'-0"	1 5/16"	5¼"	13 7/8"	1¼"	1"	14°-14'-13"	36"	38¾"
6'-6"	1 5/16"	5 5/16"	13 15/16"	1 5/16"	15/16"	13°-48'-10"	39"	41¾"
7'-0"	1¼"	5½"	14"	1 5/16"	15/16"	13°-09'-07"	42"	44¾"



END CONNECTION BRACKET



SECTION D-D

DESIGNED	R. F. Roller
CHECKED	Paul S. McCoy
DRAWN	Collins Sommer J. SCHNELLER
CHECKED	P.S.M.C. RFR

August 4, 1983
EXAMINED James T. Kaufman
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

END CONNECTION BRACKET
POST-TENSIONING SYSTEM
PIER COLUMNS REPAIR
F.A.I. RT. 70 SEC. 82-3HVB-R-4
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	4	1
F.A.P. & BRS NO.		ILLINOIS	PROJECT	

*82-3HVB-R-3

P -98-025-76

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

SCALE IN FEET

F.A.I. ROUTE 70

SECTION 82-3HVB-R-3

ST. CLAIR COUNTY

PIER CAP REPAIRS WITHIN POPLAR STREET COMPLEX

C-98-089-81

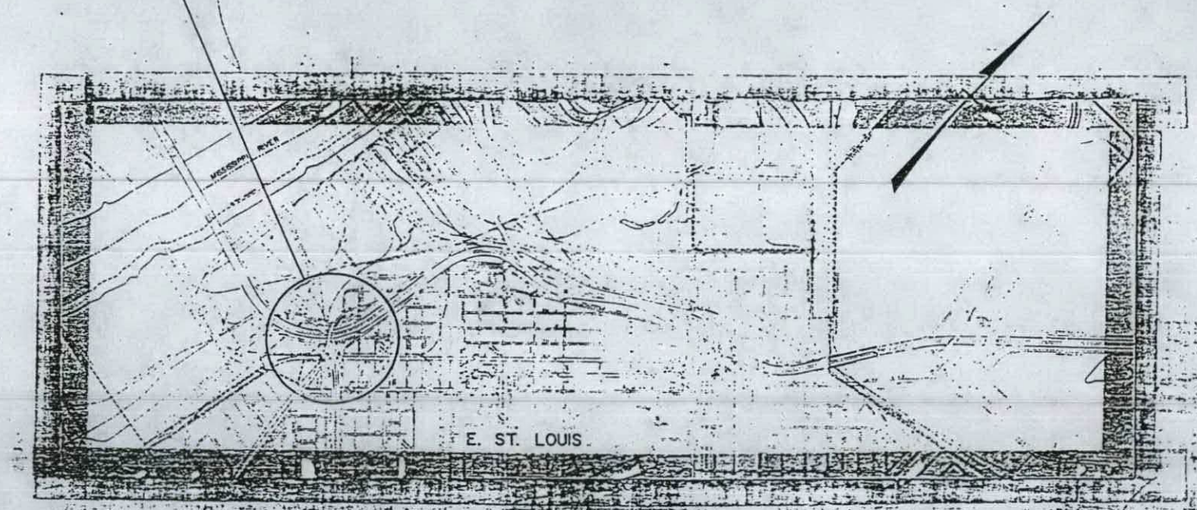
INDEX OF SHEETS

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

STANDARDS

2298-5 2314-4
2293-9 2315-5
2300-2

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



LOCATION MAP

SCALE 1 INCH = 1600 FEET



LOCATION OF SECTION INDICATED THUS:—

MICROFILMED _____
REEL NUMBER _____
AWARDED _____
RESIDENT ENGINEER _____

AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED Feb 1 82
Dist. Engr.

EXAMINED Feb 8 82
M.W.

PASSED Feb 8 82
Thos. R. Bell

APPROVED Feb 8 82
Director of Highways

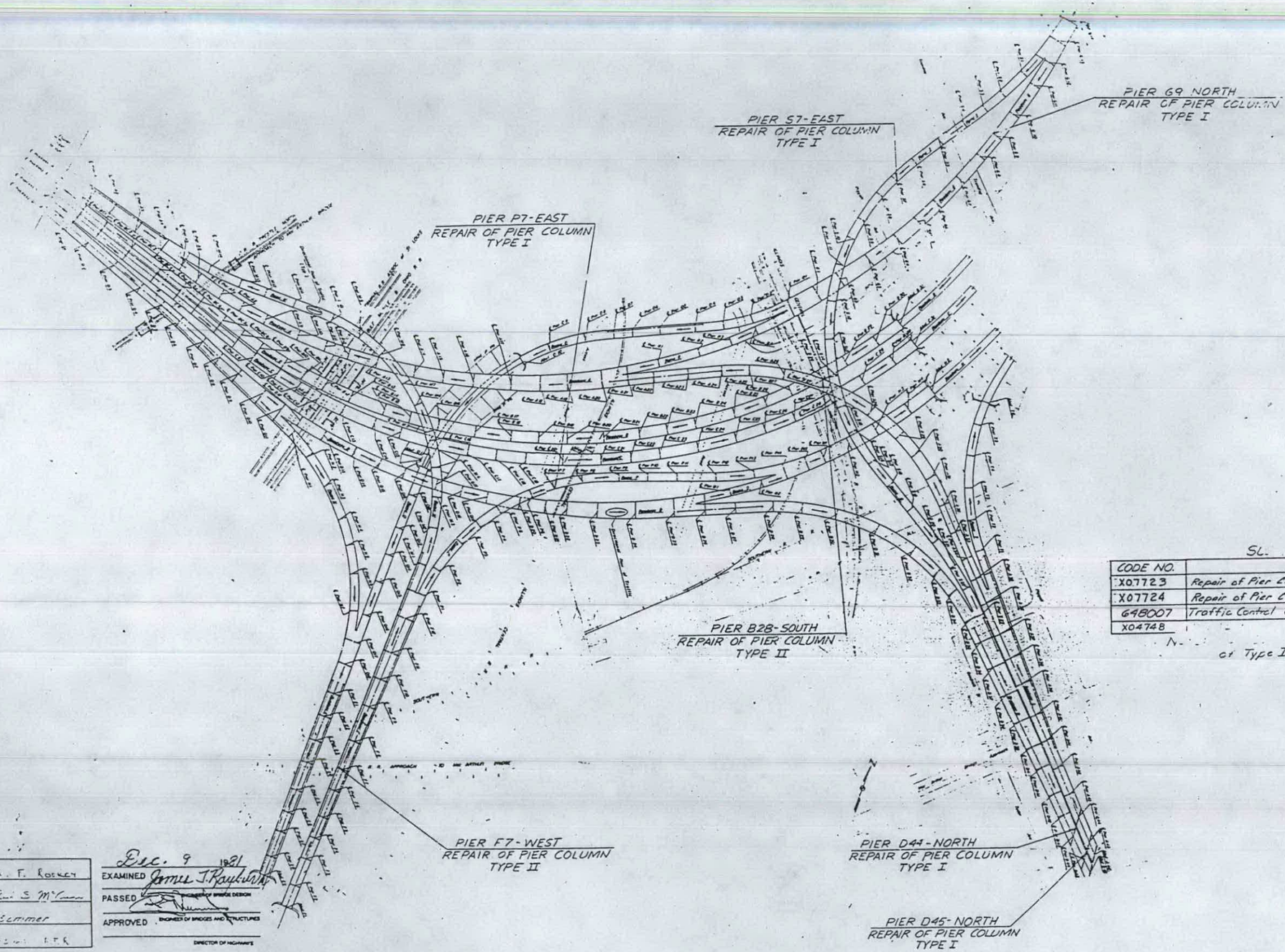
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY
APPROVED
DIVISION ENGINEER DATE

CONTRACT NO. 35391

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

REEL 8-136

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SL. Y007

CODE NO.	ITEM	UNIT
X07723	Repair of Pier Columns – Type I	Each
X07724	Repair of Pier Columns – Type II	Each
648007	Traffic Control and Protection, Standard 2315	L. Sum
X04748		L. Sum

N... ...scription
of Type I and Type II Repair.

DESIGNED	R. F. Rockey
CHECKED	Paul S. McCann
DRAWN	P. Sommer
CHECKED	[illegible]

Dec. 9 1981
EXAMINED James T. Rayburn
PASSED ENGINEER OF BRIDGE DESIGN
APPROVED ENGINEER OF BRIDGES AND STRUCTURES
DIRECTOR OF HIGHWAYS

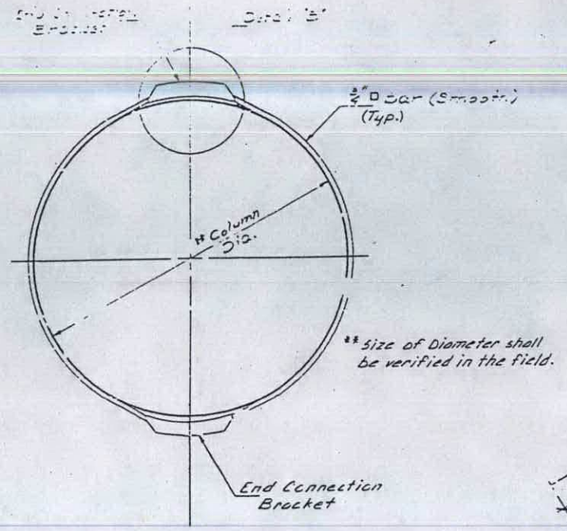
GENERAL PL-
F.A.I. RT. 70 SEC. 82-3HVB-F-
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

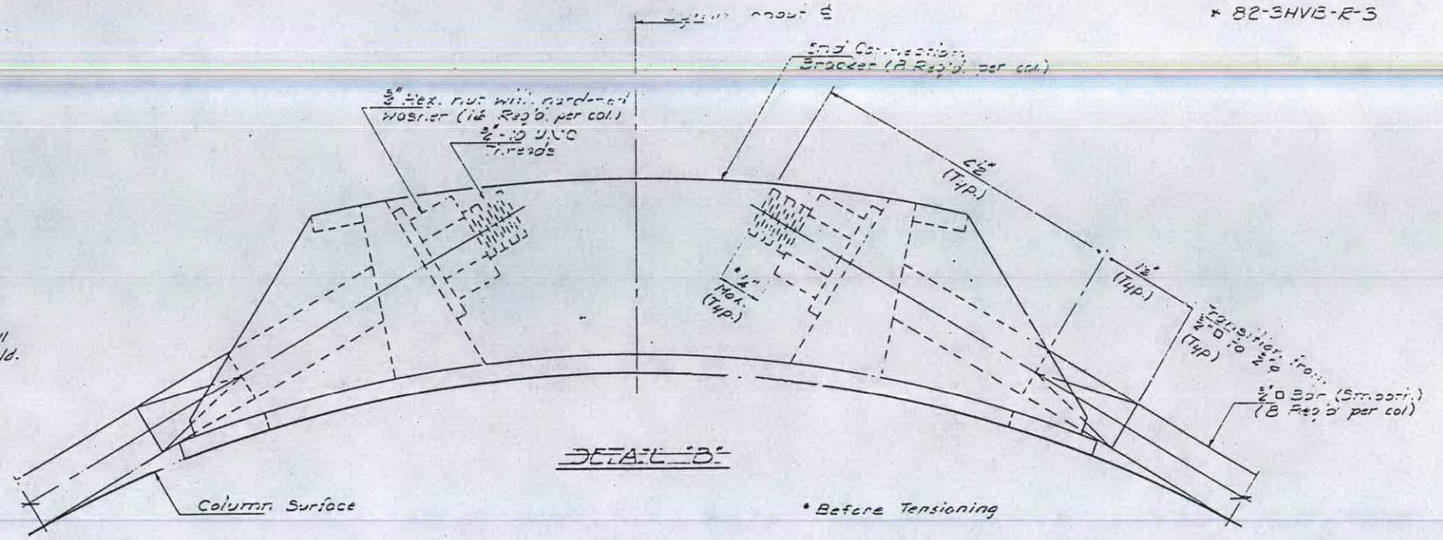
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 70	*	St Clair	4	3

SHEET NO. 2
3 SHEETS

* 82-3HVB-R-3

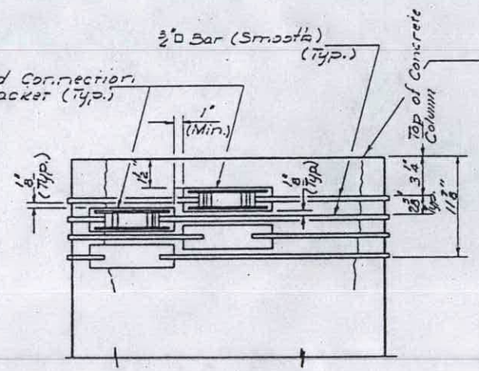


** Size of Diameter shall be verified in the field.



DETAIL "B"

* Before Tensioning

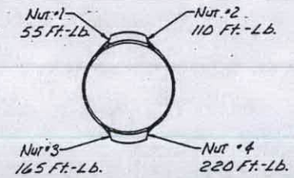


Clean and epoxy grout cracks before bar tensioning. See Special Provisions.

TOP OF PIER COLUMNS
For locations see Special Provisions

BAR TENSIONING PROCEDURE

The 3/4" □ bars shall be tensionsd 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 and the threads shall be set.

QUANTITY OF STRUCTURAL STEEL PER COLUMN IN LBS.

COL. DIA.	AASHTO M-223	AISI 4140	TOTAL
4'-0"	118	96	214
4'-6"	118	108	226
5'-0"	118	120	238
5'-6"	118	132	250
6'-0"	118	144	262
6'-6"	118	156	274
7'-0"	117	168	285

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

GENERAL NOTES

Surfaces to receive Post-Tensioning System shall be cleaned as required to eliminate projections.

End Connection Bracket shall conform to the requirements of A.A.S.H.T.O. M223 Grade 50.

The 3/4" □ bar shall conform to the requirements of AISI 4140 (Rockwell C Hardness of 25 to 30).

The 3/4" hex. nut shall conform to the requirements of A.S.T.M. A-490.

A lubricant approved by the Engineer shall be used between the 3/4" □ bars and the concrete surface.

The end connection bracket and 3/4" bar shall be galvanized after shop fabrication in accordance with A.A.S.H.T.O. M-111 and A.S.T.M. A-385.

The nuts and washers shall be galvanized in accordance with A.A.S.H.T.O. M-232.

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 will be paid for the quantity actually furnished at the unit price bid for the work.

DESIGNED	R. F. Rockey
CHECKED	R. L. S. McCoy
DRAWN	J. Schneller
CHECKED	P.S. McC. R.F.R.

Dec. 9 1981
EXAMINED James T. Rayburn
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

POST-TENSIONING SYSTEM
PIER COLUMNS REPAIR
F.A.I. RT. 70 SEC. 82-3HVB-R-3
ST. CLAIR COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	St. Clair	4	4

SHEET NO. 3
3 SHEETS

* 82-3HVB-R-3

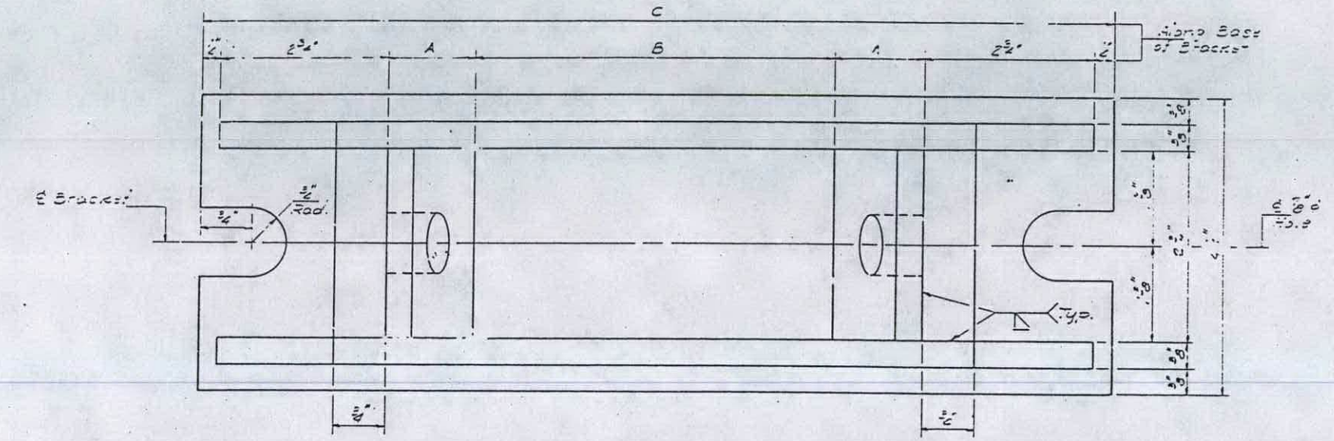
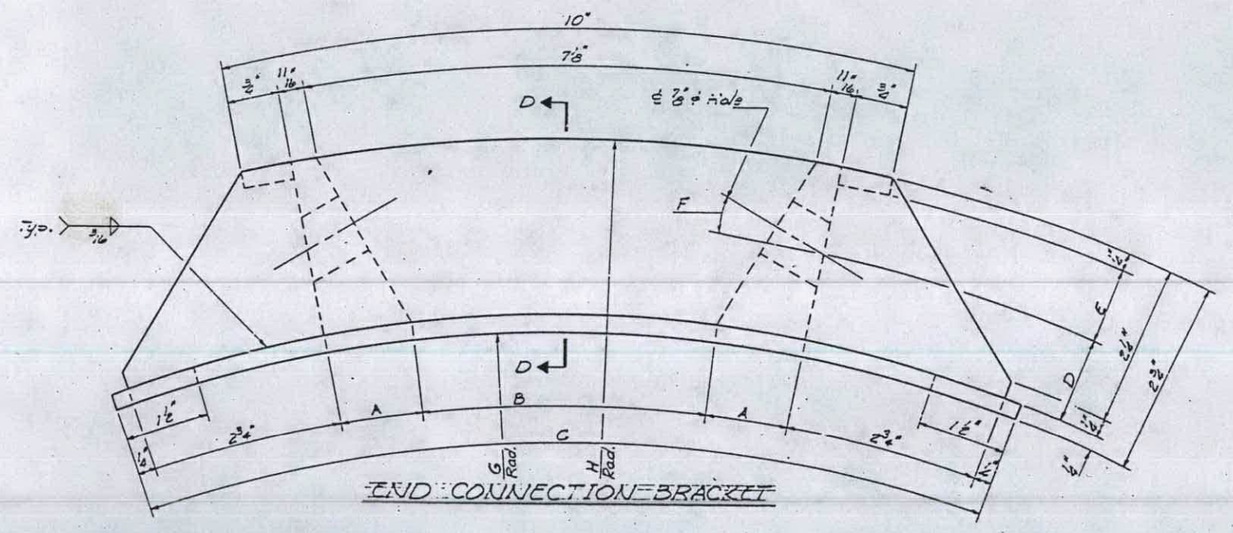
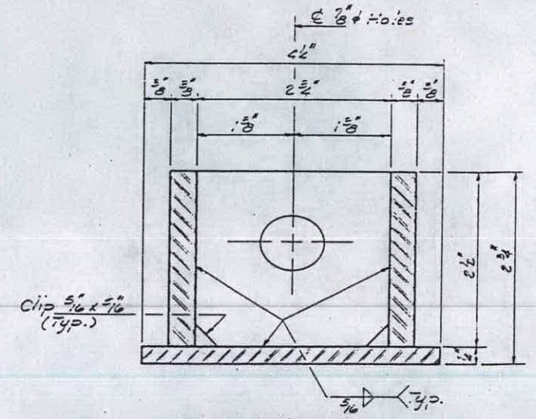


TABLE OF DIMENSIONS

COL. DIA.	A	B	C	D	E	F	G	H
4'-0"	1 7/16"	4¾"	13⅝"	1 3/16"	1 1/16"	16°-40'-30"	24"	26¾"
4'-6"	1⅜"	4 15/16"	13 11/16"	1 3/16"	1 1/16"	15°-50'-23"	27"	29¾"
5'-0"	1 7/8"	5"	13¾"	1¼"	1"	15°-28'-01"	30"	32¾"
5'-6"	1 5/16"	5¼"	13⅞"	1¼"	1"	14°-46'-31"	33"	35¾"
6'-0"	1 5/16"	5¼"	13⅞"	1¼"	1"	14°-14'-13"	36"	38¾"
6'-6"	1 5/16"	5 5/16"	13 15/16"	1 5/16"	15/16"	13°-48'-10"	39"	41¾"
7'-0"	1¼"	5½"	14"	1 5/16"	15/16"	13°-09'-07"	42"	44¾"



END CONNECTION BRACKET



SECTION D-D

DESIGNED	R. F. Rockey
CHECKED	Paul S. McCoy
	Collins Sommer
DRAWN	J. SCHNELLER
CHECKED	P.S.McC. RFR

Dec. 9 1981
EXAMINED James T. Rayburn
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

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

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)O		

P-98-087-00

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

PLANS FOR PROPOSED FEDERAL AID HIGHWAY F.A.I. ROUTE 70

SEC. 82—3HVB-2

GRADING & PAVING AND POPLAR STREET BRIDGE APPROACHES

PROJECT I-IG-70-1(79)O

ST. CLAIR COUNTY

C-98-030-65

FOR INDEX OF SHEETS, SEE SHEET NO. 3

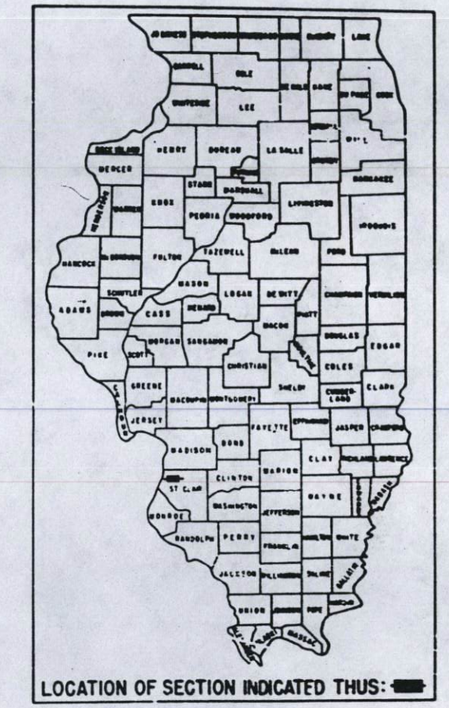
DESCRIPTION OF PROJECT:

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

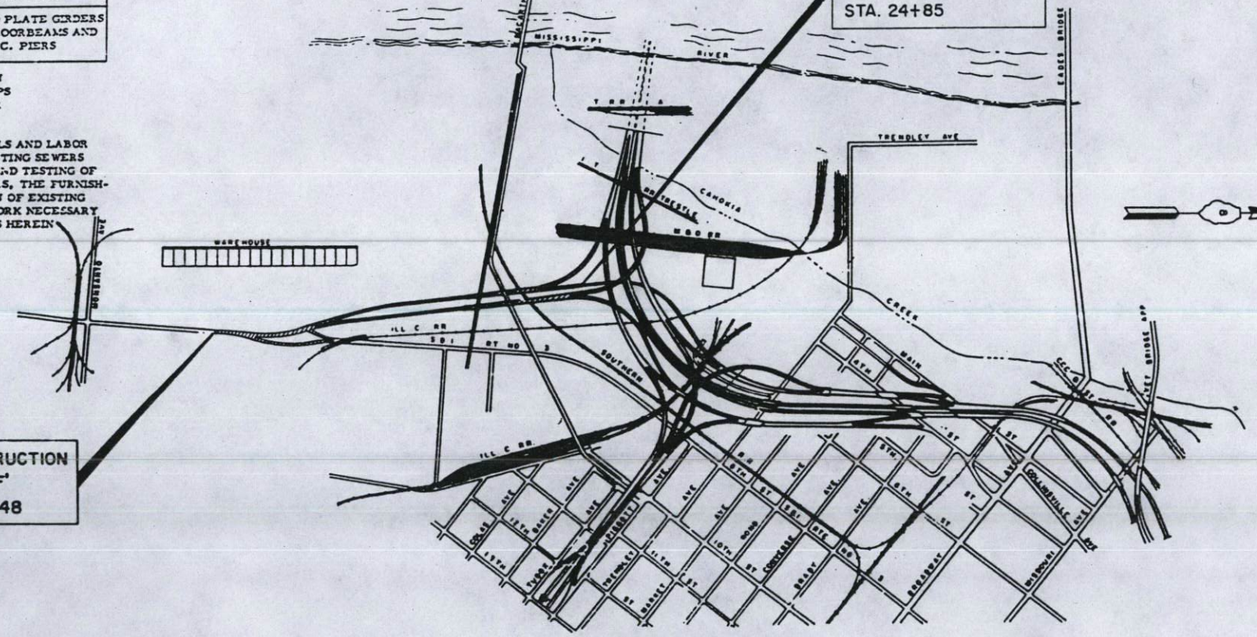
ROADWAY E	ONE-3 SPAN CONTINUOUS UNIT SPANS: 82'-105'-82'	WELDED PLATE GIRDERS WITH PLATE GIRDER FLOORBEAMS AND ROLLED STRINGERS ON R.C. PIERS
	TWO-3 SPAN CONTINUOUS UNIT SPANS: 1 @ 78'-100'-78' 1 @ 70'-89'-65'	WELDED PLATE GIRDERS WITH ROLLED FLOORBEAMS AND STRINGERS ON R.C. PIERS AND SPILL THRU ABUTMENT
	ONE-SIMPLE SPAN @ 85'	COMPOSITE WF 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 FLOOR-BEAMS 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'-93'	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

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.



LOCATION OF SECTION INDICATED THUS:



DESIGN DESIGNATION

4051(88)-A-1-13.3(PCC-20)(50MPH)

CONTRACT NO. 25919

NET LENGTH TO BE IMPROVED

3527.48 FT. (0.668 MILES)

Kevin Cotter
July 9, 1968

32, 39, 41

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS	
9-12-68	Robert E. Kruger
2-6-69	William J. Gill
2-6-69	H.C. Bowman
2-6-69	R.L. Williams
2-6-69	W.J. Miller

Ramp P (Sp. Pl-P3 only)

082-0203

DEPARTMENT OF TRANSPORTATION
BUREAU OF PUBLIC ROADS

APPROVED

DIVISION ENGINEER DATE

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

REEL 8-76

FEDERAL-AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIV. NO. 5	ILLINOIS	PROJECT		

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

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GENERAL NOTES

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

* Includes Sheets 88A and 167A

** Includes sheet 80A

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

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

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

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

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

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

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

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27	ELECTRICAL DETAILS - PANEL FOR CONTROL CENTER NO. 5
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35	ELECTRICAL DETAILS - SIGN TRUSSES
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38	SIGNING PLAN - RDWY. 'F' STA. 46+00 TO END OF PROJECT
39	SIGNING DETAILS - SPECIAL SIGNS SE-2, SE-3, SE-4, SE-5, SE-7, SE-7A, SE-8 AND SE-9
40	SIGNING DETAILS - LOCATION OF SIGNS ON TRUSS NO. 11, 12, AND 13
41	SIGNING DETAILS - SPECIAL SIGN QUANTITIES
42	SIGNING DETAILS - SIGN MOUNTING DETAILS
43	~~SIGNING DETAILS - TYPICAL DETAIL OF ROUTE MARKER ASSEMBLY DELETED~~
44	SIGNING DETAILS - GENERAL PLAN AND ELEVATION OF ALUMINUM TRUSS AND STEEL SUPPORTS
45	SIGNING DETAILS - ALUMINUM TRUSS DETAILS
46	SIGNING DETAILS - SUPPORT FRAME FOR ALUMINUM TRUSS NO. 13
47	SIGNING DETAILS - SUPPORT FRAME FOR ALUMINUM TRUSS NO. 11
48	SIGNING DETAILS - ALUMINUM WALKWAY DETAILS
49	SIGNING DETAILS - ALUMINUM WALKWAY DETAILS
50	SIGNING DETAILS - FOUNDATION DETAILS FOR TRUSS NO. 12 & NO. 13
51	SIGNING DETAILS - GENERAL PLAN AND ELEVATION OF STEEL TRUSS AND STEEL SUPPORTS
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53	SIGNING DETAILS - SUPPORT FRAME FOR STEEL TRUSS NO. 13
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GENERAL NOTES

ALL ELEVATIONS REFER TO U.S.G.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 SHOULDERS THAT IS NOT SURFACED AND ALL SLOPES 6:1 OR STEEPER WILL BE SODDED.

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.

ALL EXPOSED EXISTING PAVEMENT SHALL BE REMOVED WITHIN THE LIMITS OF RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER.

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.

TWO SIGNS (STANDARD 2153-7, 2158-5) 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
GENERAL NOTES

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

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

IG PORTION 49%
I PORTION 51%

SUMMARY OF QUANTITIES

SECTION 82-3HVB-2
PROJECT I-IG-70-1(79)0

LOCATION OF WORK (See Legend)
CONSTRUCTION TYPE CODE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	FEDERAL PARTICIPATION B X531	B Y002	B Y030	STATE WORK R T223	R Y002	R Y030	R Y031	
201001	TREE REMOVAL (6 TO 15 INCH DIAMETER)	IN. DIA.	40	40							
205001	SPECIAL EXCAVATION	CU. YD.	1,270				1,270				
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				
213012	STABILIZED SUB-BASE 4"	SQ. YD.	16,440				16,440				
301002	AGGREGATE BASE COURSE, TYPE A	CU. YD.	841				841				
301016	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				
406006	BITUMINOUS CONCRETE SURFACE COURSE, CLASS I	TON	283				283				
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.	8,622.6	8,596.5			26.1				
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			18,020				
513004	FURNISHING CREOSOTED PILES UP TO 20 FEET	LIN. FT.	240		240						
513005	FURNISHING CREOSOTED PILES 20.1 TO 30 FEET	LIN. FT.	624				624				
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							
X05729	PILE SPLICES FOR CONCRETE PILES	EACH	190	190							
514001	NAME PLATES	EACH	1	1							
X03846	WROUGHT IRON PIPE DRAIN SYSTEM	L.SUM	1	1							
607020	PIPE DRAINS, CORRUGATED STEEL 12"	LIN. FT.	178				178				
6C3127	STORM SEWERS, TYPE 1, REINFORCED 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				
645041	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 B-9.12	LIN. FT.	2,024				2,024				

SUMMARY OF QUANTITIES

SECTION 82-3HVB-2
PROJECT I-IG-70-1(79)0

LOCATION OF WORK (See Legend)
CONSTRUCTION TYPE CODE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	FEDERAL PARTICIPATION B X531	B Y002	B Y030	STATE WORK R T223	R Y002	R Y030	R Y031	
616137	CONCRETE MEDIAN, TYPE C-4	SQ. FT.	317				317				
616282	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.	9,866			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	561				561 *				
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*				
L00008	CONDUIT IN TRENCH 3" DIA. GALVANIZED STEEL	LIN. FT.	220						220		
L00053	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	LIN. FT	150			150					
L00056	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	LIN. FT.	3,786			3,786					
L00058	CONDUIT ATTACHED TO STRUCTURE, 3" DIA., GALVANIZED STEEL	LIN. FT.	20			20					
L00110	CONDUIT IN CONCRETE, 1" DIA., GALVANIZED STEEL	LIN. FT.	90			90					
L05414	POLE, METAL, ANCHOR BASE, 45 FT. MH, 4 FT. MAST ARM	EACH	15			15					
L05415	POLE, METAL, TRANSFORMER BASE, 45 FT. MH, 15 FT. MAST ARM	EACH	19						19		
L05416	POLE, METAL, TRANSFORMER BASE, 45FT. MH, 10FT. MAST ARM	EACH	3						3		
106174	ELECTRIC CONDUCTOR IN CONDUIT (BARE ANNEALED COPPER) NO.6	LIN. FT.	3,983			3,939			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

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. 1+13.22

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+46.04

B = BRIDGE

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+19.88

Ramp 'O'
Sta. 21+85 to Sta. 17+19.88

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

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

* CONSTRUCTION TYPE CODE Y005
** CONSTRUCTION TYPE CODE CE58
*** SPECIALTY ITEMS

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

SUMMARY OF QUANTITIES

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

Revised Typed Quantity Engineer's Estimate
Revised Typed Quantities 6-26-72

FEDERAL-AID ROUTE No.	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F.A.I.-70	82-3HVB-2	ST. CLAIR	252	5
FED. ROAD DIV. No. 4	ILLINOIS	PROJECT		

IG PORTION 49 %

I PORTION 51 %

SECTION 82-3HVB-2
PROJECT I-IG-70-1(79)0

SUMMARY OF QUANTITIES

LOCATION OF WORK (See Legend)
CONSTRUCTION TYPE CODE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	FEDERAL PARTICIPATION B X531	B Y002	B Y030	STATE WORK R 7223	R Y002	R Y030	R Y031
				QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
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)	LUMPSUM	1						1	
L04300	TRENCH AND BACKFILL	LIN. FT.	5,427						5,027	
106163	ELECTRIC CONDUCTOR 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			1,220	
L05066	SYSTEMS GROUNDING	LUMPSUM	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
S16004	TRAFFIC CONTROL SIGNAL POST 10 FT.	EACH	6							1
S11001	CONTROLLER PEDESTAL 3 - 1/2 FT.	EACH	1							
S06004	SIGNAL HEAD, TRAFFIC CONTROL, 1-FACE, 3-SECTION WITH 12 INCH RED LENS	EACH	3							3
S06034	SIGNAL HEAD, TRAFFIC CONTROL, 2 FACE, 3-SECTION WITH 12 INCH RED LENSES	EACH	3							3
S14005	WOOD POLE 25 FT., CLASS 4	EACH	1							1
S33001	SERVICE INSTALLATION, TYPE A	EACH	3							3
S34001	CONCRETE FOUNDATION TYPE A	EACH	6							6
S35007	HANDHOLE, SPECIAL	EACH	1							1
S37001	TRENCH AND BACKFILL	LIN. FT.	2072							2072
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 RAILING	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							

SECTION 82-3HVB-2
PROJECT I-IG-70-1(79)0

SUMMARY OF QUANTITIES

LOCATION OF WORK (See Legend)
CONSTRUCTION TYPE CODE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	FEDERAL PARTICIPATION B X531	B Y002	B Y030	STATE WORK R 7223	R Y002	R Y030	R Y031
				QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
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	BORDER 2"	LIN. FT.	406.5		235.7				170.8	
Z20254	BORDER 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				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							
Z20643	STANDARD SIGNS M4-1-2115	EACH	1		1					
Z20646	STANDARD SIGNS M4-1B-2115	EACH	1		1					
Z20707	STANDARD SIGNS M6-1-Z19	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

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+13.22

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+46.04

B = BRIDGE

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+39.88

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

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

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

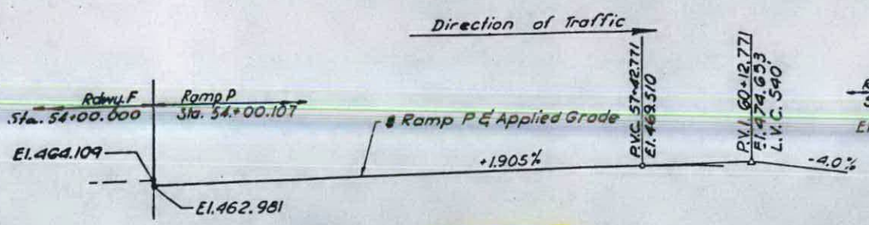
* CONSTRUCTION TYPE CODE Y005
** CONSTRUCTION TYPE CODE C758
*** SPECIAL ITEM

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

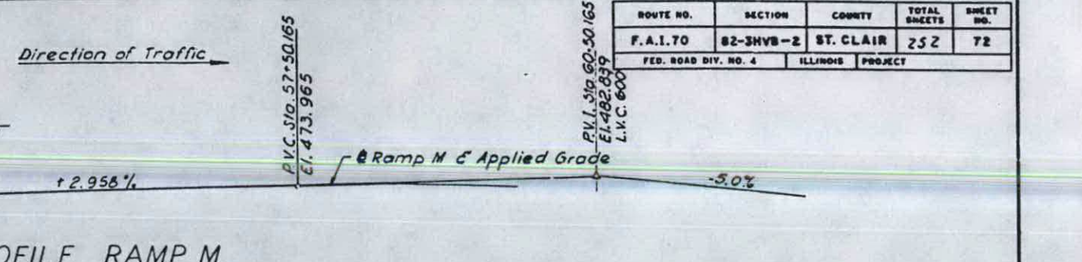
SUMMARY OF QUANTITIES

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

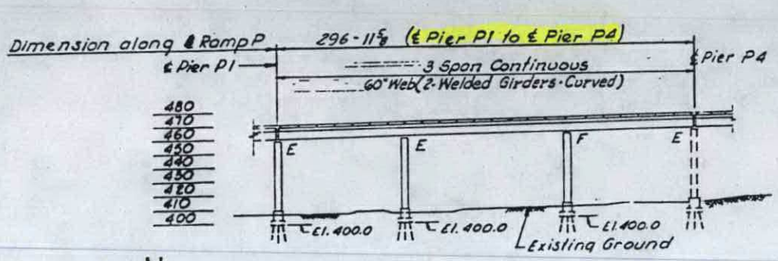
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HVB-2	ST. CLAIR	252	72
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



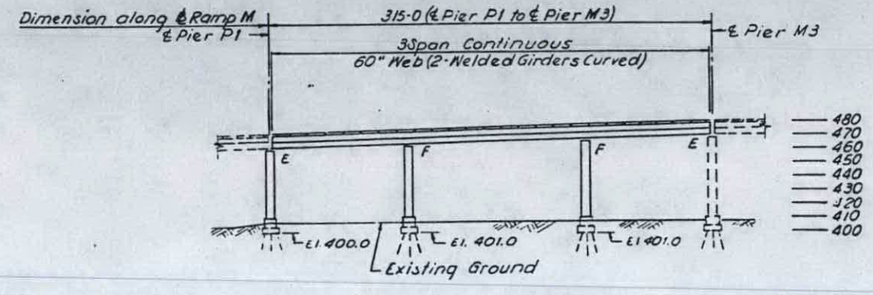
PROFILE RAMP P



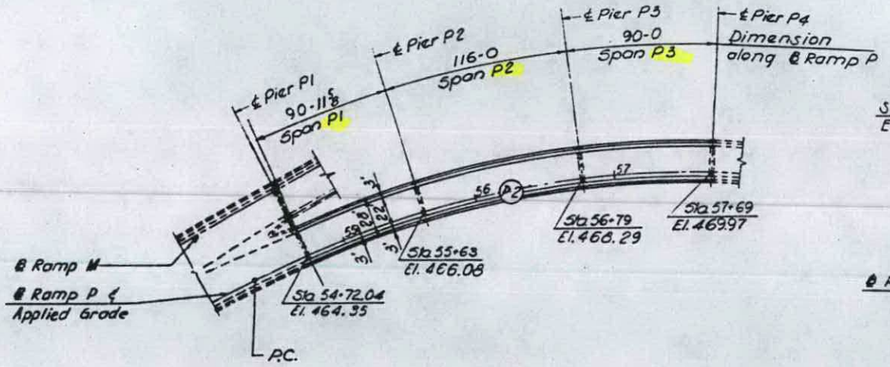
PROFILE RAMP M



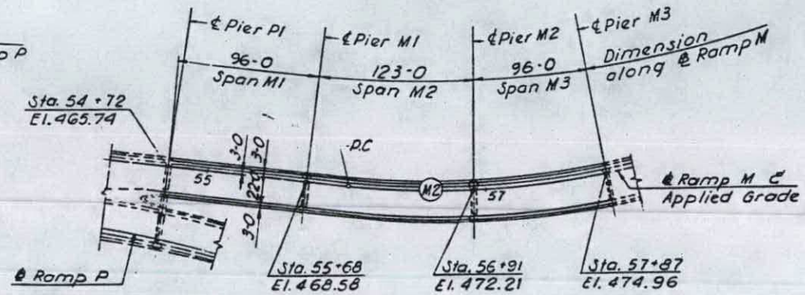
ELEVATION



ELEVATION



PLAN



PLAN

Notes:
For Curve Data see Sh. 14
Piers M3 & P4 by others.

DESIGNED BY J.J.N.
DRAWN BY I.A.M.
CHECKED BY E.H.

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

PLAN AND ELEVATION

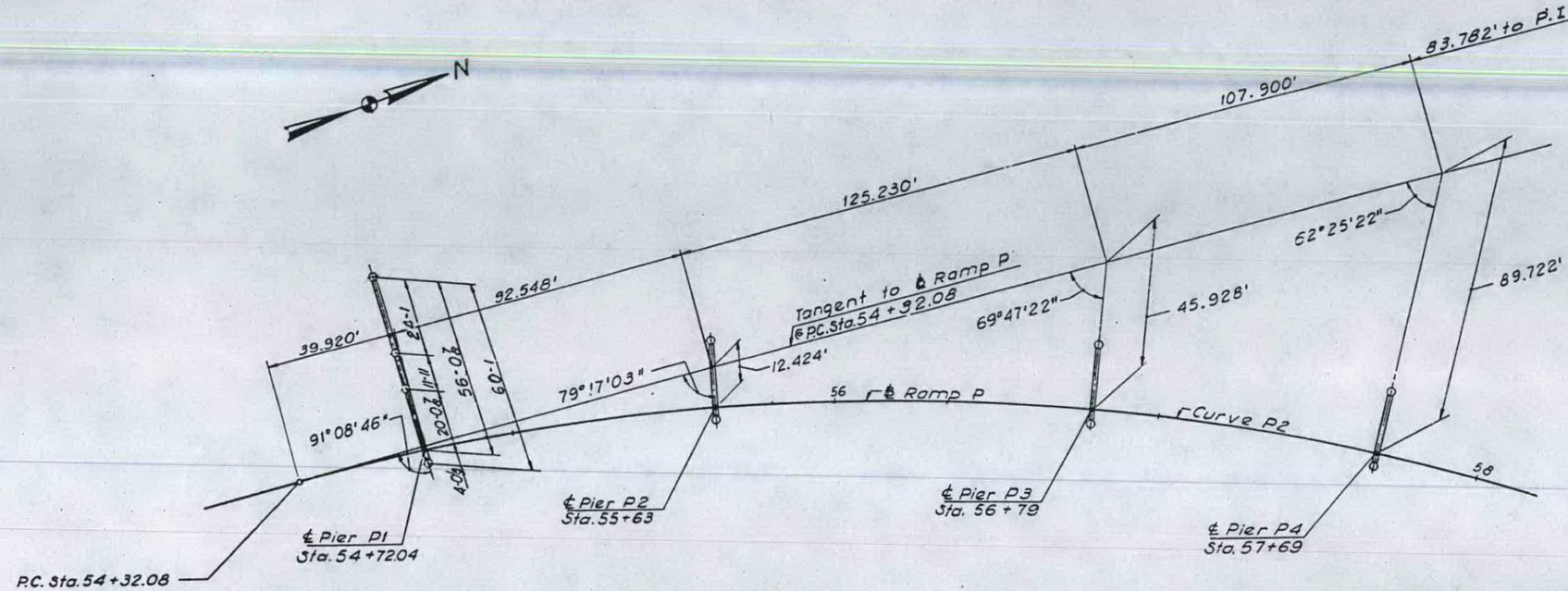
SPANS M1 THRU M3 AND P1 THRU P3
POPLAR STREET BRIDGE APPROACHES
RAMP "M" AND "P"

F.A.I. RT 70 ST. CLAIR CO. SECTION 82-3HVB-2

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

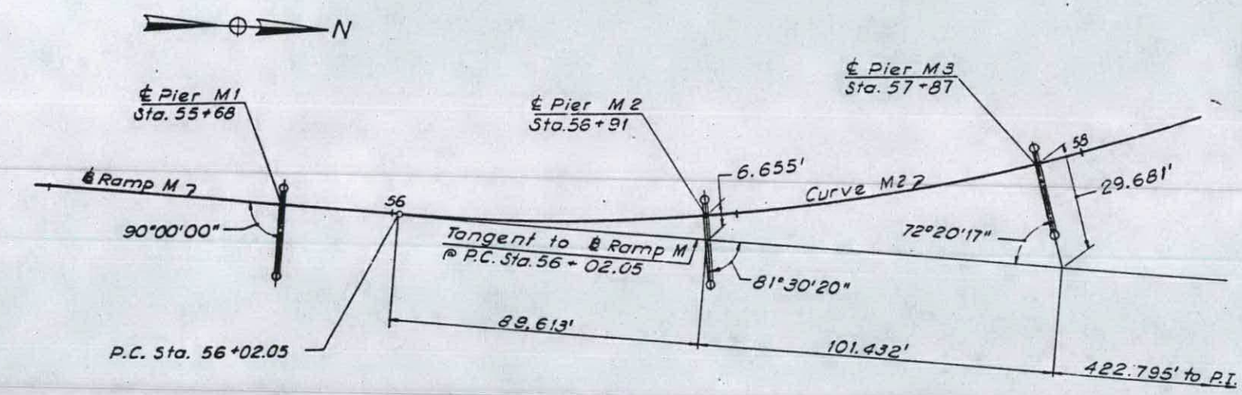
SHEET 6 OF 147

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.–70	82–3HVB–2	ST. CLAIR	252	76
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



Curve P 2

P.I. - 58 +81.46
Δ - 65°23'55"
D - 8°11'06"
R - 700.00'
L - 799.99'
T - 449.38'
E - 131.83'
S - 6%



Curve M 2

P. I. - 62 + 15.89
Δ - 91°18'24"
D - 9°32'57"
R - 600.00
L - 956.16'
T - 613.84
E - 258.37'
S - 8%

Pier No.	℄ Ramp P			Azimuth	Right Col. Offset	Left Col. Offset
	Sta.	N. Coordinate	E. Coordinate			
P 1	54+ 72.04	8427.902	32307.601	93° 27'00"	4 -0⅛	56-0⅛
P 2	55+63	8516.941	32325.861	105° 18'44"	4 -0	20-0
P 3	56+79	8625.779	32365.603	114° 48'24"	4 -0	20-0
P 4	57+69	8704.826	32408.504	122° 10'24"	4 -0	20-0

Pier No.	℄ Ramp M			Azimuth	Right Col. Offset	Left Col. Offset
	Sta.	N. Coordinate	E. Coordinate			
M 1	55 + 68	8526.955	32259.528	92° 18'14"	20 - 0	4 -0
M 2	56 + 91	8649.795	32257.883	83° 48'34	20 - 0	4 -0
M 3	57 + 87	8744.002	32239.955	74° 38'31"	20 - 0	4 -0

DESIGNED BY J.J.N.
DRAWN BY I.M.
CHECKED BY S.A.

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

GEOMETRIC LAYOUT

PIER P1 TO P4 AND PIER M1 TO M3

POPLAR STREET BRIDGE APPROACHES

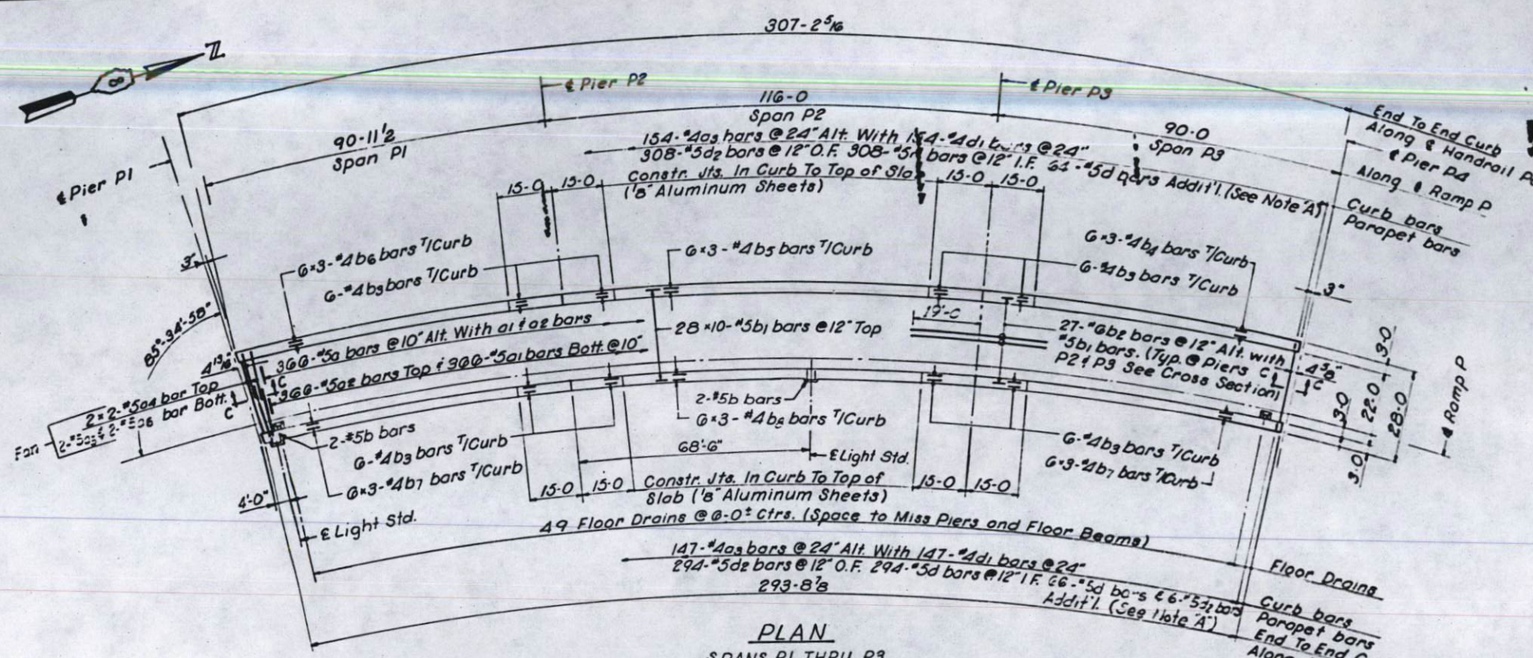
RAMP "P" AND "M"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2

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

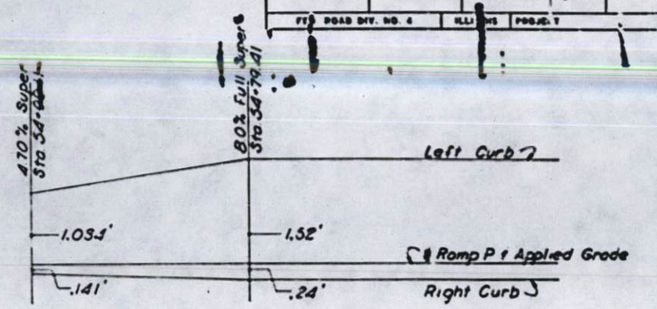
SHEET 10 OF 147

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I—70	82-3HVB-2	ST. CLAIR	252	92
FED. ROAD DIV. NO. 6	ILLINOIS	PROJ. ?		



PLAN

SPANS P1 THRU P3



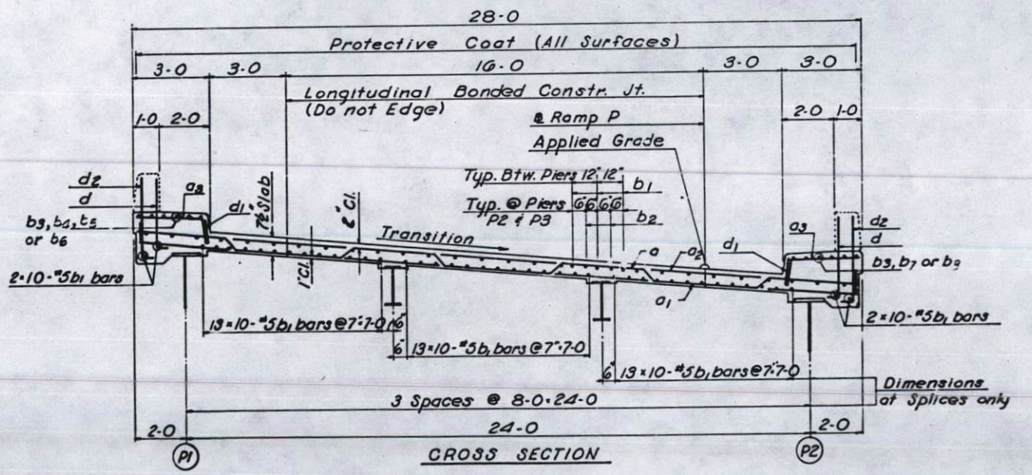
RAMP P CROSS SLOPE TRANSITION

BILL OF MATERIAL

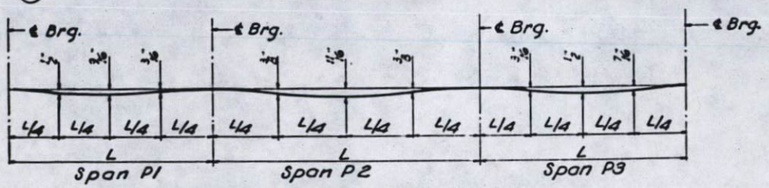
● Bar	No.	Size	Length	Shape
26 a	360	#5	28-5	
26 a1	360	#5	29-5	
26 a2	306	#5	27-5	
26 a3	301	#4	9-9	
26 a4	4	#5	14-7	
26 a5	2	#5	10-7	
26 a6	2	#5	18-7	
26 b	4	#5	3-8	
26 b1	710	#5	31-0	
26 b2	34	#6	38-0	
26 b3	48	#4	14-5	
26 b4	15	#4	26-5	
26 b5	15	#4	90-5	
26 b6	15	#4	27-9	
26 b7	36	#3	25-6	
26 d	736	#5	9-9	
26 d1	901	#4	1-1	
26 d2	608	#5	5-6	
26 d3	13	#4	29-3	

● See Note 'X' Sh. No. 13

ITEM	UNIT	TOTAL
Class 'X' Concrete	Cu. Yds.	264.6
Reinforcement Bars	Lbs.	61170
Protective Coat	Sq. Yds.	1076

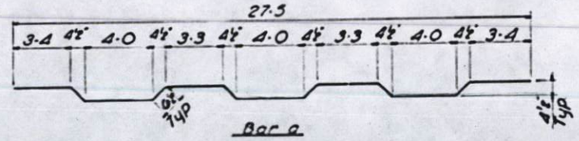


CROSS SECTION

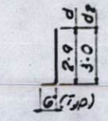


DEAD LOAD DEFLECTION DIAGRAM

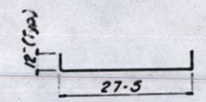
Fascia Girders, (Wt. of Concrete only)



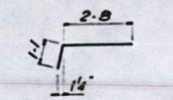
Bar a



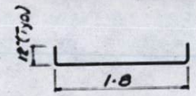
Bars d1 d2



Bar a1



Bar a3



Bar b

Notes:

For Note 'A' & Misc. Details See Sheet No. 13

For Section C-C See Sheet No. 103 & 103

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

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

SLAB
SPANS P1 THRU P3
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2

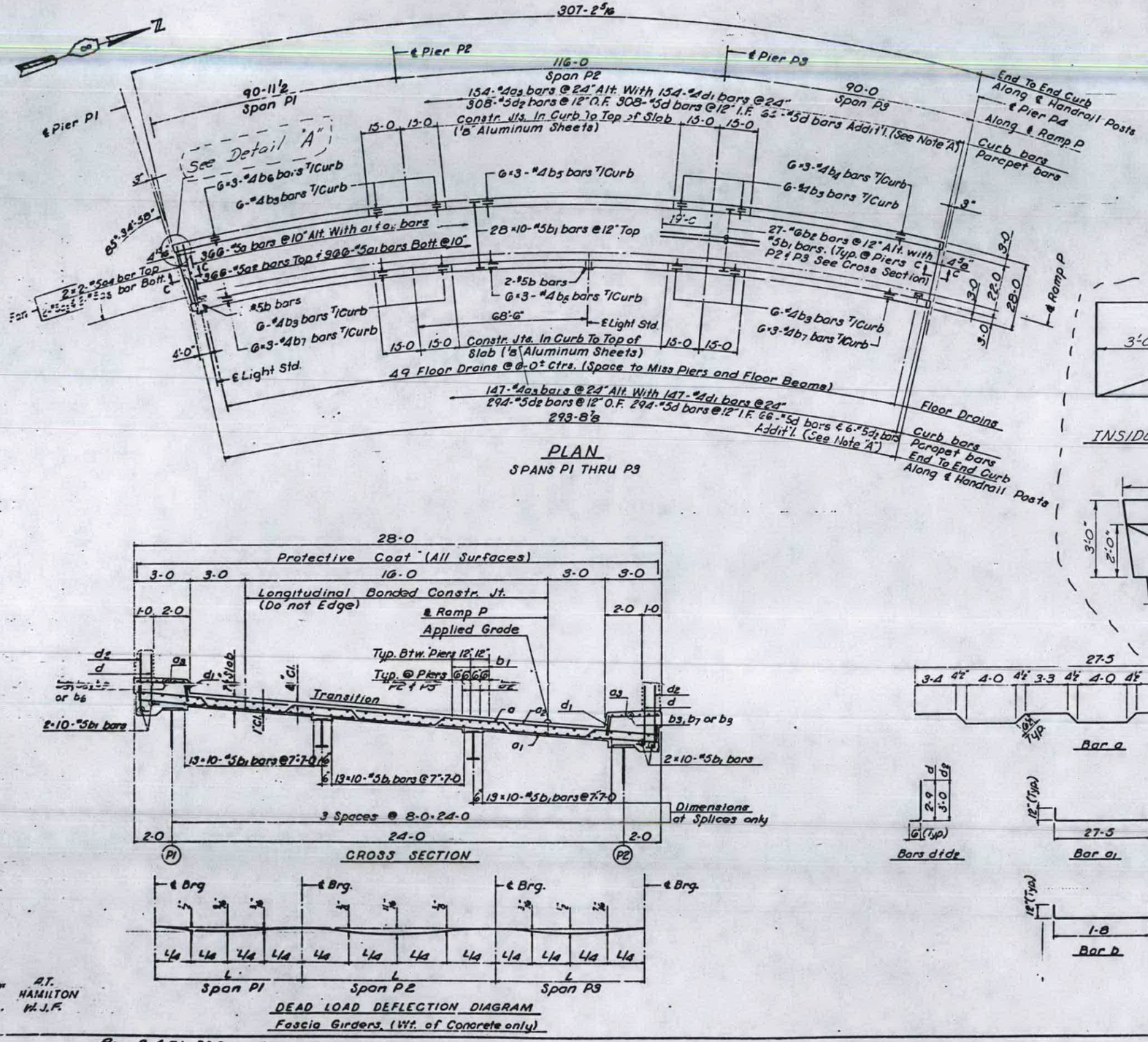
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 26 OF 147

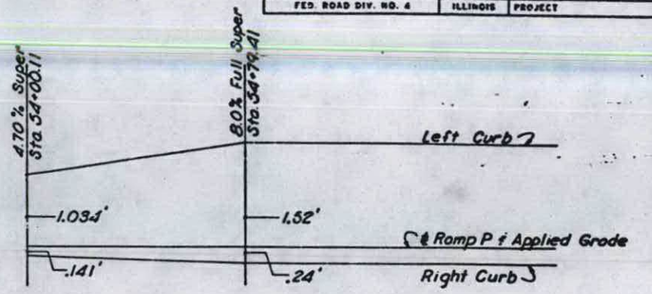
Mod 1-3-70 Slab from 7" to 7½", Class X from 251.5 To 264.6 Cu. Yds.

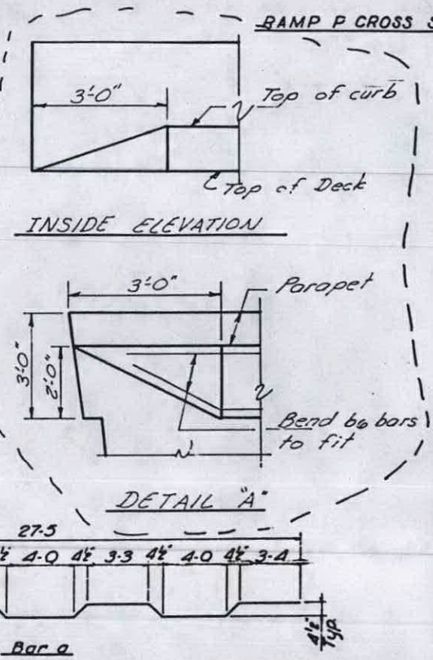
163

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-2	ST. CLAIR	252	92A
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
SPANS P1 THRU P3





BILL OF MATERIAL

● Bar	No.	Size	Length	Shape
26 a	366	#5	28-5	
26 a1	366	#5	29-5	
26 a2	366	#5	27-5	
26 a3	301	#4	3-9	
26 a4	4	#5	14-7	
26 a5	2	#5	10-7	
26 a6	2	#5	18-7	
26 b	4	#5	3-8	
26 b1	710	#5	31-6	
26 b2	54	#6	38-0	
26 b3	48	#4	14-5	
26 b4	15	#4	26-5	
26 b5	15	#4	30-5	
26 b6	15	#4	27-9	
26 b7	36	#4	25-6	
26 d	732	#5	9-9	
26 d1	301	#4	1-1	
26 d2	608	#5	3-6	
26 a8	18	#4	29-0	

● See Note "X" Sh. No. 18

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	264.6
Reinforcement Bars	Lbs.	67170
Protective Coat	Sq. Yds.	1076

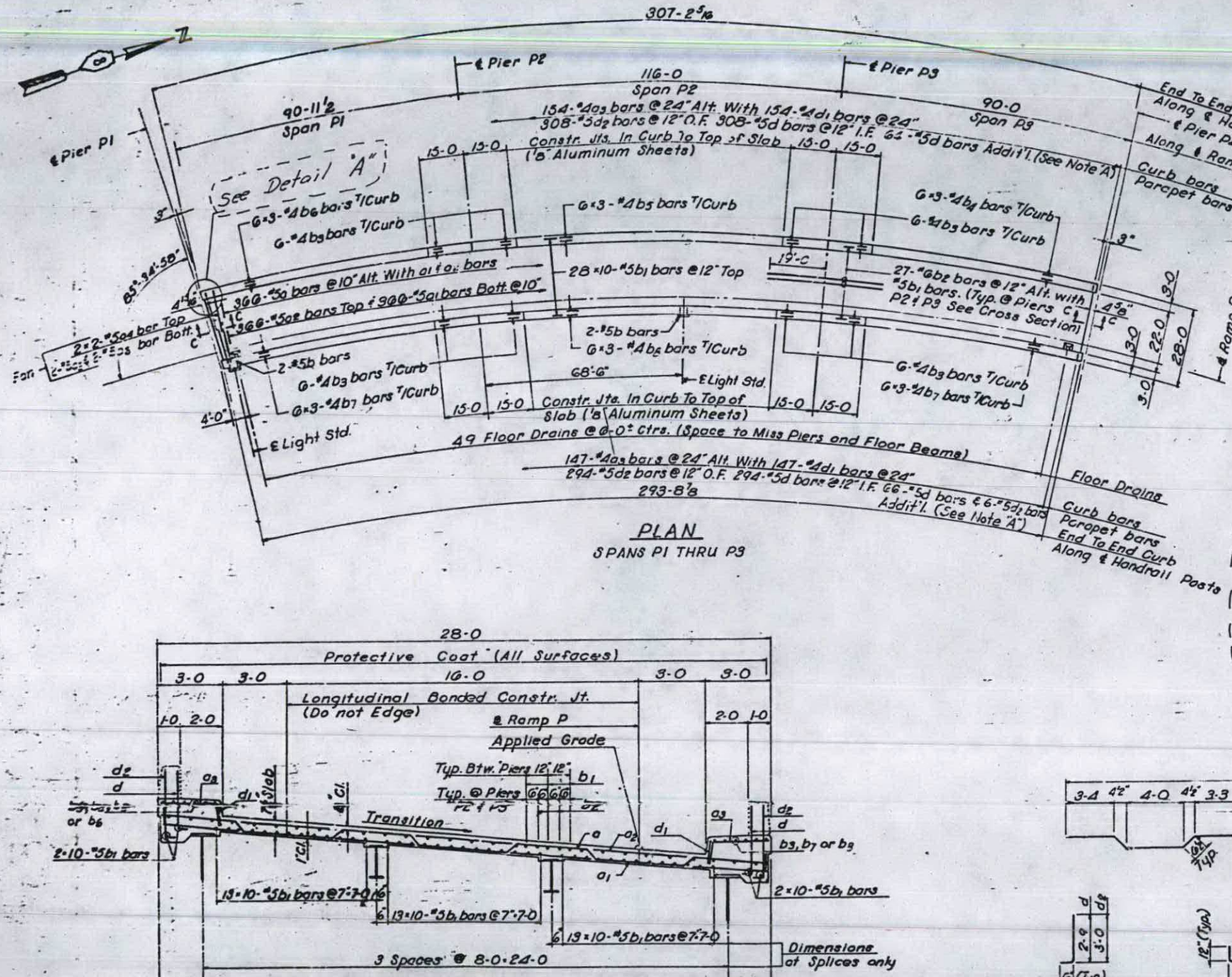
Notes:
For Note "A" & Misc. Details See Sheet No 14
For Section C-C See Sheet No. 105 & 103

DESIGNED BY A.T. HAMILTON
DRAWN BY H.J.F.
CHECKED BY

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
SLAB
SPANS P1 THRU P3
POPLAR STREET BRIDGE APPROACHES
RAMP "P"
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2
H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS
SHEET 26 OF 147

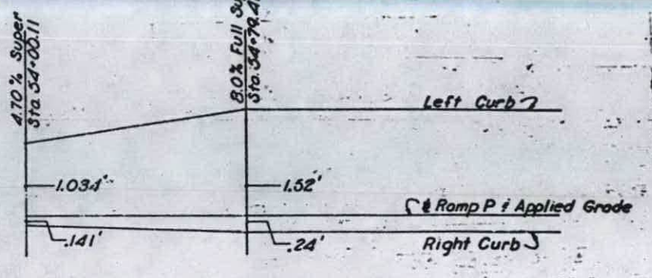
Rev. 3-4-71 ... changed end of curb J.R.H.
Revised Size from 7 to 7" Class A from 22.5 to 24.6 Cu. Yds.

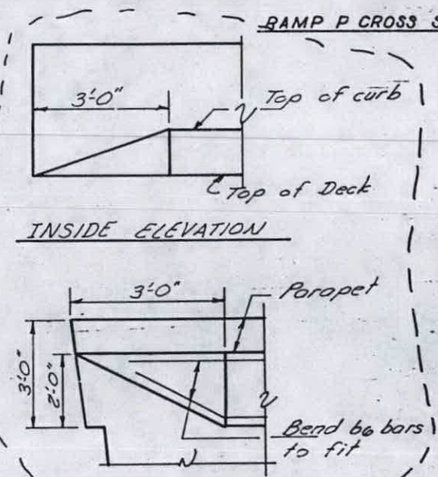
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.-70	82-3HVB-2	ST. CLAIR	252	92 A
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

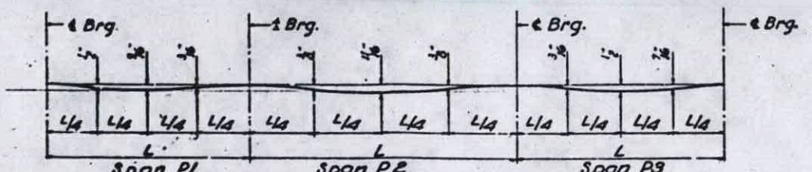


PLAN

SPANS P1 THRU P3

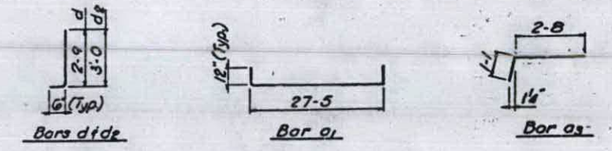






DEAD LOAD DEFLECTION DIAGRAM

Fascia Girders. (Wt. of Concrete only)



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
26 a	366	#5	28-5	
26 a1	366	#5	29-5	
26 a2	366	#5	27-5	
26 a3	301	#4	3-9	
26 a4	4	#5	14-7	
26 a5	2	#5	10-7	
26 a6	2	#5	18-7	
26 b	4	#5	3-8	
26 b1	710	#5	31-6	
26 b2	54	#6	98-0	
26 b3	48	#4	14-5	
26 b4	12	#4	26-5	
26 b5	15	#4	90-3	
26 b6	15	#4	27-3	
26 b7	36	#3	25-6	
26 d	732	#5	9-3	
26 d1	301	#4	1-1	
26 d2	609	#5	3-6	
26 d3	18	#4	29-0	

● See Note "X" Sh. No. 14

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	264.6
Reinforcement Bars	Lbs.	61170
Protective Coat	Sq. Yds.	1076

Notes:

For Note "A" & Misc. Details See Sheet No 14

For Section C-C See Sheet No. 105 & 103

DESIGNED BY A.T. HAMILTON

DRAWN BY W. J.F.

CHECKED BY

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

SLAB
SPANS P1 THRU P3
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2

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

SHEET 28 OF 147

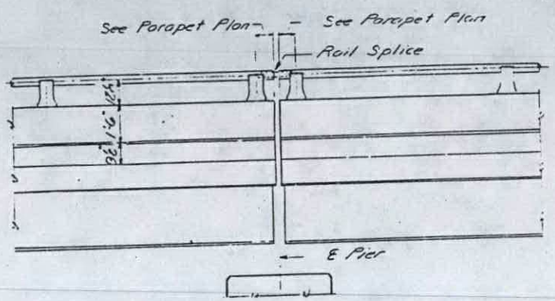
Rev. 3-4-71 changed end of curb J.R.H.

Rev 1-25-70 Slab from f to f', Class X from 2.5 to 2.6 C.Y./L.F. S.M.

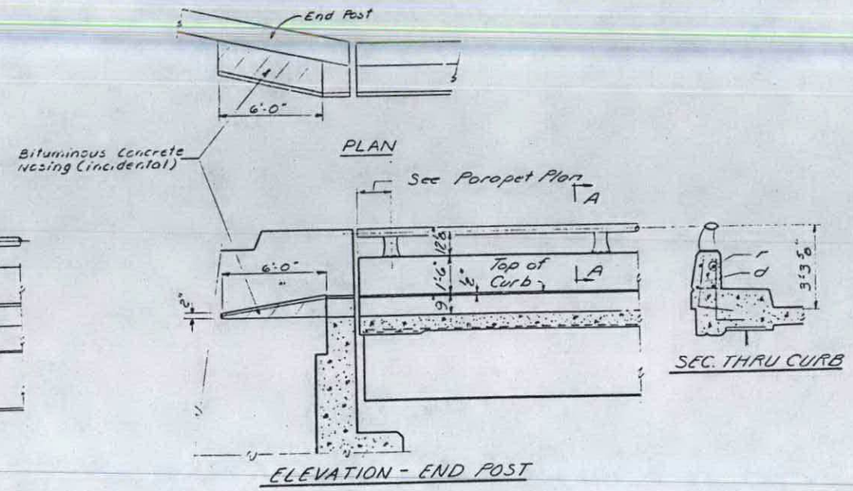
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

I R	64-3 NHB	St. Clair	252	105

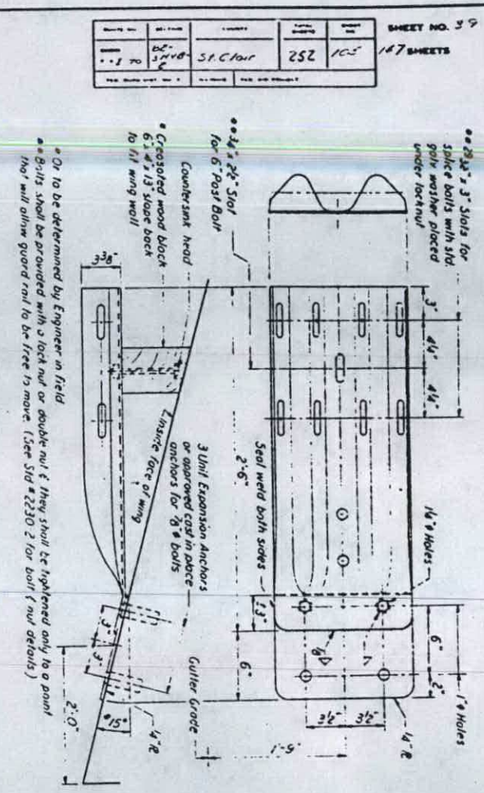
SHEET NO. 39
147 SHEETS



ELEVATION AT EXP. PIERS



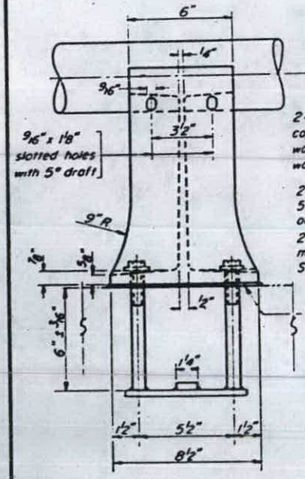
ELEVATION - END POST

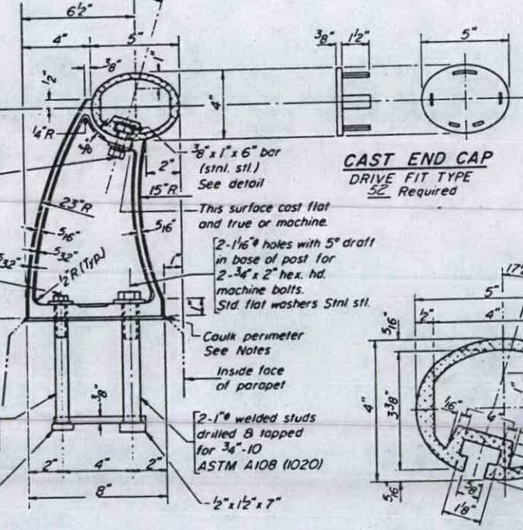


DETAIL OF GUARD RAIL CONNECTION

*Or to be determined by Engineer in field
**Bolts shall be galvanized with a lock nut or double nut & they shall be tightened only to a point that will allow guard rail to be free to move. (See Std #2230 2 for bolt & nut details)

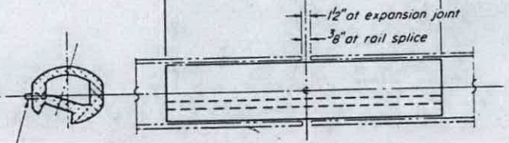
Guard Rail Connection shall be galvanized after fabrication in accordance with ASTM A-123 & A-385
Cost of connection, bolts and anchors are incidental to Bridge Contract





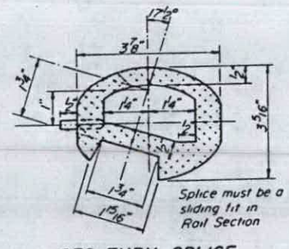
RAIL POST DETAILS

CAST END CAP
DRIVE FIT TYPE
52 Required

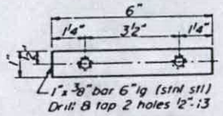


RAIL SPLICE

SEC. THRU ELLIPTICAL RAIL SECTION



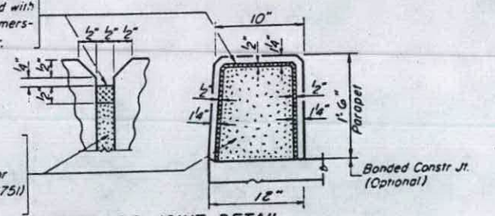
SEC. THRU SPLICE



CLAMP BAR

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

½" Preformed Cork Asphalt Joint Filler. (meets qualifications for ASTM: Designation D 1751) Cost incidental.



PARAPET JOINT DETAIL

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 - ⅛" and 2 - 1/16" Aluminum Shims 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.

ALUMINUM RAILING
POP'UP ST. BRIDGE APPR.
FA.I RT 70 SEC 82-3H VC-2
ST. CLAIR COUNTY

DESIGNED	
CHECKED	
DRAWN	O. Derringer
CHECKED	

19
EXAMINED
PASSED
APPROVED

R-17 4-22-68

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.—70	82-3HVB-2	ST. CLAIR	252	117
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.I.
1.0	5471.639	- 20.000	465.885	465.885
	5472.445	- 11.999	465.285	465.285
	5473.056	- 3.999	464.681	464.681
	5473.667	4.000	464.073	464.073
1.5	5478.522	- 20.000	466.095	466.111
	5479.522	- 11.948	465.450	465.466
	5479.522	- 3.953	464.811	464.825
	5479.522	4.000	464.175	464.188
2.0	5485.667	- 20.000	466.212	466.240
	5485.667	- 11.961	465.569	465.596
	5485.667	- 3.964	464.929	464.955
	5485.667	4.000	464.292	464.317
2.5	5495.333	- 20.000	466.396	466.438
	5495.333	- 11.944	465.751	465.793
	5495.333	- 3.944	465.111	465.152
	5495.333	4.000	464.476	464.516
3.0	5505.000	- 20.000	466.590	466.628
	5505.000	- 11.955	465.936	465.984
	5505.000	- 3.956	465.296	465.344
	5505.000	4.000	464.660	464.708
3.5	5514.667	- 20.000	466.764	466.811
	5514.667	- 11.977	466.122	466.169
	5514.667	- 3.977	465.482	465.530
	5514.667	4.000	464.844	464.892
4.0	5524.333	- 20.000	466.940	466.988
	5524.333	- 11.955	466.305	466.344
	5524.333	- 3.956	465.665	465.704
	5524.333	4.000	465.028	465.068
4.5	5534.000	- 20.000	467.132	467.158
	5534.000	- 11.944	466.488	466.515
	5534.000	- 3.944	465.848	465.875
	5534.000	4.000	465.212	465.240

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.I.
5.0	5543.667	- 20.000	467.317	467.330
	5543.667	- 11.932	466.671	466.684
	5543.667	- 3.933	466.031	466.045
	5543.667	4.000	465.397	465.410
5.5	5553.333	- 20.000	467.501	467.504
	5553.333	- 11.864	466.850	466.853
	5553.333	- 3.866	466.210	466.213
	5553.333	4.000	465.581	465.584
6.0	5563.000	- 20.000	467.685	467.685
	5563.000	- 11.932	467.039	467.039
	5563.000	- 3.933	466.400	466.400
	5563.000	4.000	465.765	465.765
6.5	5572.667	- 20.000	467.869	467.873
	5572.667	- 11.944	467.225	467.229
	5572.667	- 3.944	466.585	466.589
	5572.667	4.000	465.949	465.953
7.0	5582.333	- 20.000	468.053	468.068
	5582.333	- 11.955	467.410	467.424
	5582.333	- 3.956	466.770	466.784
	5582.333	4.000	466.133	466.148
7.5	5592.000	- 20.000	468.237	468.267
	5592.000	- 11.944	467.593	467.622
	5592.000	- 3.944	466.953	466.982
	5592.000	4.000	466.317	466.347
8.0	5601.667	- 20.000	468.421	468.465
	5601.667	- 11.955	467.778	467.821
	5601.667	- 3.956	467.138	467.181
	5601.667	4.000	466.501	466.545
8.5	5611.333	- 20.000	468.606	468.659
	5611.333	- 11.944	467.961	468.014
	5611.333	- 3.944	467.321	467.374
	5611.333	4.000	466.686	466.739

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.I.
9.0	5621.000	- 20.000	468.790	468.846
	5621.000	- 11.955	468.146	468.203
	5621.000	- 3.956	467.506	467.563
	5621.000	4.000	466.870	466.926
9.5	5630.667	- 20.000	468.974	469.027
	5630.667	- 11.977	468.332	468.386
	5630.667	- 3.977	467.692	467.746
	5630.667	4.000	467.054	467.107
10.0	5640.333	- 20.000	469.158	469.202
	5640.333	- 11.955	468.515	468.559
	5640.333	- 3.956	467.875	467.919
	5640.333	4.000	467.238	467.282
10.5	5650.000	- 20.000	469.342	469.373
	5650.000	- 11.944	468.698	468.728
	5650.000	- 3.944	468.058	468.088
	5650.000	4.000	467.422	467.453
11.0	5659.667	- 20.000	469.526	469.542
	5659.667	- 11.932	468.881	468.897
	5659.667	- 3.933	468.241	468.257
	5659.667	4.000	467.606	467.622
11.5	5669.333	- 20.000	469.711	469.715
	5669.333	- 11.864	469.060	469.064
	5669.333	- 3.866	468.420	468.425
	5669.333	4.000	467.791	467.795
12.0	5679.000	- 20.000	469.895	469.895
	5679.000	- 11.932	469.249	469.249
	5679.000	- 3.933	468.609	468.609
	5679.000	4.000	467.975	467.975
12.5	5688.667	- 20.000	470.079	470.081
	5688.667	- 11.944	469.434	469.437
	5688.667	- 3.944	468.794	468.797
	5688.667	4.000	468.159	468.161

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.I.
13.0	5698.333	- 20.000	470.263	470.276
	5698.333	- 11.955	469.619	469.630
	5698.333	- 3.956	468.979	468.990
	5698.333	4.000	468.343	468.354
13.5	5708.000	- 20.000	470.447	470.470
	5708.000	- 11.944	469.803	469.826
	5708.000	- 3.944	469.163	469.186
	5708.000	4.000	468.527	468.550
14.0	5717.667	- 20.000	470.631	470.666
	5717.667	- 11.955	469.988	470.022
	5717.667	- 3.956	469.348	469.382
	5717.667	4.000	468.711	468.746
14.5	5727.333	- 20.000	470.815	470.856
	5727.333	- 11.977	470.174	470.214
	5727.333	- 3.977	469.534	469.575
	5727.333	4.000	468.895	468.936
15.0	5737.000	- 20.000	471.000	471.041
	5737.000	- 11.956	470.356	470.398
	5737.000	- 3.957	469.716	469.758
	5737.000	4.000	469.080	469.121
15.5	5746.500	- 20.000	471.180	471.215
	5746.500	- 11.946	470.535	470.570
	5746.500	- 3.947	469.896	469.930
	5746.500	4.000	469.260	469.294
16.0	5756.000	- 20.000	471.352	471.374
	5756.000	- 11.966	470.709	470.731
	5756.000	- 3.966	470.069	470.091
	5756.000	4.000	469.432	469.453
16.5	5761.833	- 20.000	471.453	471.464
	5761.833	- 11.958	470.809	470.821
	5761.833	- 3.959	470.169	470.181
	5761.833	4.000	469.533	469.544

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.I.
17.0	5767.703	- 20.000	471.550	471.550
	5767.688	- 12.000	470.910	470.910
	5767.673	- 4.000	470.270	470.270
	5767.658	4.000	469.630	469.630

NOTE: For Notes See Sh. No. 40

DESIGNED BY _____
DRAWN BY IM
CHECKED BY AC

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

TABLES OF ELEVATIONS

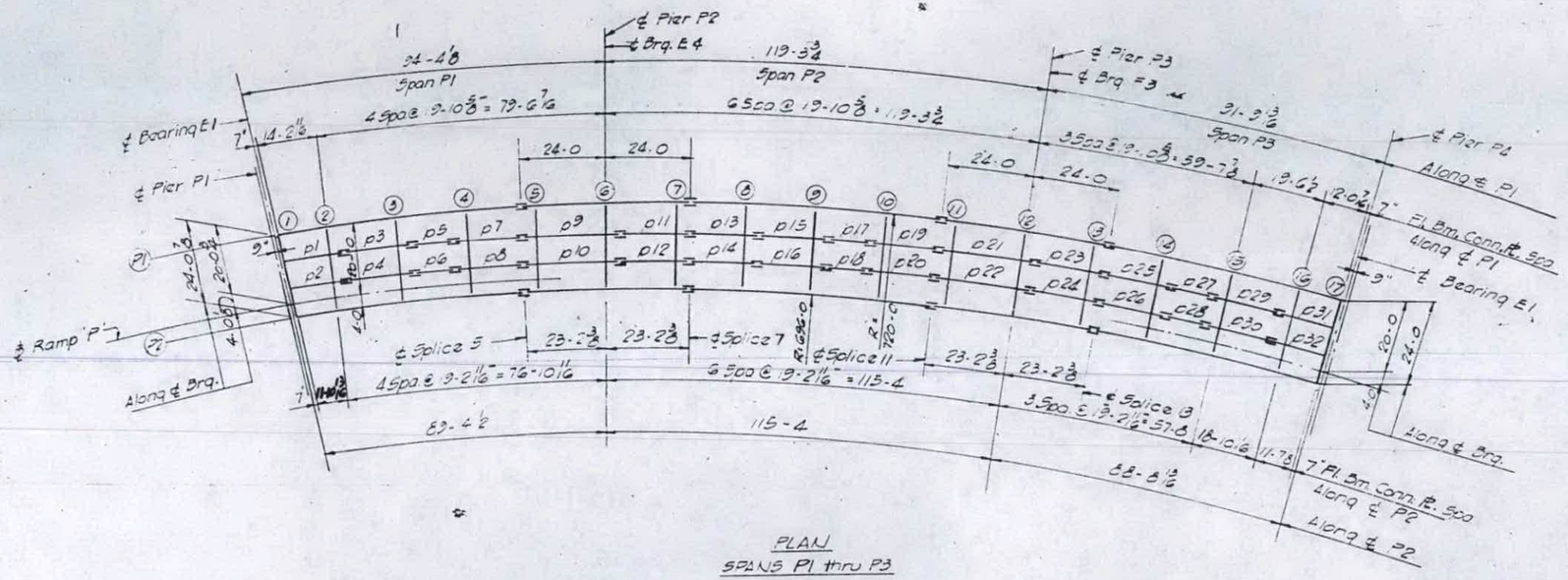
SPANS P1 THRU P3
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

F.A.I. RT. 70 ST.-CLAIR CO. SECTION 82-3HVB-2

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

SHEET 51 OF 147

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-2	ST. CLAIR	252	158
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
SPANS P1 thru P3

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

		GIR. P1	GIR. P2	DIFF.
CL. BRG.		464.952	463.145	1.807
FLOOR BEAM	1	464.964	463.156	1.808
FLOOR BEAM	2	465.241	463.383	1.858
FLOOR BEAM	3	465.628	463.748	1.880
FLOOR BEAM	4	466.016	464.113	1.903
SPLICE	5	466.323	464.403	1.920
FLOOR BEAM	5	466.399	464.480	1.919
FLOOR BEAM	6	466.768	464.848	1.920
FLOOR BEAM	7	467.136	465.216	1.920
SPLICE	7	467.212	465.292	1.920
FLOOR BEAM	8	467.504	465.584	1.920
FLOOR BEAM	9	467.873	465.953	1.920
FLOOR BEAM	10	468.241	466.321	1.920
SPLICE	11	468.533	466.613	1.920
FLOOR BEAM	11	468.609	466.690	1.919
FLOOR BEAM	12	468.978	467.058	1.920
FLOOR BEAM	13	469.346	467.426	1.920
SPLICE	13	469.422	467.502	1.920
FLOOR BEAM	14	469.706	467.786	1.920
FLOOR BEAM	15	470.064	468.144	1.920
FLOOR BEAM	16	470.415	468.496	1.919
FLOOR BEAM	17	470.632	468.711	1.921
CL. BRG.		470.642	468.722	1.920

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. 6970 Lbs.

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

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

FRAMING PLAN
SPANS P1 THRU P3

POPLAR STREET BRIDGE APPROACHES
RAMP "P"

F.A.I. RT.-70 ST. CLAIR CO. SECTION 82-3HVB-2

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

SHEET
92 OF 147

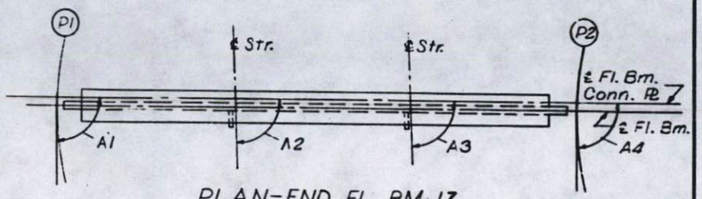
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. - 70	82-3HVB-2	ST CLAIR	252	159
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

STRINGER DIMENSIONS

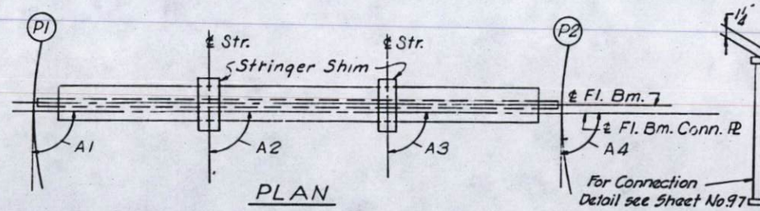
STR	L	S1	S2	S3	B1	B2
1	77'-6 3/16"	13'-6 3/8"	0	4'-0 13/16"	95°08'11"	90°48'24"
2	76 6 3/8	12 6 1/8		4 1/4	95.10.41	90.40.53
3	76 7 15/16	15 7 1/8		4 13/16	90.47.28	90.47.28
4	76 5 5/16	15 5 1/16		4 1/4	90.47.28	90.47.28
5	11 6 5/16	0		0	90.27.50	90.27.50
6	11 4 3/4	0		0	90.27.50	90.27.50
7	19 8	4 13/16		15 7 1/8	90.47.28	90.47.28
8	19 5 5/16	4 1/4	0	15 5 1/16	90.47.28	90.47.28
9	27 9 5/8	4 13/16	19 7 15/16	4 13/16	91.07.07	91.07.07
10	27 5 7/8	4 1/4	19 5 5/16	4 1/4	91.07.07	91.07.07
11	19 8	15 7 1/8	0	4 13/16	90.47.28	90.47.28
12	19 5 5/16	15 5 1/16		4 1/4	90.47.28	90.47.28
13	19 8	15 7 1/8		4 13/16	90.47.28	90.47.28
14	19 5 5/16	15 5 1/16		4 1/4	90.47.28	90.47.28
15	19 8	15 7 1/8		4 13/16	90.47.28	90.47.28
16	19 5 5/16	15 5 1/16		4 1/4	90.47.28	90.47.28
17	11 6 5/16	0		0	90.27.50	90.27.50
18	11 4 3/4	0		0	90.27.50	90.27.50
19	19 8	4 13/16		15 7 1/8	90.47.28	90.47.28
20	19 5 5/16	4 1/4	0	15 5 1/16	90.47.28	90.47.28
21	27 9 5/8	4 13/16	19 7 15/16	4 13/16	91.07.07	91.07.07
22	27 5 7/8	4 1/4	19 5 5/16	4 1/4	91.07.07	91.07.07
23	19 8	15 7 1/8	0	4 13/16	90.47.28	90.47.28
24	19 5 5/16	15 5 1/16		4 1/4	90.47.28	90.47.28
25	19 8	15 7 1/8		4 13/16	90.47.28	90.47.28
26	19 5 5/16	15 5 1/16		4 1/4	90.47.28	90.47.28
27	11 6 5/16	0		0	90.27.50	90.27.50
28	11 4 3/4	0		0	90.27.50	90.27.50
29	19 3 7/8	4 13/16		15 3 1/16	90.46.39	90.46.39
30	19 1 5/16	4 1/4		15 1	90.46.39	90.46.39
31	15 11 1/2	4 13/16		11 10 11/16	90.38.32	90.44.58
32	15 9 3/16	4 1/4	0	11 8 7/8	90.38.29	90.45.00

FLOOR BEAM DIMENSIONS

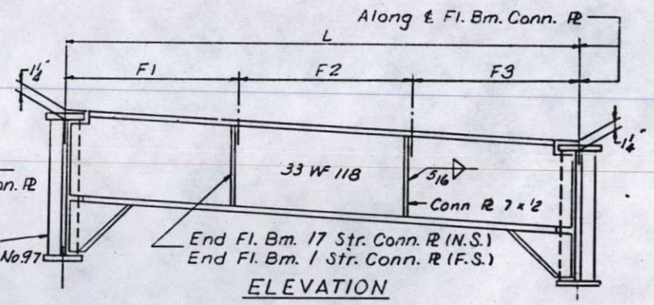
FL BM	L	F1	F2	F3	A1	A2	A3	A4
1	24'-0 7/8"	8'-0 5/16"	8'-0 5/16"	8'-0 5/16"	94°24'02"	95°09'11"	95°10'41"	94°33'08"
2	24	8 7/16	8	7 11 9/16	90.00.00	89.37.15	89.38.45	90.00.00
3	24	8 9/16	8	7 11 1/2	90.00.00	89.32.10	89.32.10	90.00.00
4	24	8 9/16	8	7 11 1/2	90.00.00	90.27.50	90.27.50	90.00.00
5	24	8 13/16	8	7 11 3/16	90.00.00	90.47.28	90.47.28	90.00.00
6	24	8 13/16	8	7 11 3/16	90.00.00	89.12.32	89.12.32	90.00.00
7	24	8 9/16	8	7 11 1/2	90.00.00	89.32.10	89.32.10	90.00.00
8	24	8 9/16	8	7 11 1/2	90.00.00	89.32.10	89.32.10	90.00.00
9	24	8 9/16	8	7 11 1/2	90.00.00	89.32.10	89.32.10	90.00.00
10	24	8 9/16	8	7 11 1/2	90.00.00	90.27.50	90.27.50	90.00.00
11	24	8 13/16	8	7 11 3/16	90.00.00	90.47.28	90.47.28	90.00.00
12	24	8 13/16	8	7 11 3/16	90.00.00	89.12.32	89.12.32	90.00.00
13	24	8 9/16	8	7 11 1/2	90.00.00	89.32.10	89.32.10	90.00.00
14	24	8 9/16	8	7 11 1/2	90.00.00	89.32.10	89.32.10	90.00.00
15	24	8 1/2	8	7 11 1/2	90.00.00	90.27.01	90.27.01	90.00.00
16	24	8 7/16	8	7 11 5/8	90.00.00	90.18.53	90.18.51	90.00.00
17	24	8	8	8	89.53.38	89.15.02	89.15.00	89.53.25



PLAN-END FL. BM. 17

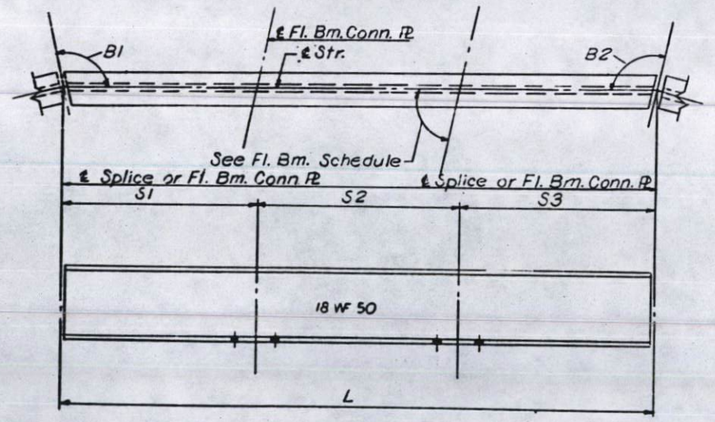


PLAN

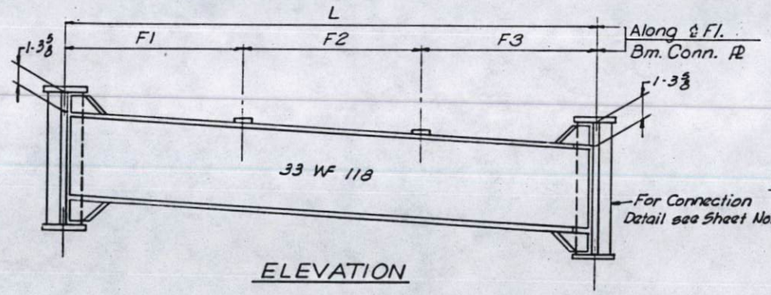


ELEVATION

END FLOOR BEAM 1 AND 17

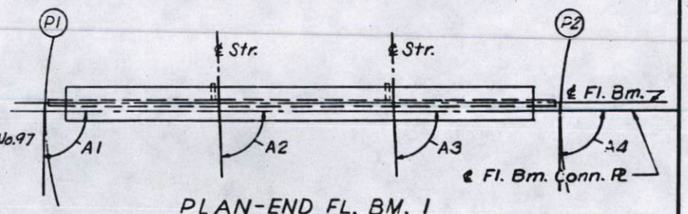


TYPICAL STRINGER



ELEVATION

INTERIOR FLOOR BEAM 2 THRU 16



PLAN-END FL. BM. 1

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 Detail see Sheet No. 97

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

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
STRINGER AND FLOOR BEAM SCHEDULE
SPANS P1 THRU P3
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

F.A.I RT 70 ST. CLAIR CO. SECTION 82-3HVB-2

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

SHEET 93 OF 147

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. – 70	82–3HVB–2	ST. CLAIR	252	160
FED. ROAD DIV. NO. 6	ILLINOIS	PROJECT		

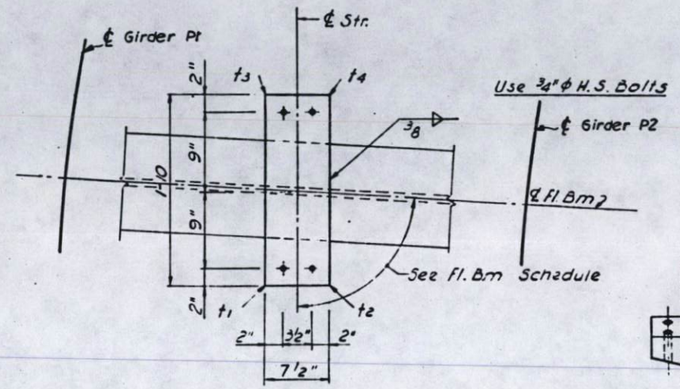
FLOOR BEAM 2 THRU 4	T1	T2	T3	T4
STR. 1 THRU 8	3/8	15/16	13/16	1 3/8

FLOOR BEAM 5 THRU 7	T1	T2	T3	T4
STR. 9 THRU 12	3/8	1	3/4	1 3/8

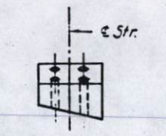
FLOOR BEAM 8 THRU 10	T1	T2	T3	T4
STR. 13 THRU 20	3/8	1	3/4	1 3/8

FLOOR BEAM 11 THRU 13	T1	T2	T3	T4
STR. 21 THRU 24	3/8	1	3/4	1 3/8

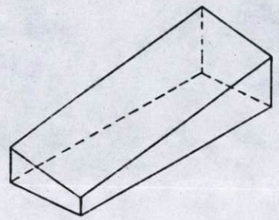
FLOOR BEAM 14 THRU 16	T1	T2	T3	T4
STR. 25 THRU 32	3/8	1	3/4	1 3/8



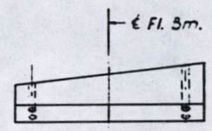
PLAN



END VIEW



ISOMETRIC VIEW



SIDE VIEW

SHIM DETAIL

Shim thickness t1, t2, t3 & t4 shown in the Table are orientated with the Plan View shown above.

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

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

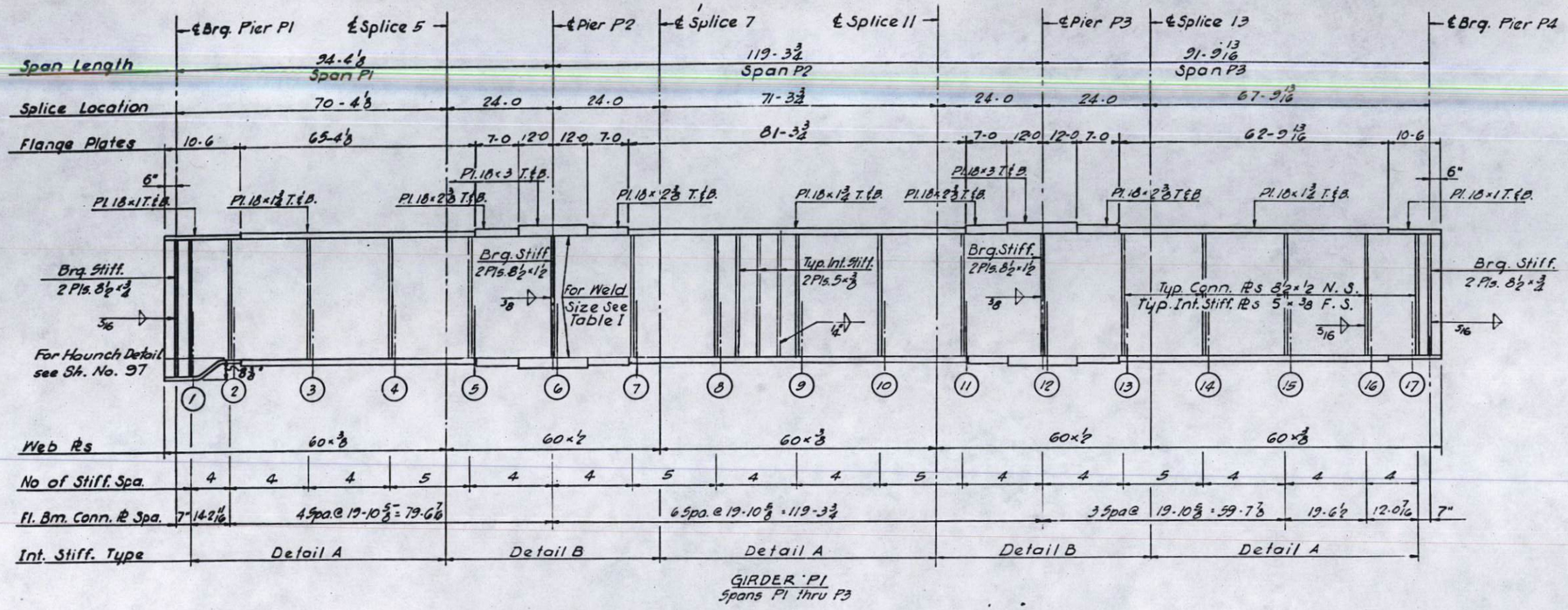
STRINGER SHIMS
SPANS P1 THRU P3
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

F.A.I. RT. 70. ST. CLAIR CO. SECTION 82-3HVB-2

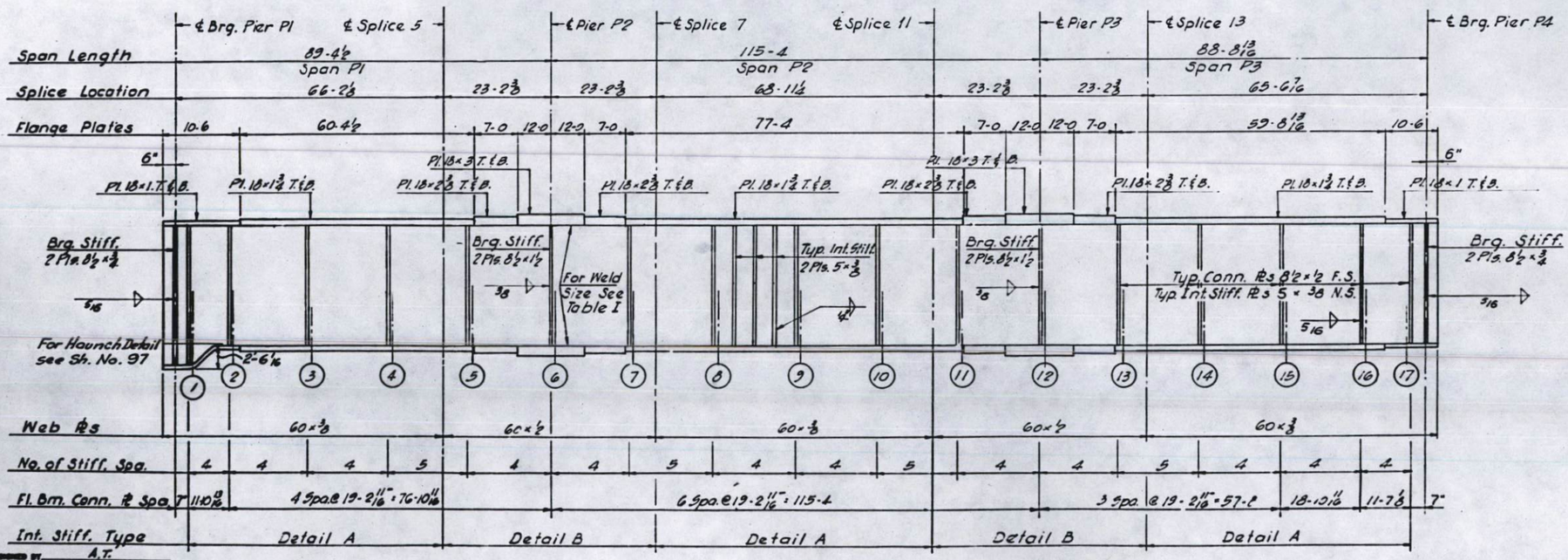
N. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
94 of 147

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-2	ST. CLAIR	252	161
FED. ROAD DIV. NO. 6	ILLINOIS	PROJECT		



GIRDER P1
Spans P1 thru P3



GIRDER P2
Spans P1 thru P3

NOTES:

All longitudinal dimensions shown are given along ℄ of Web see Sheet No. 92
All Bearing Stiffeners and Connection Plates to be vertical.
For Splice Stiffener, Connection Plate Details and Table I see Sheet No. 97

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

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

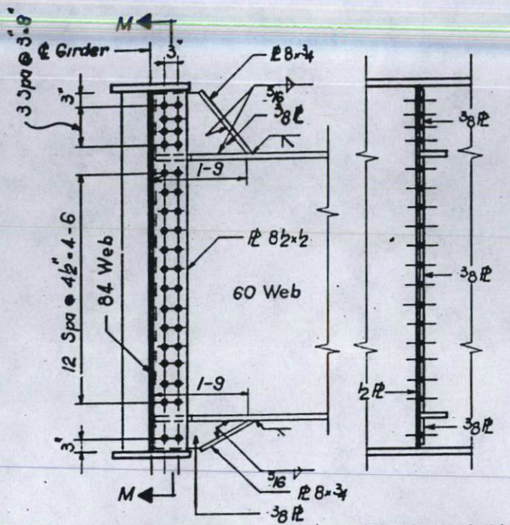
GIRDERS P1 AND P2
SPANS P1 THRU P3
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2

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

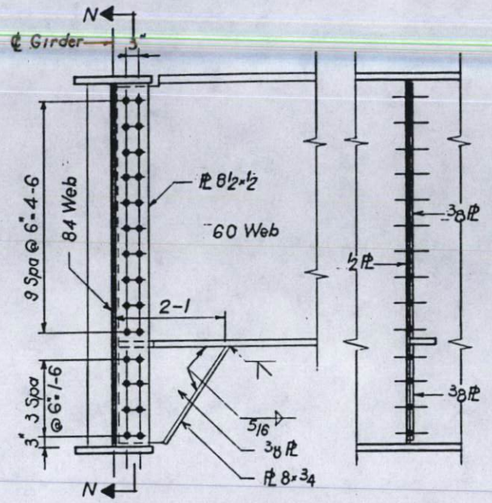
SHEET 95 OF 147

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I - 70	82-3HVB-2	ST. CLAIR	252	162
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



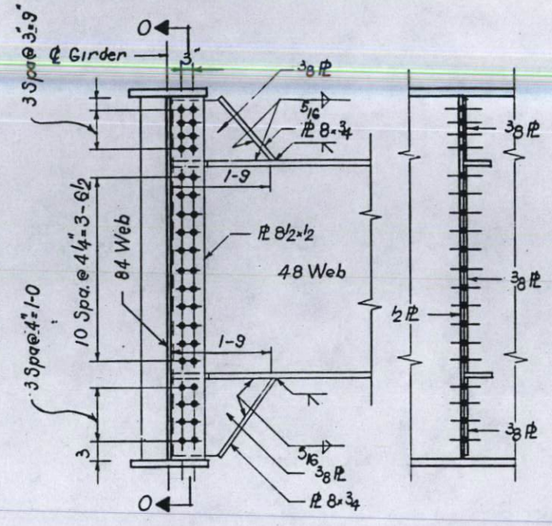
ELEVATION

SECTION M-M



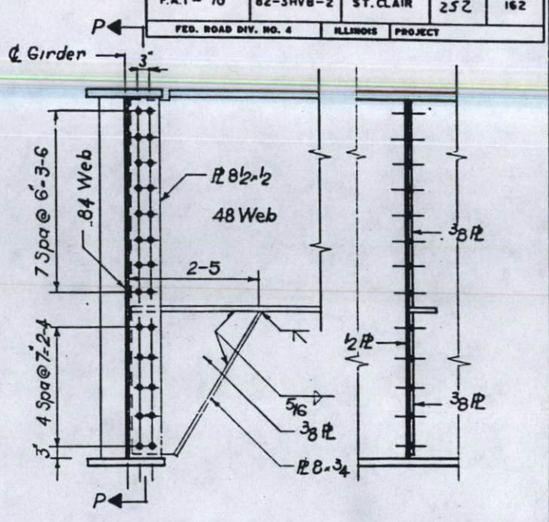
ELEVATION

SECTION N-N



ELEVATION

SECTION O-O



ELEVATION

SECTION P-P

INTERIOR FLOOR BEAM TO GIRDER CONNECTION

SPANS F11 & F12

END FLOOR BEAM TO GIRDER CONNECTION

INTERIOR FLOOR BEAM TO GIRDER CONNECTION

SPANS F7 THRU F10, E2 THRU 018E

END FLOOR BEAM TO GIRDER CONNECTION

ELEVATION

SECTION Q-Q

SPANS F1 THRU F6

INTERIOR FLOOR BEAM TO GIRDER CONNECTION

ELEVATION

SECTION R-R

END FLOOR BEAM TO GIRDER CONNECTION

E4 THRU E9

ELEVATION

SECTION S-S

INTERIOR FLOOR BEAM TO GIRDER CONNECTION

SPANS N5 THRU N7

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

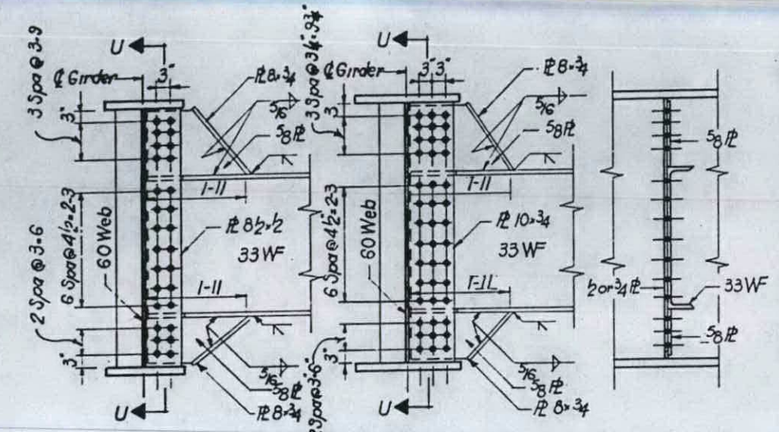
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO SECTION 82-3HVB-2

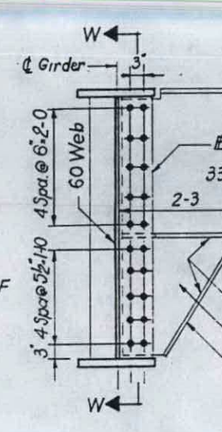
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
96 OF 147

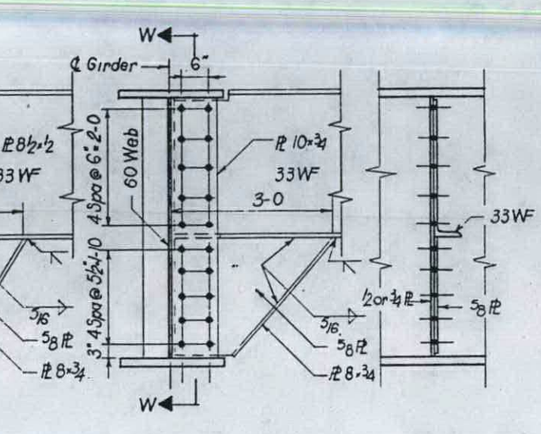
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I - 70	82-3HVB-2	ST. CLAIR	252	163
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



ELEVATION
SPANS P1 THRU P3



ELEVATION
SPANS M1 THRU M3



SECTION U-U

INTERIOR FLOOR BEAM TO GIRDER CONNECTION

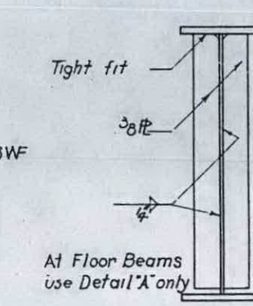
ELEVATION
SPANS P1 THRU P3

ELEVATION
SPANS M1 THRU M3

SECTION W-W

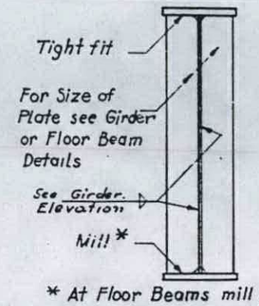
END FLOOR BEAM TO GIRDER CONNECTION

60 WEB GIRDER



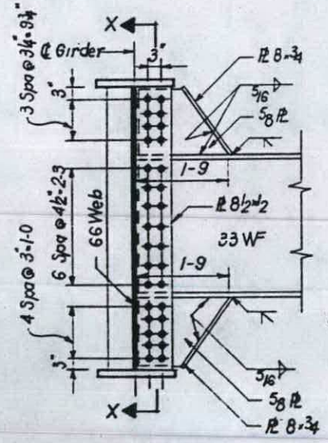
DETAIL 'A' INTERMEDIATE STIFFENERS
FOR GIRDERS AND FLOOR BEAMS

DETAIL 'B'

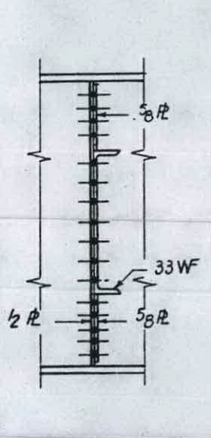


* At Floor Beams mill plate at upper flange and tight fit at lower flange.

BEARING STIFFENERS
FOR GIRDERS AND FLOOR BEAMS

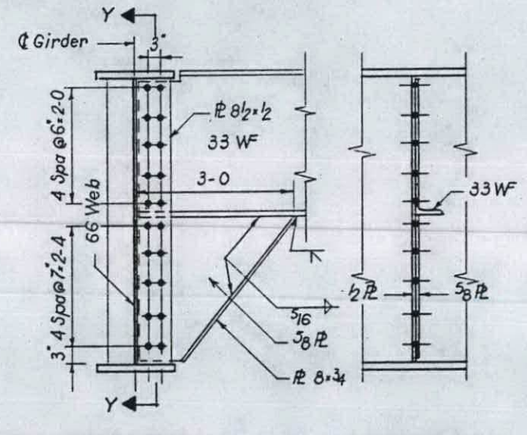


ELEVATION



SECTION X-X
SPANS O14 THRU O17

INTERIOR FLOOR BEAM TO GIRDER CONN.

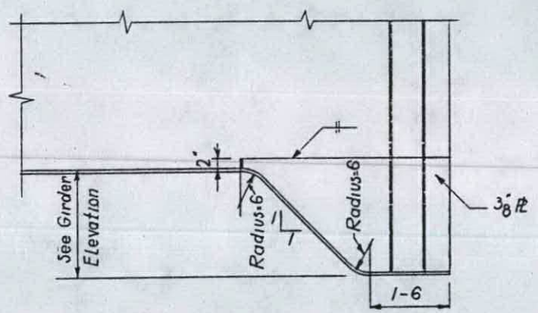


ELEVATION

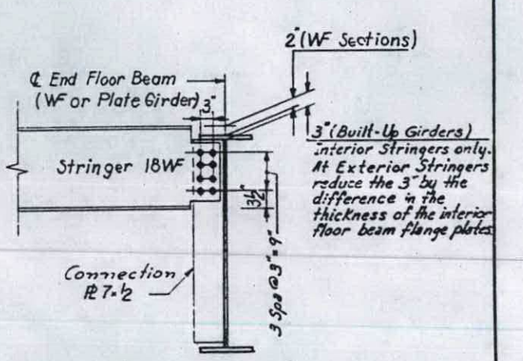
SECTION Y-Y

END FLOOR BEAM TO GIRDER CONN.

66 WEB GIRDER



HAUNCH DETAIL
FOR LOCATION SEE GIRDER ELEVATION



STRINGER TO END FLOOR BEAM CONN.

NOTES

For size of flange, plate welds see table I Sh. No. 98. Weld Connection Pl's to the top flange and tight fit at the bottom flange in areas designated as Detail 'A'. Weld Connection Pl'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.

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

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

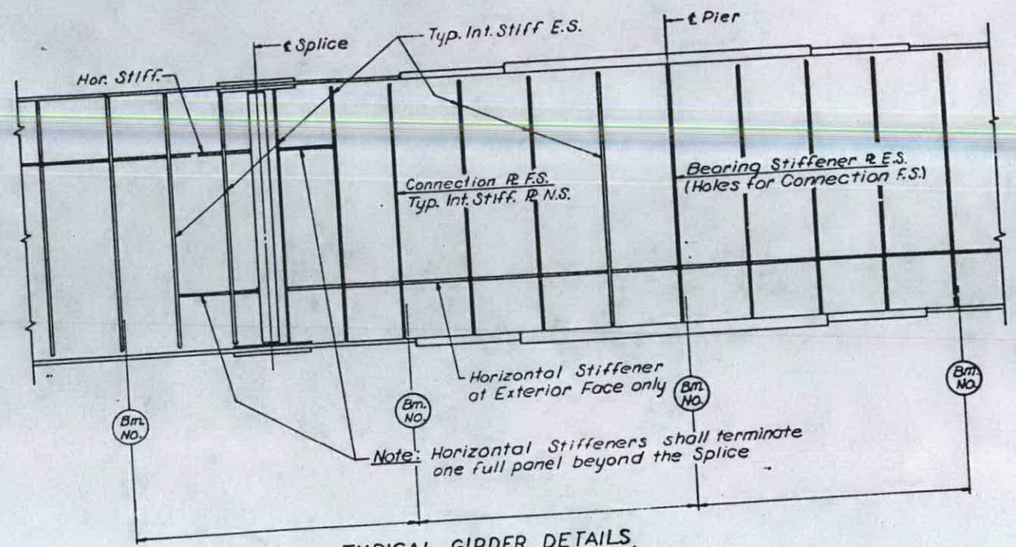
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2

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

SHEET
97 OF 14

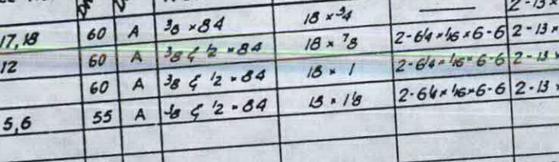
LOCATION	SPLICE NO.	DWG. NO.	DETAIL	GIRDER SECTION		WEB SPLICE			FLANGE SPLICE		
				WEB PLATE	FLANGE PLATES	FILL PLATES	SPLICE PLATES	A	OUTSIDE PLATES	INSIDE PLATES	B
RDWY. "E"	15, 16, 17, 18	60	A	3/8 × 84	18 × 3/4	—	2-13 × 3/8 × 6-6	25	2-18 × 1/2 × 3-11	4-8 × 5/8 × 3-11	8
	10, 11, 12	60	A	3/8 & 1/2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

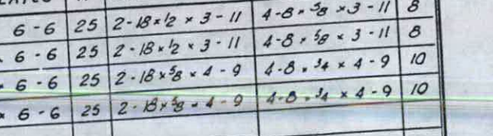


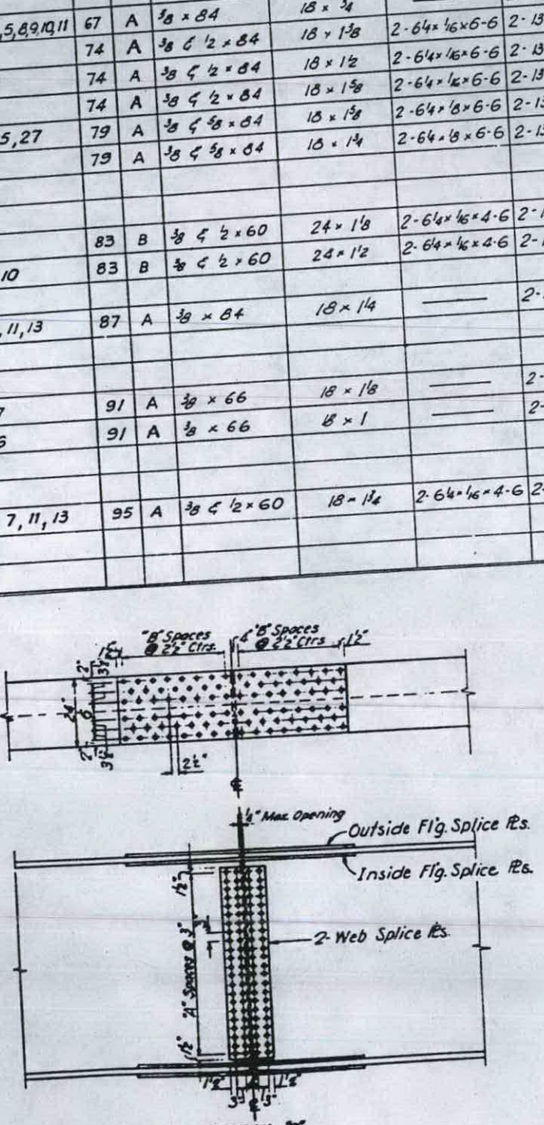
TYPICAL GIRDER DETAILS

(Exterior Face Shown)

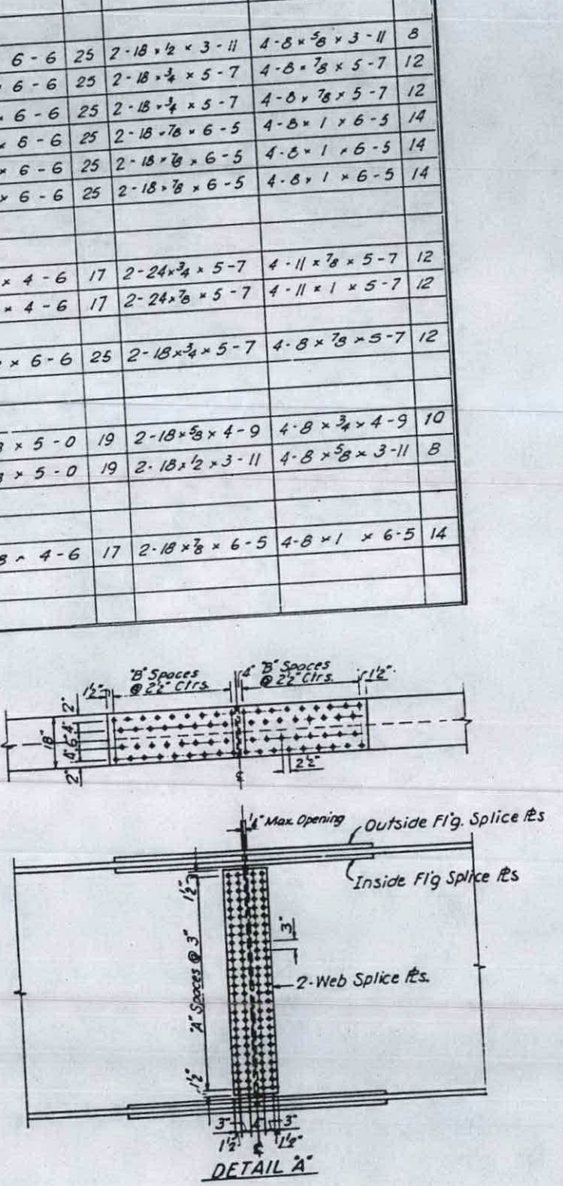
Note: All Bearing Stiff. & Conn ℞s to be Vertical.



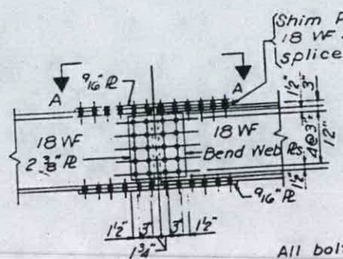




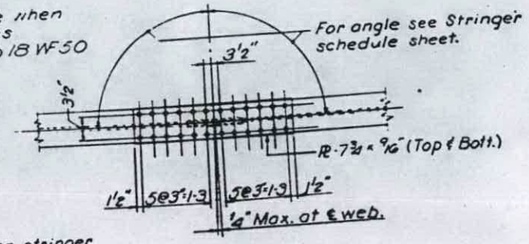
DETAIL "B"



DETAIL "A"



ELEVATION



SECTION A-A

All bolts for stringer splice to be 3/4" ϕ

STRINGER SPLICE

TABLE I	
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"

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

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

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

SHEET 96 OF 147

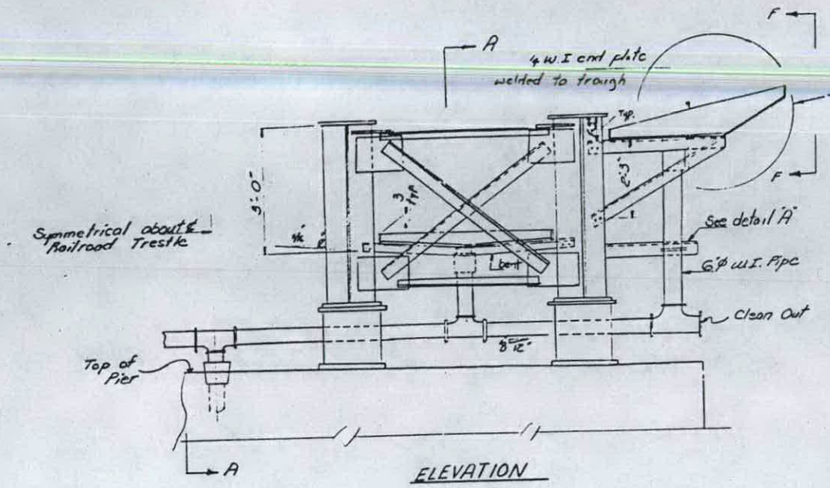
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

... I 70	82-3HYB-2	ST. CLAIR	252	1652	SHEET NO. 99a 197 SHEETS

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	37620 Lbs



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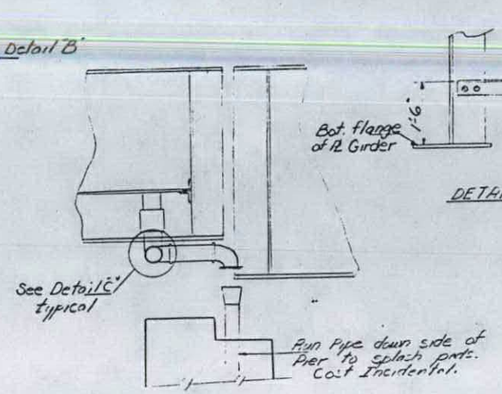
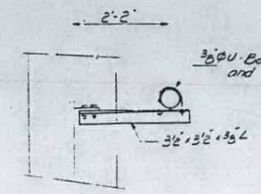
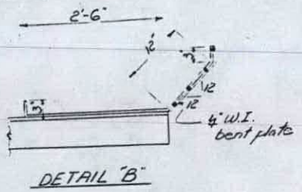


SECTION A-A

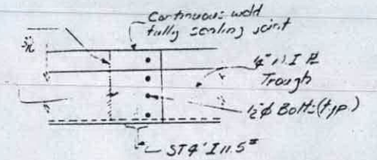
DETAIL 'A'



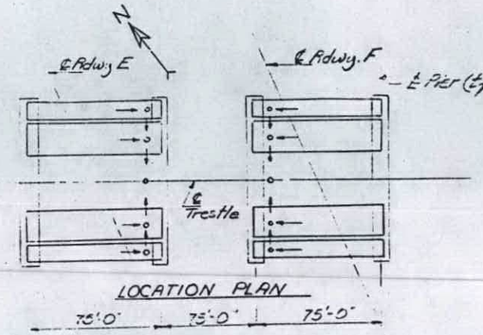
SECTION D-D



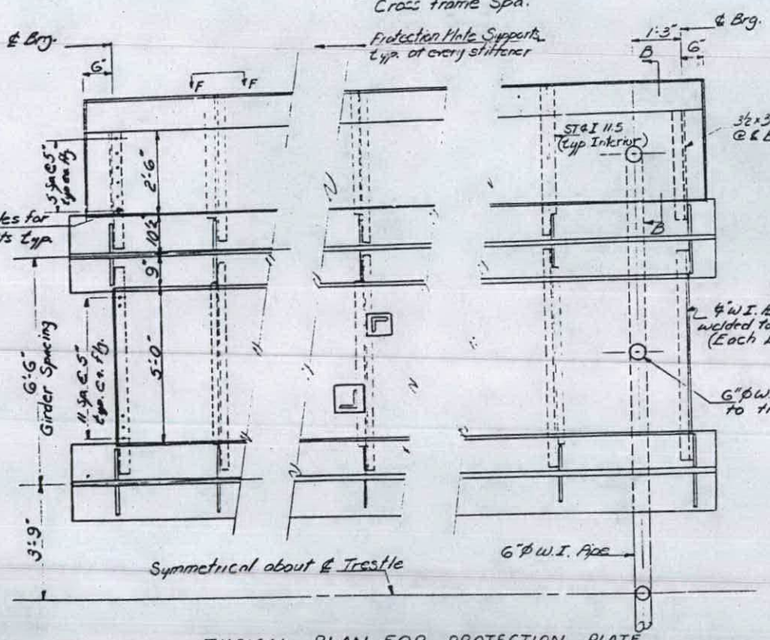
DETAIL 'B'



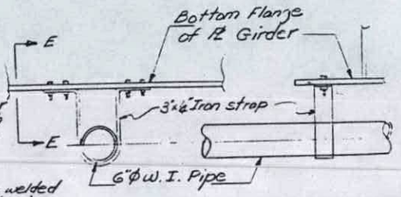
VIEW F-F



LOCATION PLAN

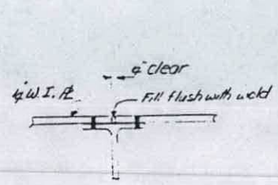


TYPICAL PLAN FOR PROTECTION PLATE
(NO SCALE)

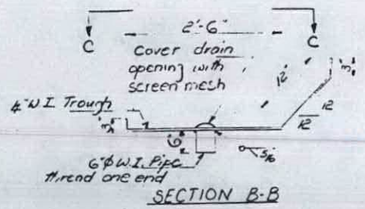


SECTION E-E

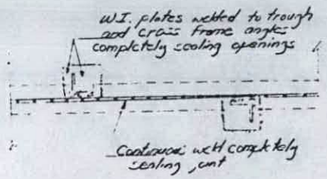
DETAIL C



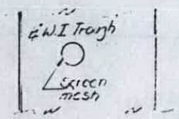
JOINT SEAL WELD



SECTION B-B



JOINT AT CROSS FRAMES



PLAN C-C

DESIGNED	
CHECKED	
DRAWN	S.M.
CHECKED	J.M.J

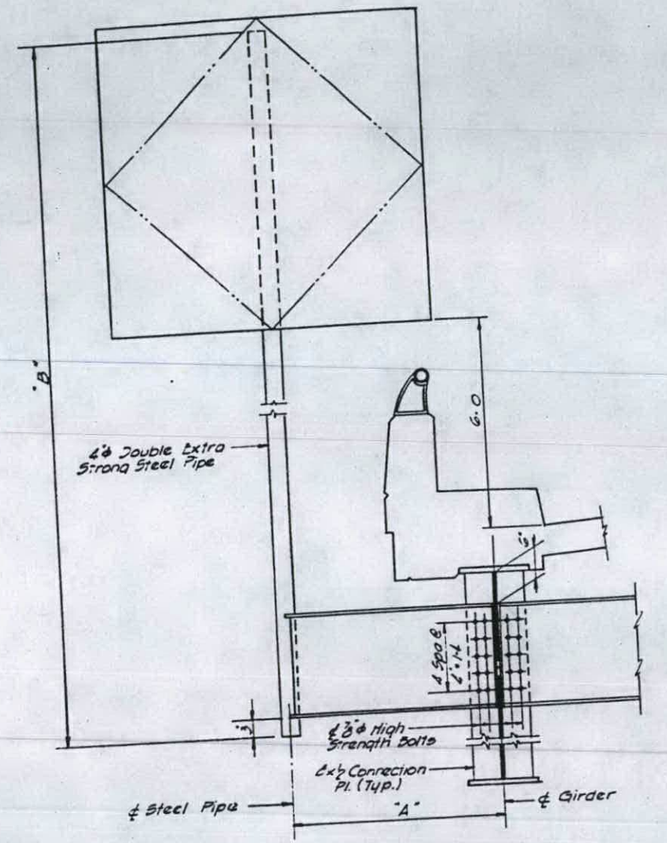
EXAMINED 19
PASSED
APPROVED

PROTECTION PLATE DETAILS AND PIPE DRAIN SYSTEM
FAI RT 70 ~ SEC 82-3HYB-2
ST CLAIR COUNTY

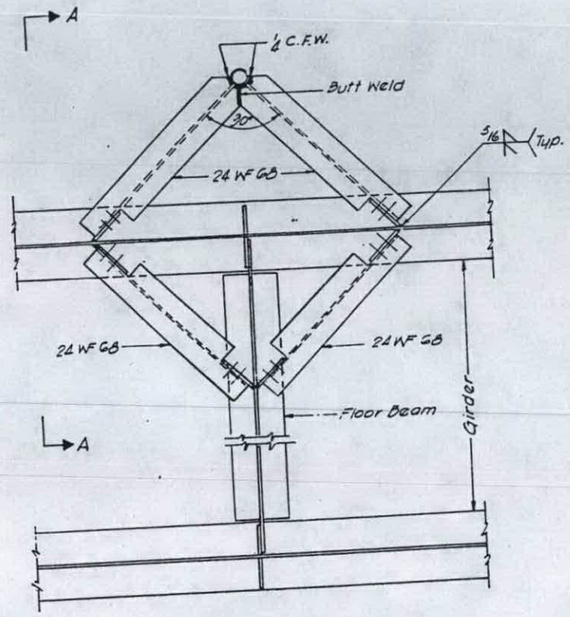
Added 6-11-70 S.F.M.

A & E CO. 10-1-206

F.A.I.– 70	82-3HVB-2	St. Clair	25	
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



SECTION A-A



PLAN

NOTE
8x½ Connection Pls. to be fit to Compression flange and undercut "B" at tension flange. See Girder "B" 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	52
No 33	3-0	14-8	52
No. 34	3-0	14-8	75

DESIGNED BY A.T.
DRAWN BY ¢
CHECKED BY A.T.

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

SIGN BRACKET DETAILS

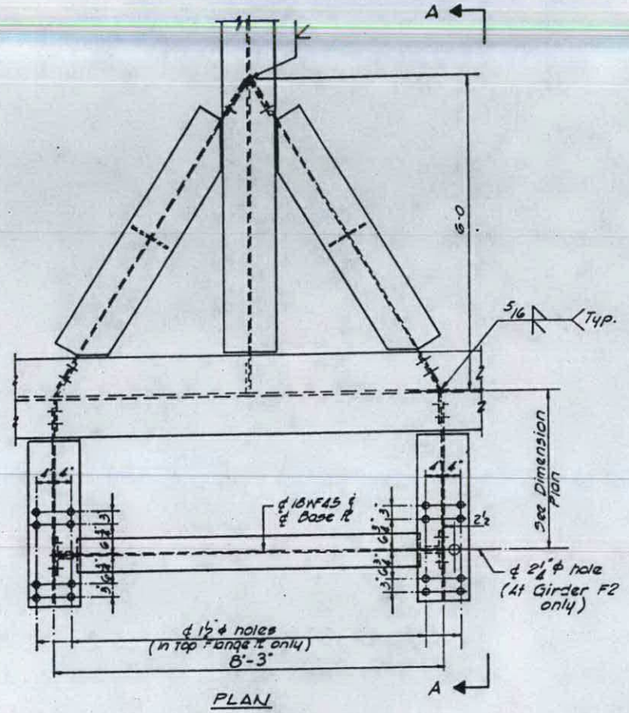
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70. ST. CLAIR CO. SECTION 82-3HVB-2

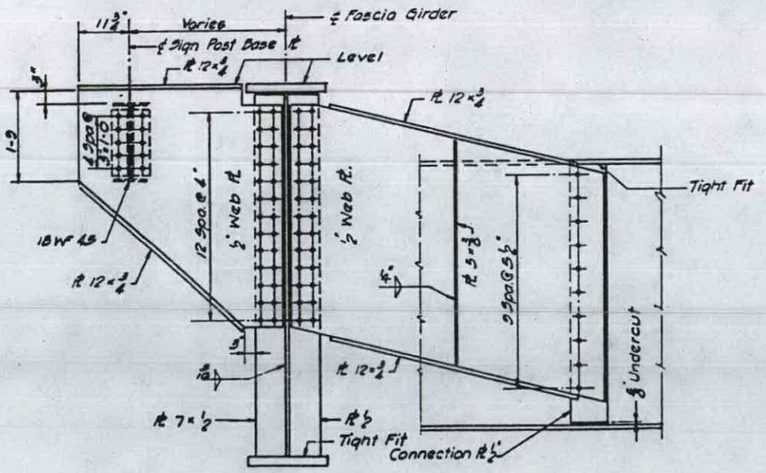
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
100 of 147

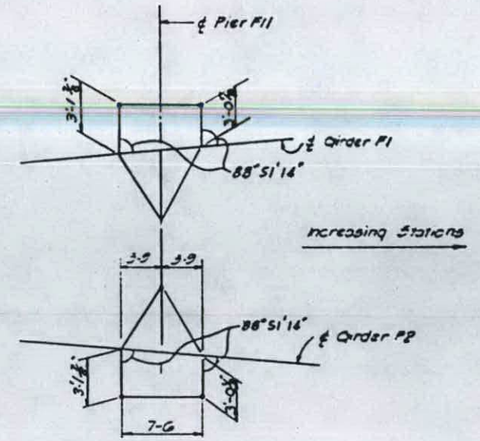
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. – 70	82-3HVB-2	ST. CLAIR	252	167
FED. ROAD DIST. NO. 4	ILLINOIS	PROJECT		



PLAN

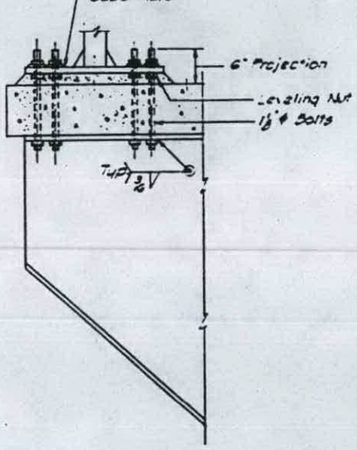


SECTION A-A



DIMENSION PLAN
TRUSS SIGN SUPPORT
BRACKET NO. 11

NOTES:
For location of Truss Sign Support Brackets see Sheet 78. Weight of Truss Sign Support Bracket is included with Quantity for Structural Steel.



DETAIL OF SIGN
POST BASE PLATE

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

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

TRUSS SIGN SUPPORT BRACKET

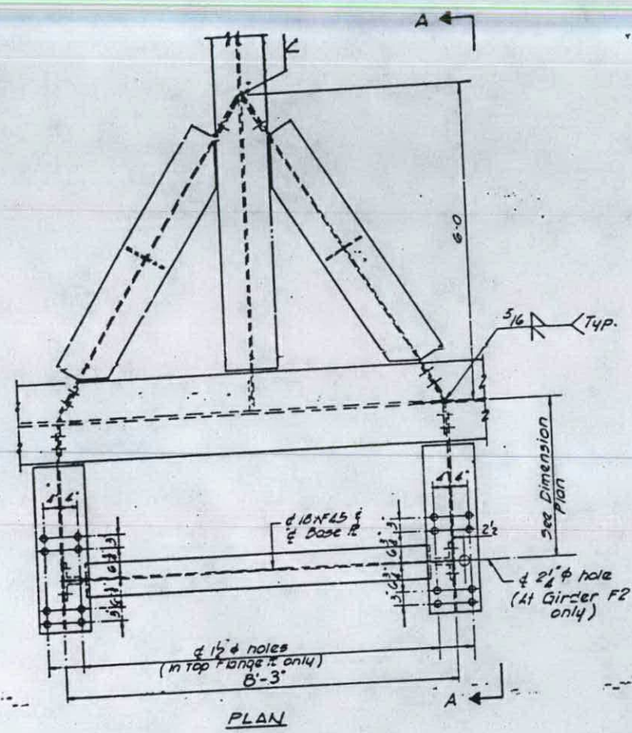
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2

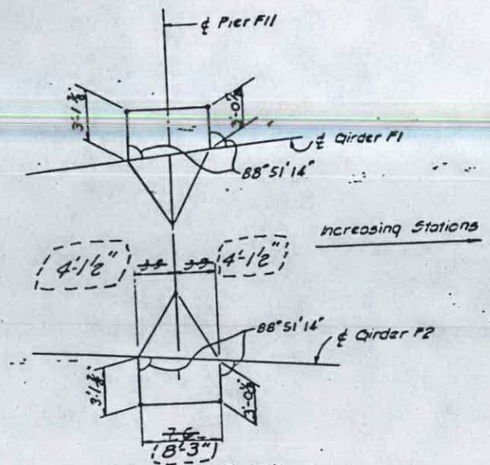
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 1 OF 1 SHTS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. – 70	82-3HVB-2	ST. CLAIR	232	167 A
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

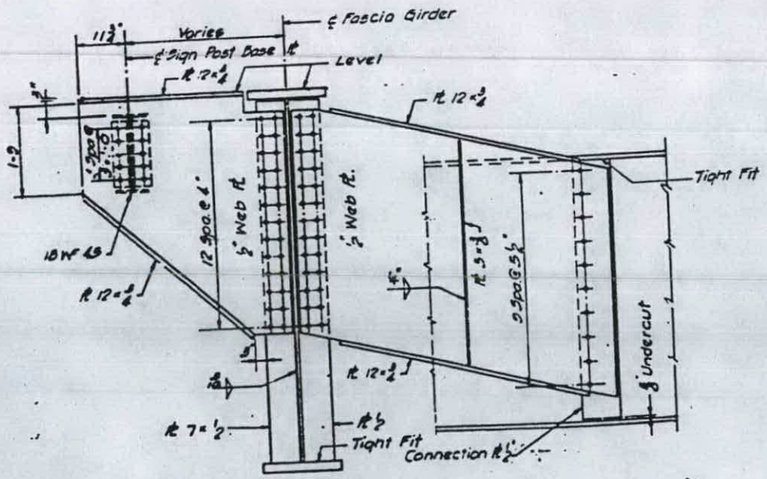


PLAN



DIMENSION PLAN
TRUSS SIGN SUPPORT
BRACKET NO. 11

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



SECTION A-A

DETAIL OF SIGN
POST BASE PLATE

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 82-3HVB-2

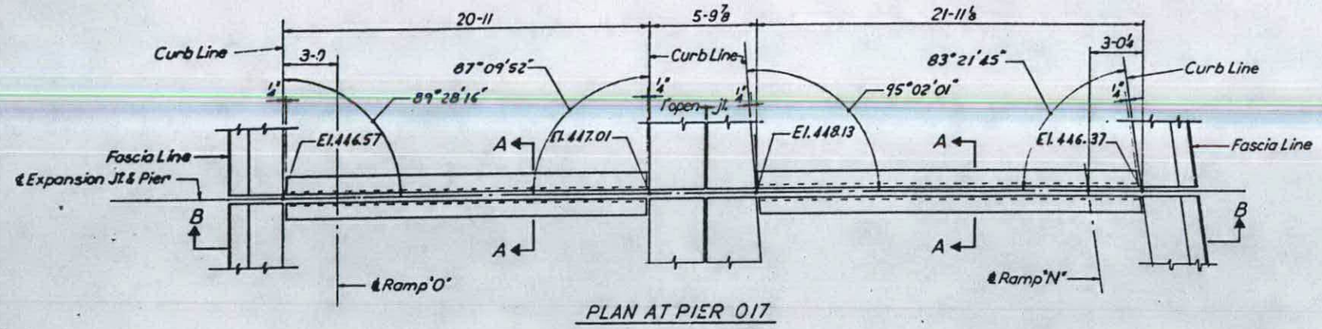
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
104 OF 147

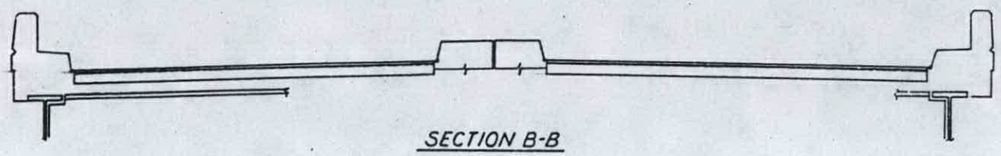
DESIGNED BY A.T.
DRAWN BY
CHECKED BY

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

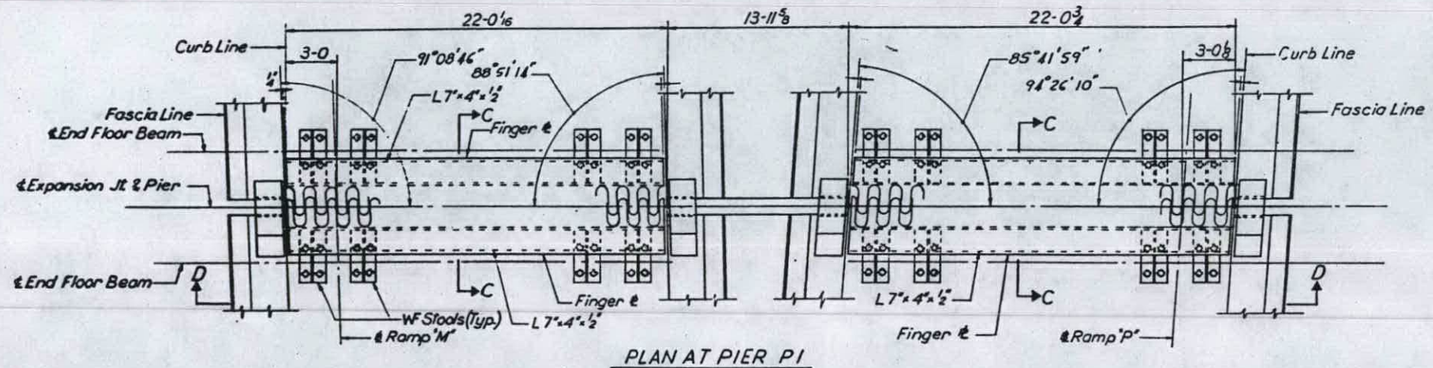
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I – 70	82-3HVB-2	ST CLAIR	252	171
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



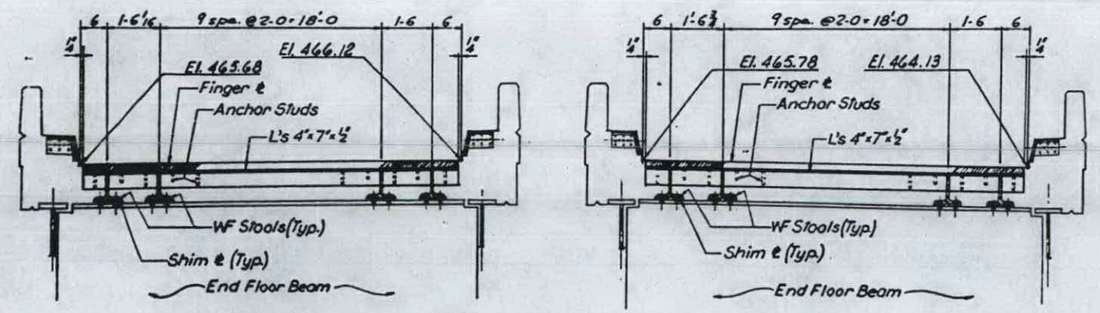
PLAN AT PIER 017



SECTION B-B



PLAN AT PIER P1



SECTION D-D

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

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

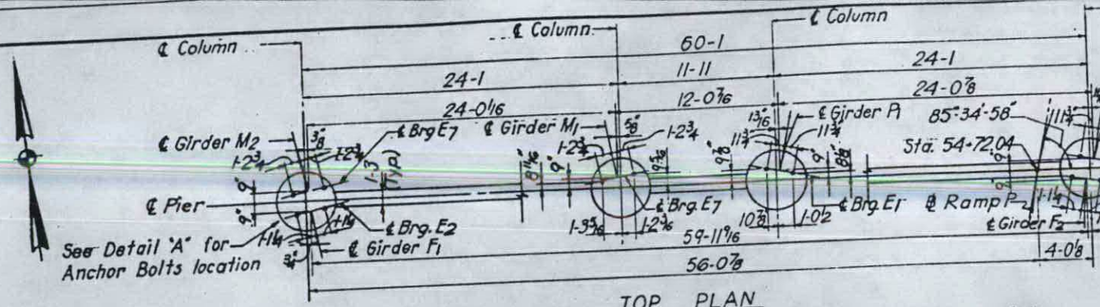
POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. – 70 ST. CLAIR CO. SECTION 82-3HVB-2

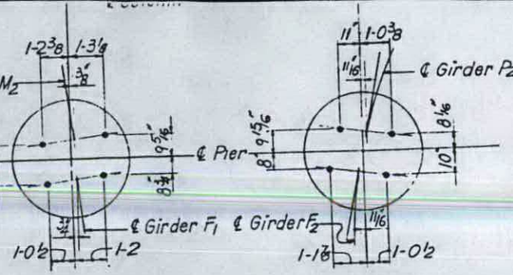
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
105 of 147

F. A. I. — 70	82-3HVB-2	ST. CLAIR	252	197
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

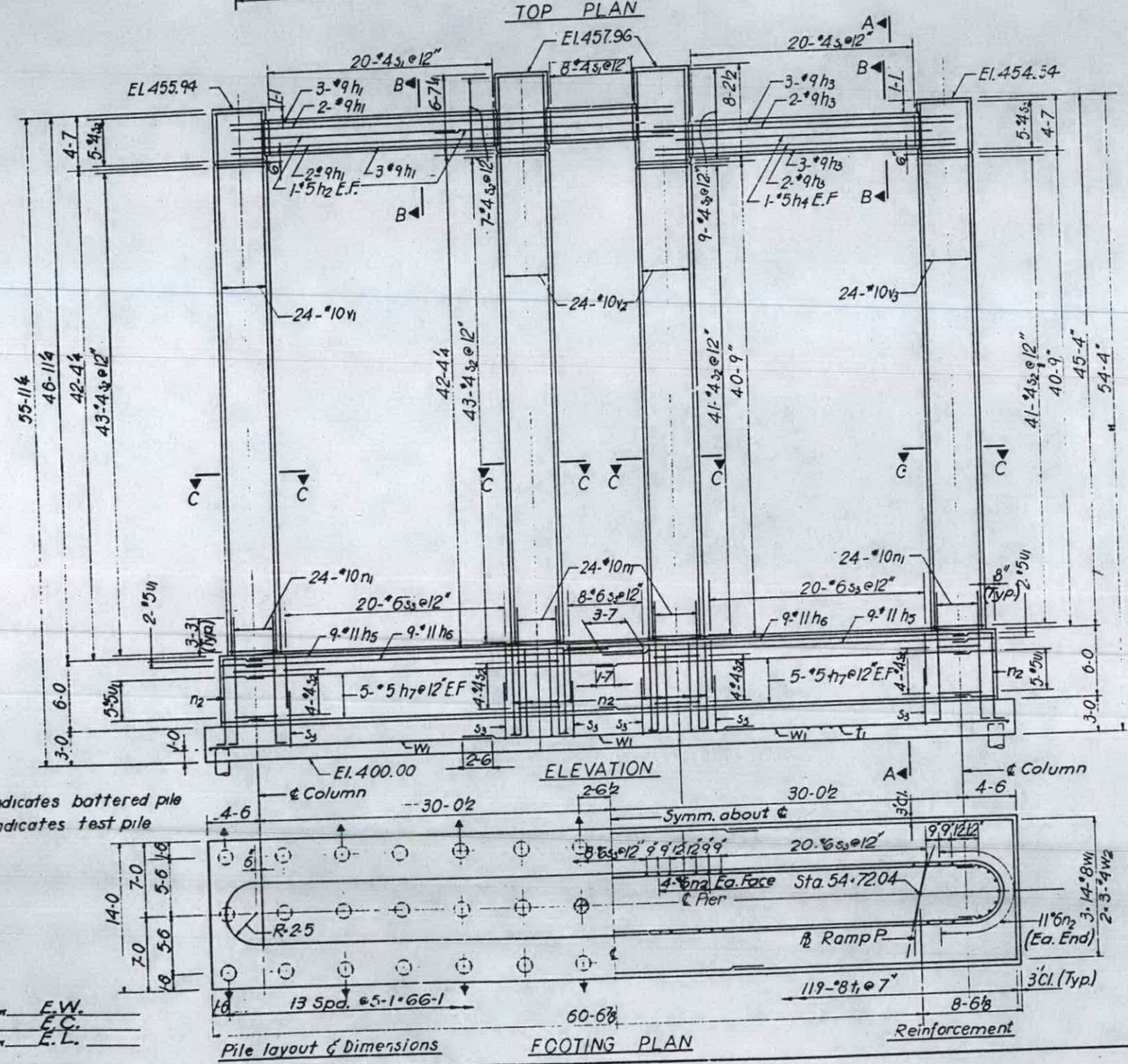


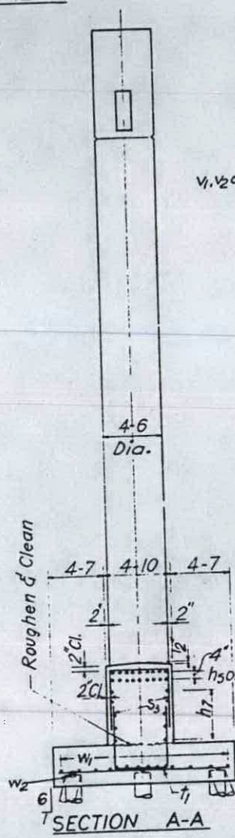
TOP PLAN



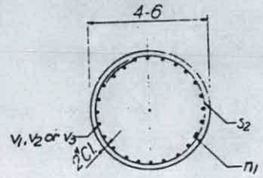
DETAIL 'A'

DETAIL 'B'

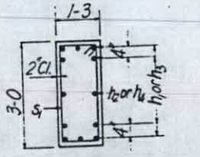




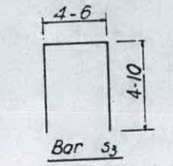
SECTION A-A

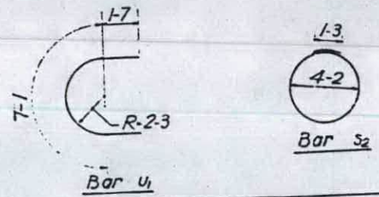


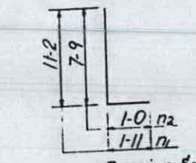
SECTION C-C



SECTION B-B







Bars n1 & n2

BILL OF MATERIAL

* Mark	No. Reqd	Size	Length	Shape
131 h1	10	#9	38-4	
131 h2	2	#5	34-6	
131 h3	10	#9	26-5	
131 h4	2	#5	22-7	
131 h5	18	#11	30-4	
131 h6	18	#11	34-4	
131 h7	20	#5	31-4	
131 n1	96	#10	13-1	
131 n2	38	#6	8-9	
131 s1	48	#4	8-0	
131 s2	210	#4	14-4	
131 s3	96	#6	14-2	
131 t1	119	#8	13-8	
131 u1	14	#5	10-3	
131 v1	24	#10	46-9	
131 v2	48	#10	48-10	
131 v3	24	#10	45-2	
131 w1	36	#8	24-9	
131 w2	6	#4	35-0	

* See Note 'X' Sheet No. 14

Item	Unit	Total
Class 'X' Concrete	C.Y.	219.7
Reinforcement bars	Lbs.	45,960
Concrete Piles	L.F.	1517
Test Pile	Ea.	1

PILE DATA

Type: Concrete
Reqd. Capacity: 32 Tons
Est. Length: 37-0
No. Reqd: 41*
Test Pile: 1

* Does not include test pile

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

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

PIER P1

POPLAR STREET BRIDGE APPROACHES
RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2

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

SHEET 131 OF 147

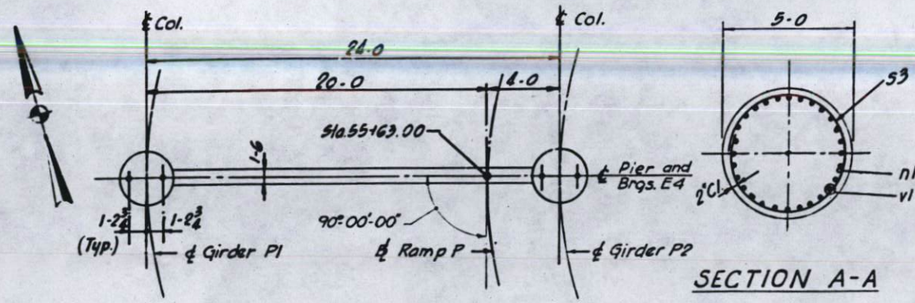
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I.-70	82-3HVB-2	ST. CLAIR	252	138
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BILL OF MATERIAL

•Mark	No. Reqd. Pier P2	No. Reqd. Pier P3	Size	Length	Shape
132 h1	12	-	#11	26-2	
132 h2	2	2	#3	27-6	
132 h3	12	12	#10	25-0	
132 h4	8	8	#6	25-0	
132 h5	-	12	#10	26-2	
132 n1	56	-	#10	12-1	
132 n2	18	18	#7	7-11	
132 n3	-	56	#11	12-8	
132 s1	20	19	#4	8-6	
132 s2	40	-	#7	14-0	
132 s3	110	-	#4	15-11	
132 s4	-	38	#7	14-6	
132 s5	-	114	#4	17-6	
132 t1	37	-	#10	16-2	
132 t2	-	68	#10	11-8	
132 u1	12	-	#5	11-0	
132 u2	-	12	#5	11-10	
132 v1	28	-	#10	51-3	
132 v2	28	-	#10	49-6	
132 v3	-	28	#11	54-0	
132 v4	-	28	#11	52-1	
132 w1	14	-	#7	33-0	
132 w2	4	-	#4	33-0	
132 w3	-	17	#7	33-8	
132 w4	-	4	#4	33-8	

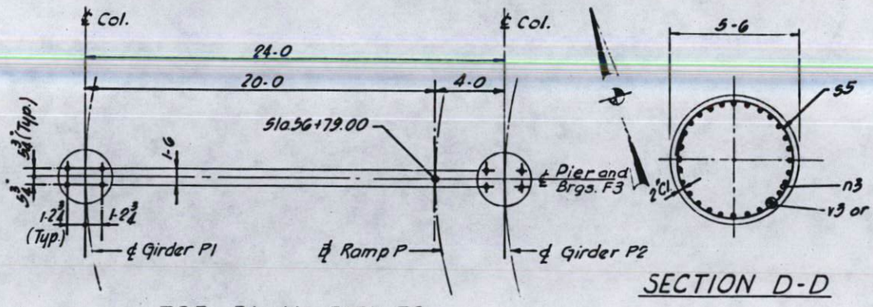
•See Note 'X' Sh. No. 14

Item	Unit	Total Pier P2	Total Pier P3
Class 'X' Concrete	C.Y.	166.0	195.7
Reinforcement Bars	Lbs.	26,370	32,110
Concrete Piles	L.F.	1426	1155
Test Piles (concrete)	Ea.	1	1



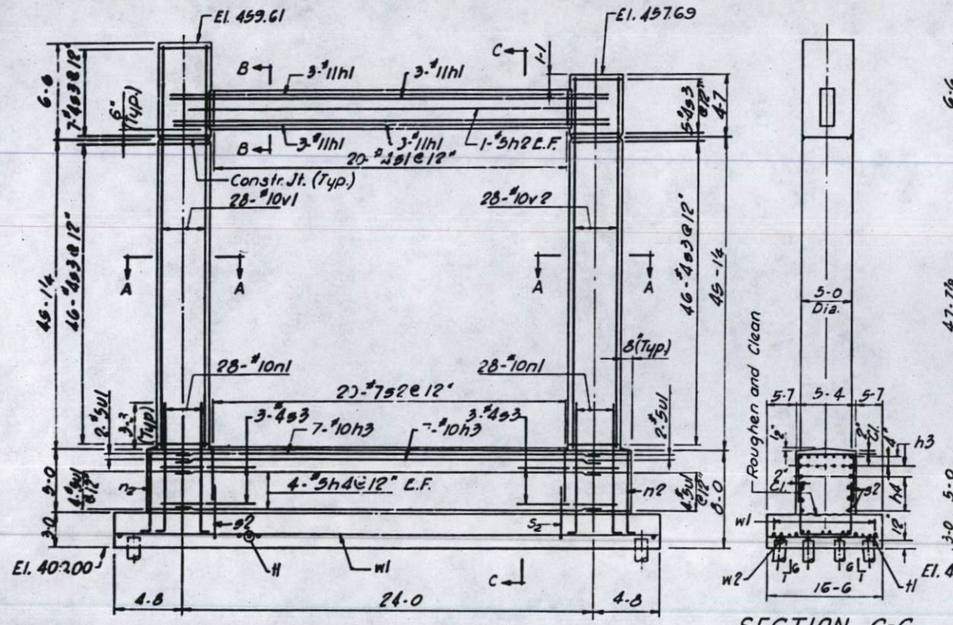
TOP PLAN - PIER P2

SECTION A-A



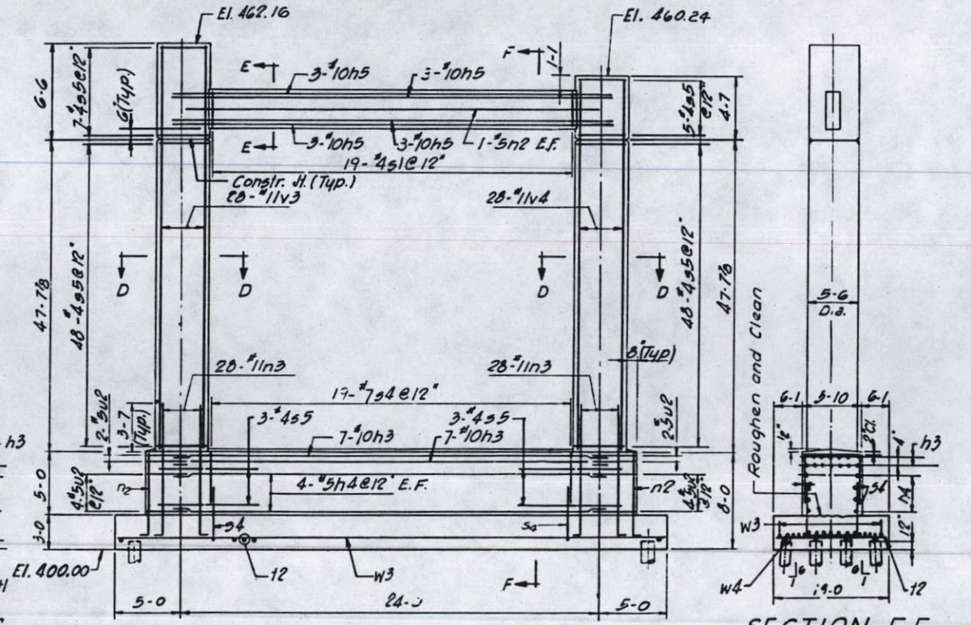
TOP PLAN - PIER P3

SECTION D-D



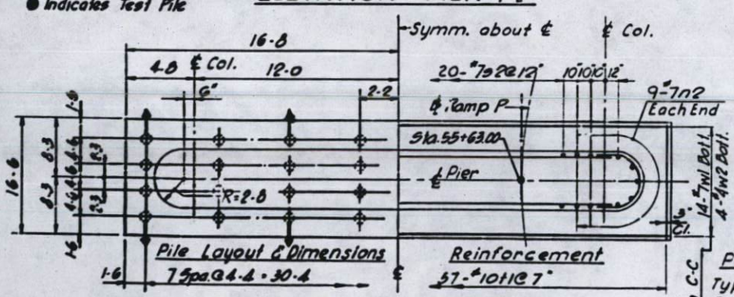
ELEVATION - PIER P2

SECTION C-C

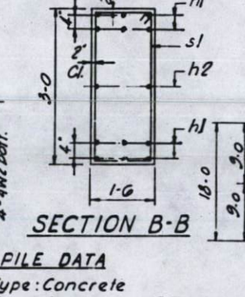


ELEVATION - PIER P3

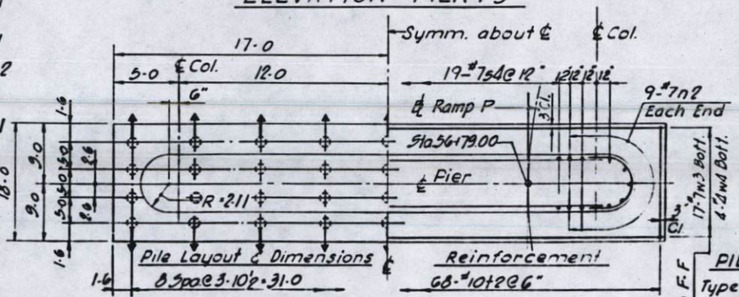
SECTION F-F



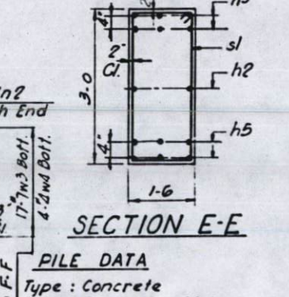
FOOTING PLAN - PIER P2



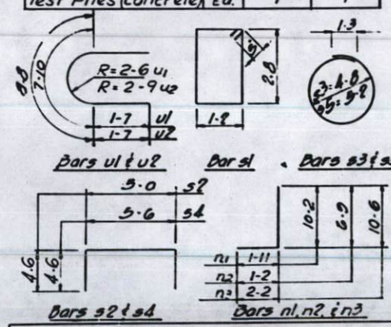
SECTION B-B



FOOTING PLAN - PIER P3



SECTION E-E



Indicates Battered Piles
Indicates Test Pile

PILE DATA
Type: Concrete
Req'd. Capacity: 35 Tons
Est. Length: 46-0
No. Reqd: 31*
Test Pile 1
* Does not include Test Pile
See Section C-C

PILE DATA
Type: Concrete
Req'd. Capacity: 36 Tons
Est. Length: 33-0
No. Reqd.: 35*
Test Pile: 1
* Does not include Test Pile
See Section F-F

DESIGNED BY E.W.
DRAWN BY V.K.
CHECKED BY E.L.

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

PIERS P2 AND P3

POPLAR STREET BRIDGE APPROACHES RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVB-2

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

SHEET 132 OF 147

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

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

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

F.A.I. ROUTE 70 SECTION 82-3HVD-1
PROJECT I-IG-70-1(82)0

POPLAR STREET BRIDGE APPROACHES

ST. CLAIR COUNTY

C—98—033—65

DESCRIPTION OF PROJECT:

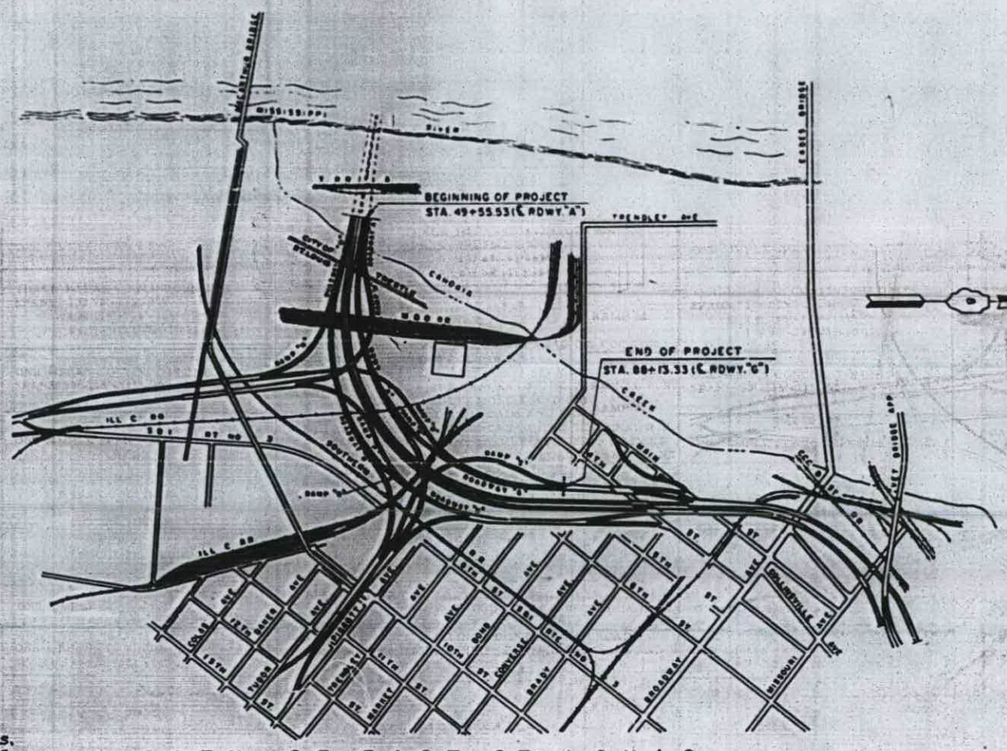
SECTION 82-3HVD-1 INCLUDES THE COMPLETE CONSTRUCTION OF THE REINFORCED CONCRETE DECK SLAB FOR THE FOLLOWING:

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 @ 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'
	ONE SIMPLE SPAN - 73-3 5/16
RAMP O	FOUR 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 97 - 5 3/4, 130'-101' 1 @ 90'-115'-90' 1 @ 93'-121'-93' 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'
	TWO SIMPLE SPANS 1 @ 88' 1 @ 69'
RAMP Q	ONE 3-SPAN CONTINUOUS UNIT SPANS: 75-2 7/8, 98'-76'
RAMP R	TWO 3-SPAN CONTINUOUS UNITS SPANS 1 @ 104-6 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'

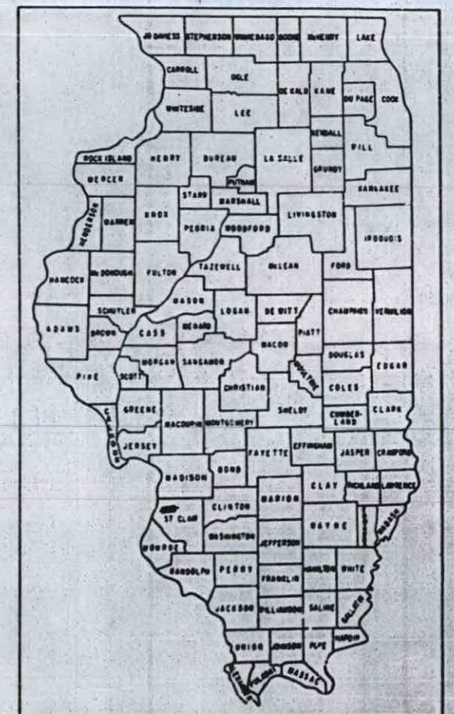
THE POPLAR STREET BRIDGE APPROACHES FOR THIS SECTION CARRY THE FOLLOWING:

ROADWAY A OVER THE TRACKS OF THE TERMINAL R.R. ASSOCIATION, GULF, MOBILE AND OHIO, AND ILLINOIS CENTRAL RAILROADS AND RAMP Q;
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
0 350 700 1400 2100



LOCATION OF SECTION INDICATED THUS: ■

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

LENGTH OF PROJECT
4261.16 FT. = .807 MILES

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

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Bridge & Traffic Structures

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
11-30 1965 Robert E. Kraut
5-9 1967 A. Wm. Caudill
5-9 1967 W. E. Baumann
5-9 1967
6-9 1967 Thomas J. Lyons

8-67

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

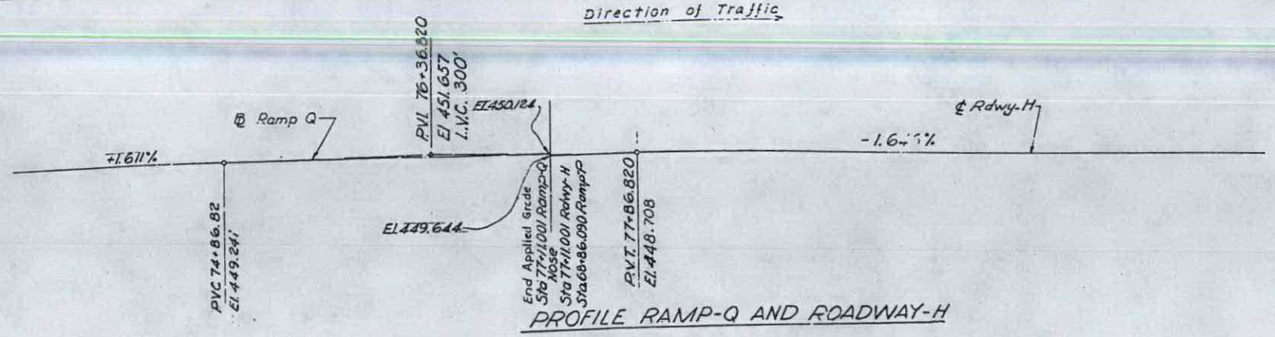
CONTRACT NO. 25092

ST. CLAIR COUNTY SECTION 82-3HVD-1 F.A.I. ROUTE 70 PROJECT I-IG-70-1(78)0

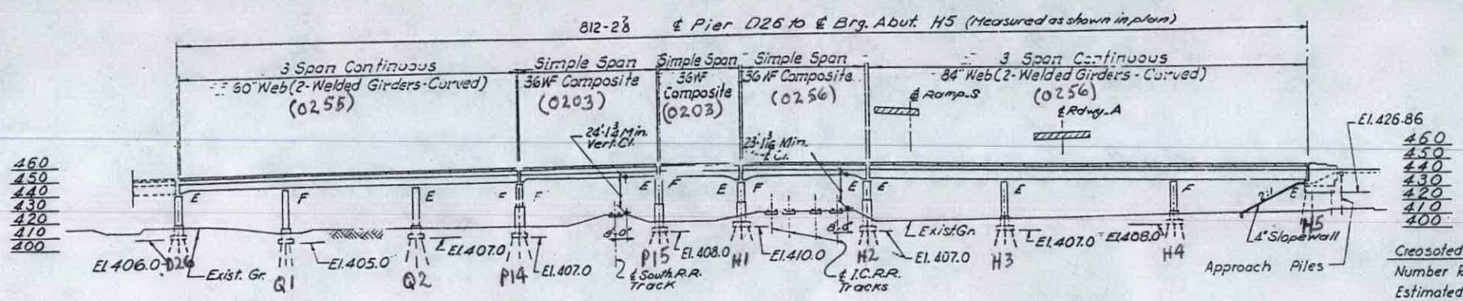
082 - 0203

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

82-3HVFBE-1 33
82-3HVD-1 68 of 253



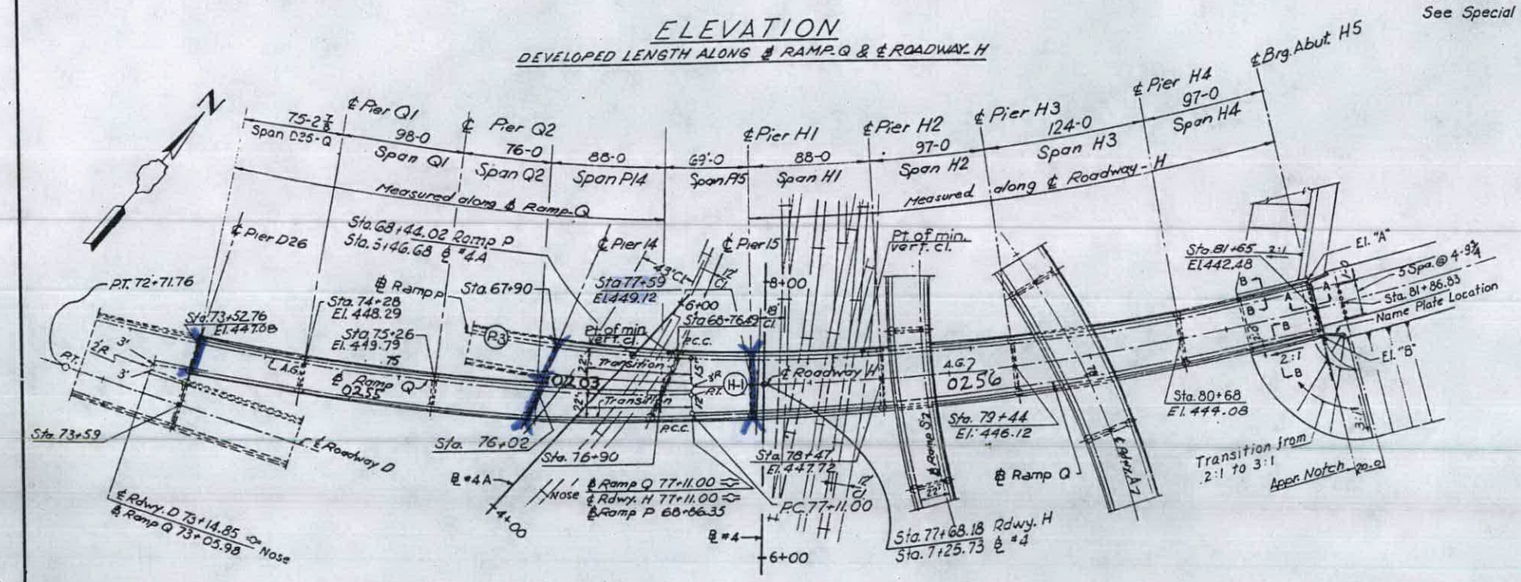
PROFILE RAMP-Q AND ROADWAY-H



ELEVATION

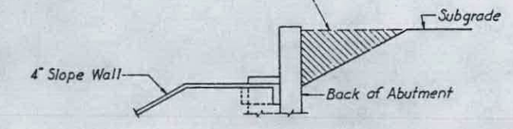
DEVELOPED LENGTH ALONG ℄ RAMP-Q & ℄ ROADWAY-H

Creosoted Approach Piles
Number Required - 6
Estimated Length - 25'
See Special Provisions

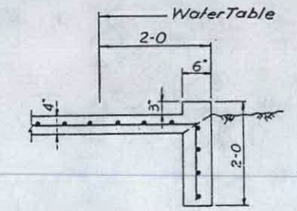


PLAN

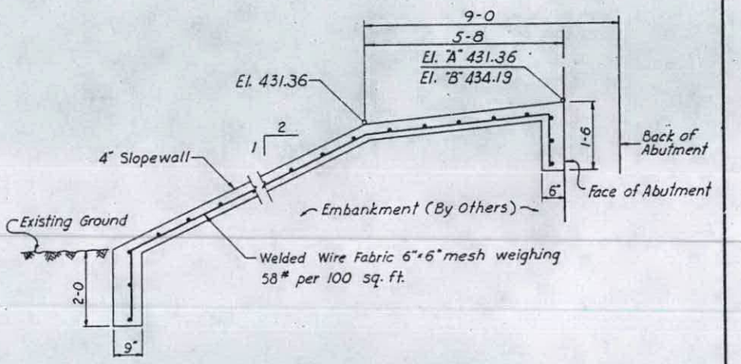
This portion of embankment to be placed after abutment is in place.



SECTION A-A



SECTION B-B



TYPICAL CROSS SECTION OF SLOPE WALL

BILL OF MATERIAL

Item	Unit	Quantity
Slope Wall 4"	S.Y.	282
Name Plate	Ea.	1
Embankment	C.Y.	100

DESIGNED BY J.J.N.
DRAWN BY S.A.B.
CHECKED BY R.M.R.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
PLAN AND ELEVATION
SPANS D26-Q, Q1, Q2, P14, P15, H1 THRU H4
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMP "Q"
SECTIONS 82-3HVB-1
82-3HVFBE-1
82-3HVD-1
F.A.I. RT. 70 ST. CLAIR CO. SHEET 15 OF 526
H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS

Ramp P - SN 082-0203
~~Ramp Q - SN 082-0255~~
~~Rdwy H - SN 082-0256~~

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

82-3HVFBE-1
82-3HVD-1

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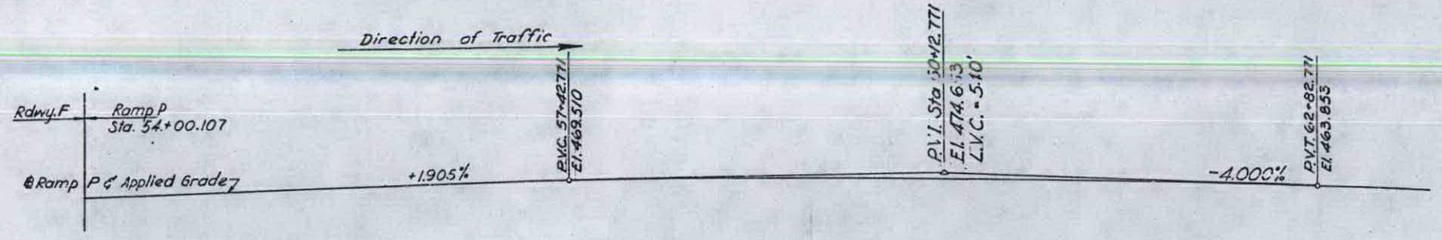
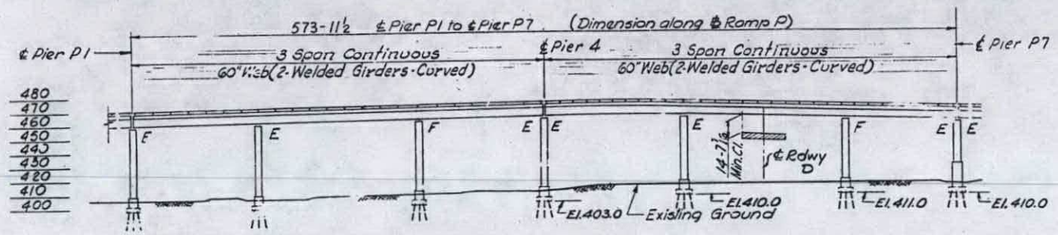
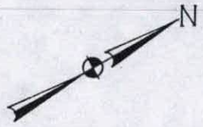
74 of 258



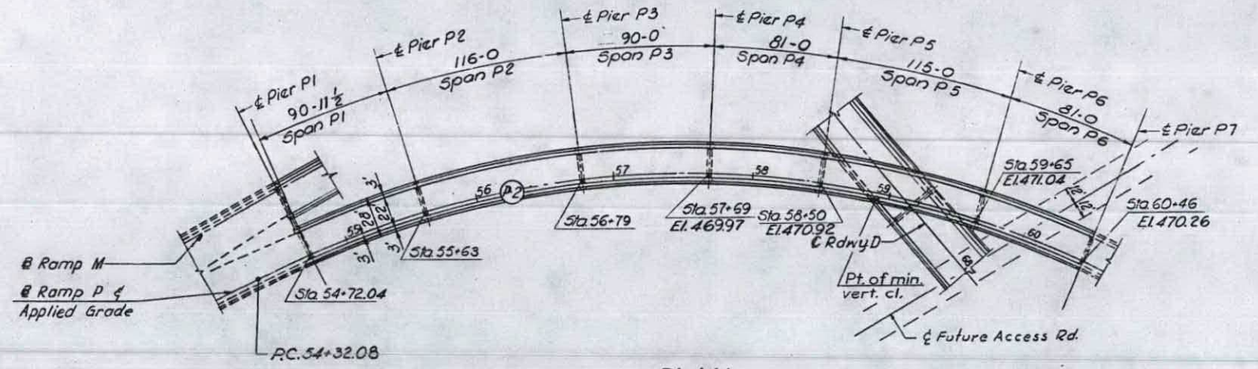
PROFILE RAMP P





ELEVATION

Developed Length along ℄ Ramp P



PLAN

THIS SECTION INCLUDES SPANS P4 THRU P6 ONLY. OTHER DATA SHOWN ON THIS SHEET IS FOR REFERENCE ONLY.

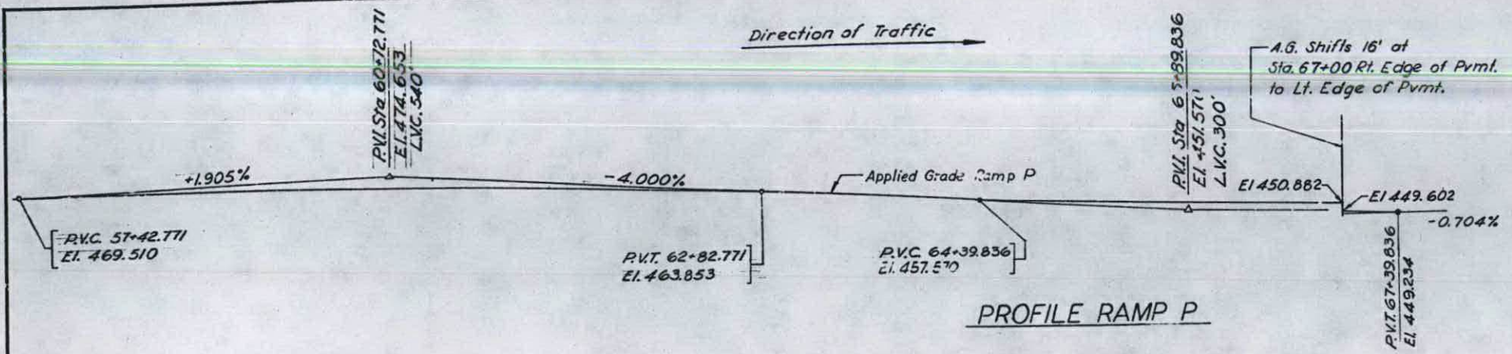
DESIGNED BY J.J.N.
DRAWN BY I.A.M.
CHECKED BY B.H.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
PLAN AND ELEVATION
SPANS P1 THRU P6
POPLAR STREET BRIDGE APPROACHES
RAMP "P"
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
SHEET 21 OF 526

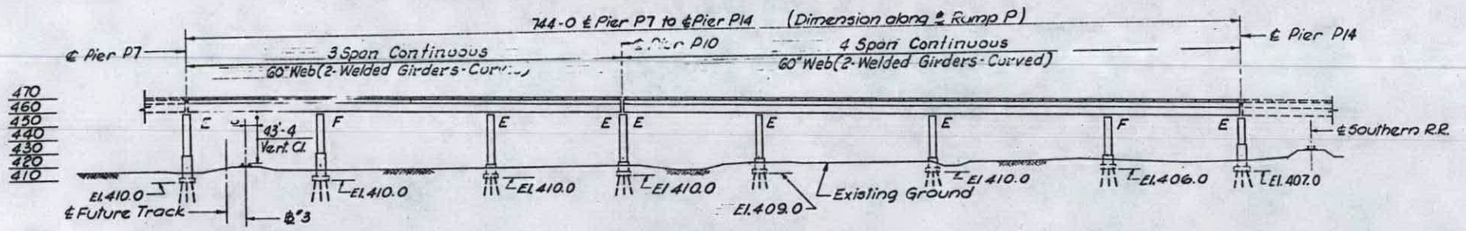
S.N. 082-0203

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

82-3HVFBE-1 40
82-3HVD-1 75 of 258

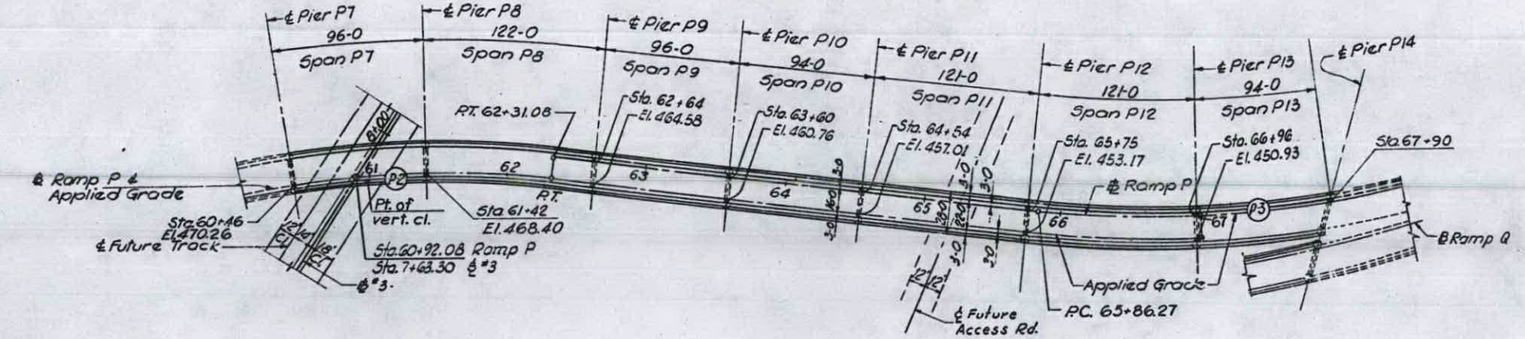


PROFILE RAMP P



ELEVATION

Developed Length along ℄ Ramp P



PLAN

DESIGNED BY J.J.N.
DRAWN BY I.A.M.
CHECKED BY B.H.
APPROVED BY K.A.

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

PLAN AND ELEVATION

SPANS P7 THRU P13

POPLAR STREET BRIDGE APPROACHES RAMP "P"

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

SHEET 22 OF 526

082-0203

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HV8-1	ST.CLAIR		
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF&E-1
82-3HV0-1

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84 of 258

Curve P2

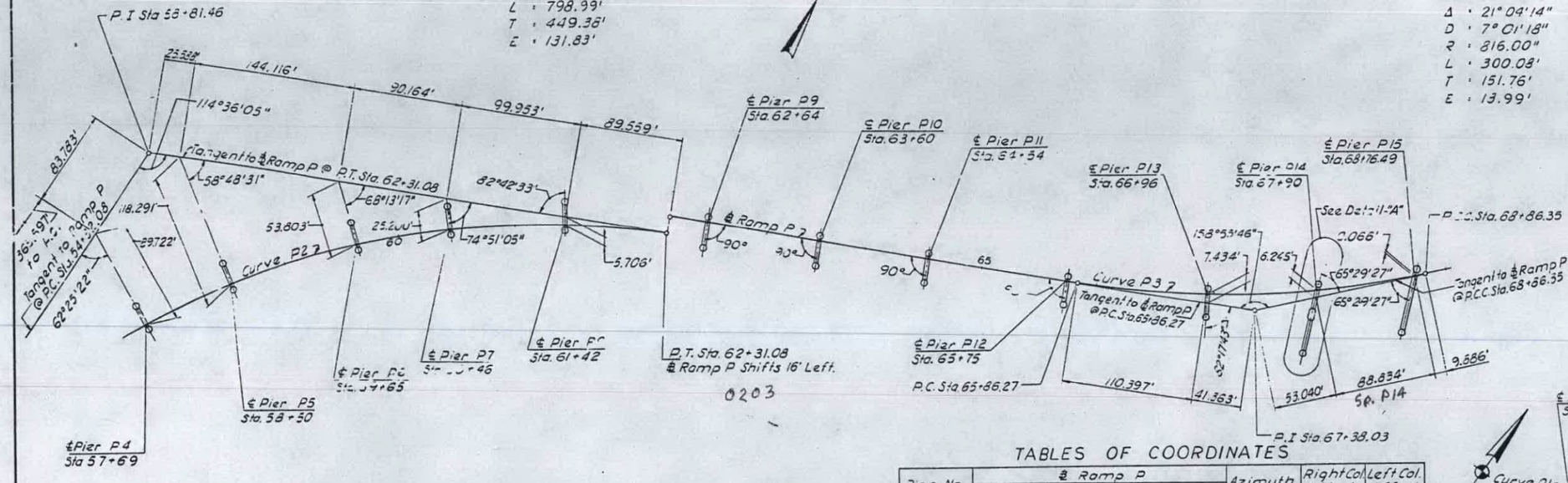
P.I. = 58+81.46
Δ = 65°23'55"
D = 8°11'06"
R = 700.00'
L = 798.99'
T = 449.36'
E = 131.83'

Curve P3

P.I. = 67+38.03
Δ = 21°04'14"
D = 7°01'18"
R = 816.00"
L = 300.08'
T = 151.76'
E = 13.99'

Curve Q1

P.I. = 71+34.70
Δ = 38°09'55"
D = 3°10'59"
R = 1,800.00'
L = 1,199.00'
T = 622.70'
E = 104.67'

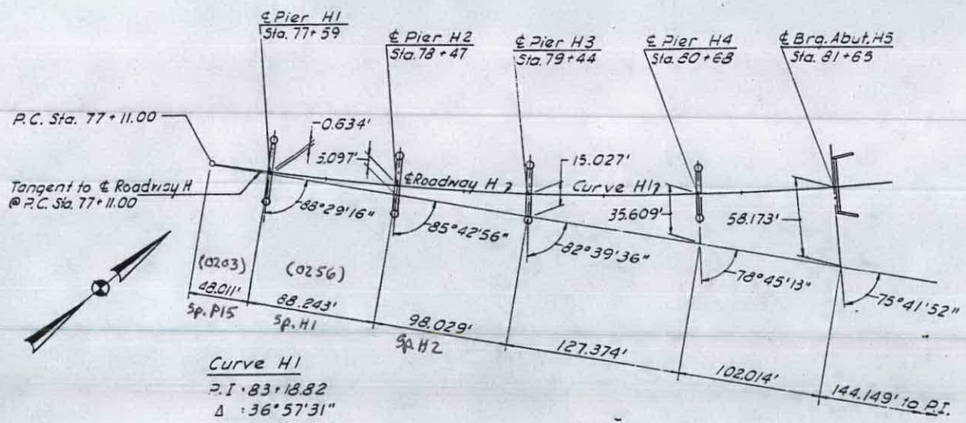


TABLES OF COORDINATES

Pier No.	℄ Ramp P Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
P4	57+69	8704.826	32408.504	122°10'24"	4-0	20-0
P5	58+30	8770.742	32455.501	126°48'12"	4-0	20-0
P6	59+65	8854.053	32534.587	138°12'58"	4-0	20-0
P7	60+46	8904.414	32597.970	144°50'46"	4-0	20-0
P8	61+42	8954.141	32679.999	152°42'14"	4-0	20-0
P9	62+64	9016.149	32787.002	159°59'41"	20-0	4-0
P10	63+60	9048.991	32877.210	159°59'41"	20-0	4-0
P11	64+54	9081.149	32965.538	159°59'41"	20-0	4-0
P12	65+75	9122.344	33079.237	159°59'41"	20-0	4-0
P13	66+96	9170.748	33190.105	152°17'24"	20-0	4-0
P14	67+90	9219.149	33270.626	163°26'00"	52-0	4-3
P15	68+76.49	9271.395	33339.354	163°26'00"	45-4	3-4

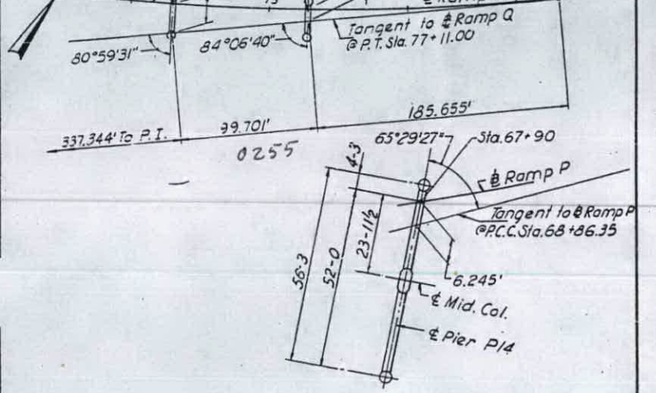
Pier No.	℄ Roadway H Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
H1	77+39	9296.990	33393.945	136°34'31"	21-4	21-4
H2	78+47	9359.004	33456.369	133°48'11"	20-2	20-2
H3	79+44	9430.767	33521.613	130°44'51"	19-0½	19-0½
H4	80+68	9527.394	33599.287	126°50'28"	17-10½	17-10½
℄Brg Abut H5	81+65	9606.537	33655.351	123°47'07"	17-1 15/16	17-2

Pier No.	℄ Ramp Q Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
Q1	74+28	9088.251	33139.097	147°05'44"	20-0	4-0
Q2	75+26	9143.701	33218.886	143°58'35"	20-0	4-0



Curve H1

P.I. = 83+18.82
Δ = 36°57'31"
D = 3°09'01"
R = 1,818.76'
L = 1,173.19'
T = 607.32'
E = 98.88'



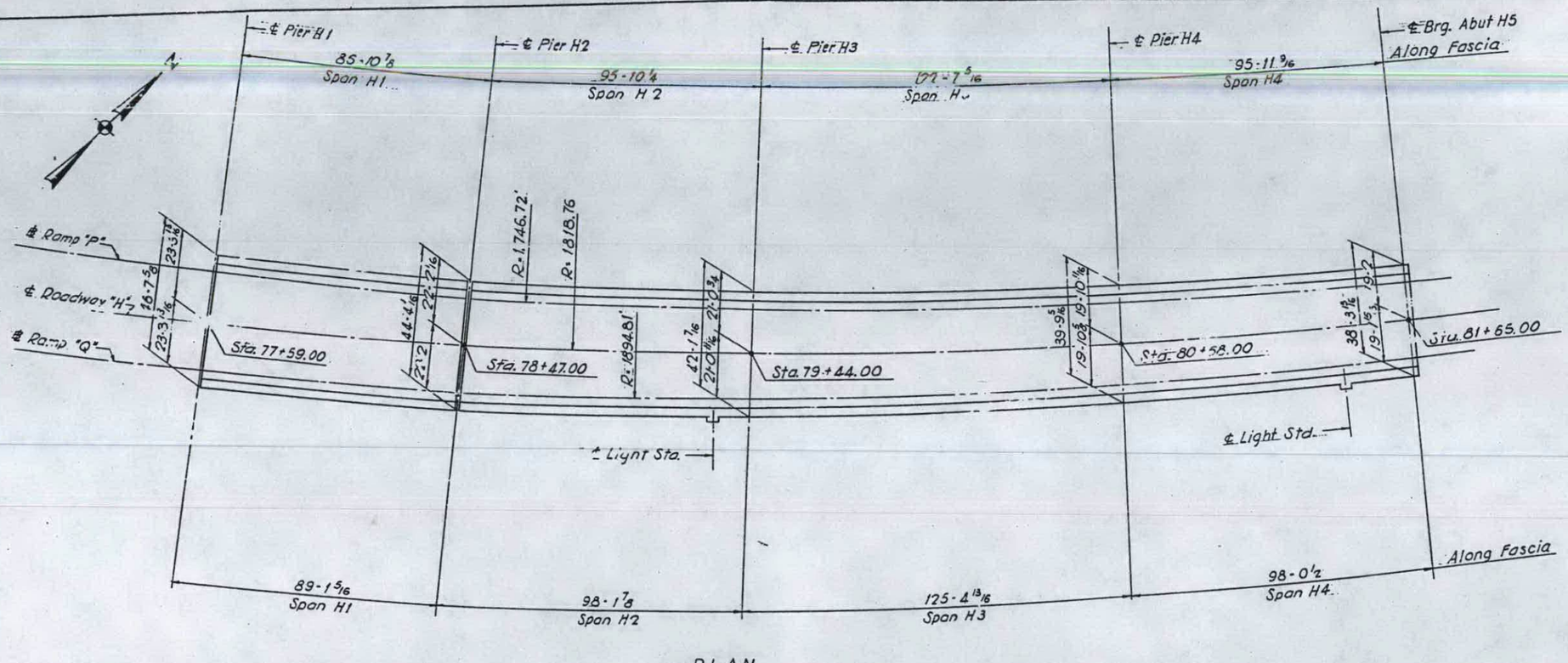
DETAIL - "A"

DESIGNED BY R.M.R.
DRAWN BY I.M.
CHECKED BY S.Q.B.
APPROVED BY K.A.

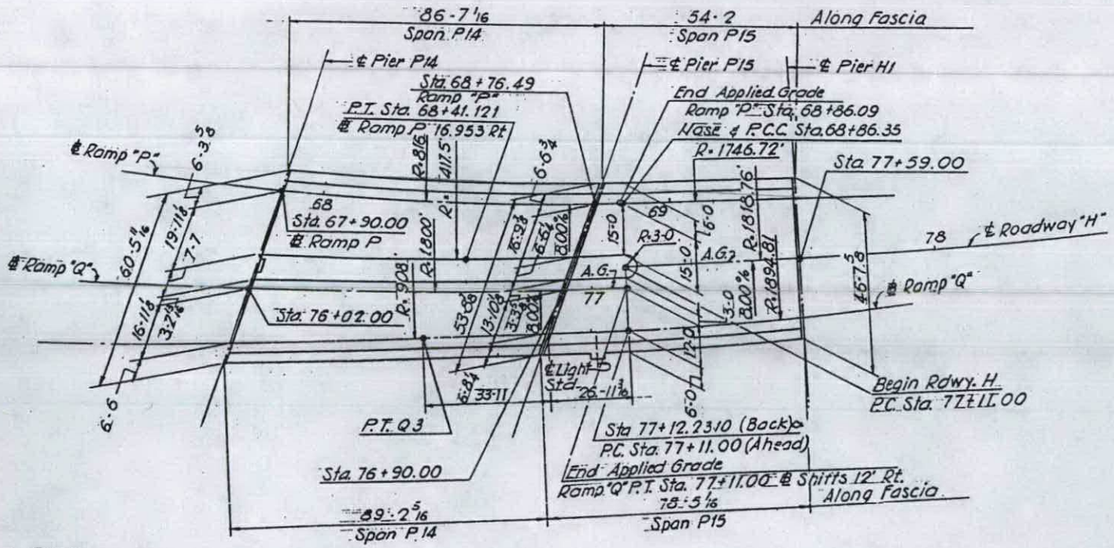
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
GEOMETRIC LAYOUT
PIERS P4 THRU P15, Q1 & Q2, H1 THRU H5
POPLAR STREET BRIDGE APPROACHES
RAMPS P&Q AND ROADWAY "H"
SECTIONS 82-3HV8-1
82-3HVF&E-1
82-3HV0-1
F.A.I. RT. 70 ST. CLAIR CO.
SHEET 51 OF 526
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

P - 082-0203
Q - 082-0255
H - 082-0256

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	116
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
Spans H1 thru H4



PLAN
Spans P14 & P15

CURVE DATA Q3
P.I. 76+07.7806504
Δ = 5° 30' 24.738"
R = 908.00'
Dc = 6° 18' 36.368
L = 87.2706422'
T = 43.6689430
E = 1.0482769

DESIGNED BY R.M.R.
DRAWN BY Y.R.
CHECKED BY W.J.F.
APPROVED BY K.A.

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

SLAB

DIMEMENSION PLAN — SPANS H1 THRU H4; P14 & P15

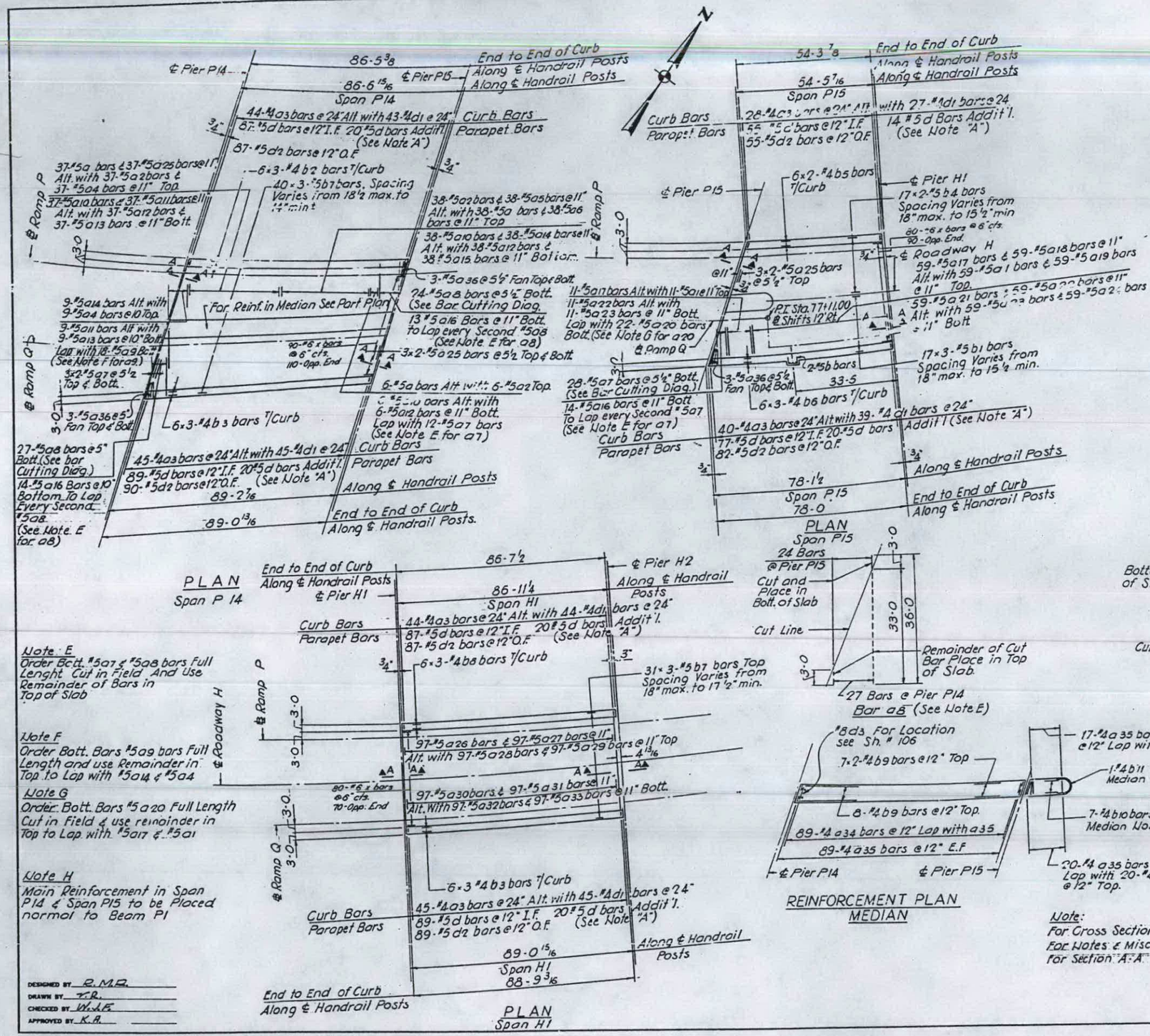
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMP "P"

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

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

SHEET 63 of 528

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	117
FED. ROAD DIV. NO. 4	ILLINOIS.	PROJECT		



REINFORCEMENT PLAN
MEDIAN

Note:
For Cross Section see Sheet No. 65
For Notes & Misc. Details See Sheet No. 35
For Section A-A See Sheet No. 362

BILL OF MATERIAL

*Bar	NO P14	NO P15	NO H1	Size	Length	Shape
64 a	81			#5	28-9	
64 a1		70		#5	27-10	
64 a2	81			#5	35-6	
64 a3	89	28	89	#4	3-9	
64 a4	46			#5	21-3	
64 a5	38			#5	19-3	
64 a6	38			#5	26-0	
64 a7	24	28		#5	30-6	
64 a8	51			#5	33-6	
64 a9	12			#5	33-11	
64 a10	81			#5	24-6	
64 a11	16			#5	33-0	
64 a12	81			#5	32-10	
64 a13	46			#5	25-11	
64 a14	47			#5	30-0	
64 a15	38			#5	23-9	
64 a16	27	14		#5	2-7	
64 a17		70		#5	20-5	
64 a18		59		#5	29-7	
64 a19		59		#5	22-2	
64 a20		22		#5	35-10	
64 a21		59		#5	34-4	
64 a22		70		#5	17-8	
64 a23		70		#5	24-2	
64 a24		59		#5	25-10	
64 a25	49	12		#5	28-0	
64 a26			97	#5	27-9	
64 a27			97	#5	20-0	
64 a28			97	#5	20-8	
64 a29			97	#5	27-3	
64 a30			97	#5	24-4	
64 a31			97	#5	23-8	
64 a32			97	#5	32-7	
64 a33			97	#5	17-5	
64 a34	89	20		#4	5-6	
64 a35	178	37		#4	2-10	
64 a36	12	6		#5	5-0	
64 b		2		#5	3-8	
64 b1		150		#5	26-9	
64 b2	18			#4	29-5	
64 b3	18		18	#4	30-3	
64 b4		104		#5	33-10	
64 b5		12		#4	27-6	
64 b6		18		#4	26-8	
64 b7	342		285	#5	30-4	
64 b8			18	#4	29-6	
64 b9	22			#4	31-0	
64 b10		7		#4	16-0	
64 b11		1		#4	15-6	
64 x	200	170	150	#6	4-9	
64 d	216	166	216	#5	3-3	
64 d1	88	66	89	#4	1-1	
64 d2	177	137	176	#5	3-6	
64 d3	8			#5	4-9	

*See Note "X" Sh. No 35

ITEM	UNIT	TOTAL P14	TOTAL P15	TOTAL H1
Class "X" Concrete	Cu. Yds	140.9	90.1	109.7
Reinforcement Bars	Lbs.	39030	26,720	32,040
Protective Coat	Sq. Yds	468	384	482
¾ ø Stud Shear Connectors	Each	3465	2427	3069

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WOR & BLDGS.
DIVISION OF HIGH

SLAB
SPANS P14, P15 AND H1
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMPS "P" & "Q"

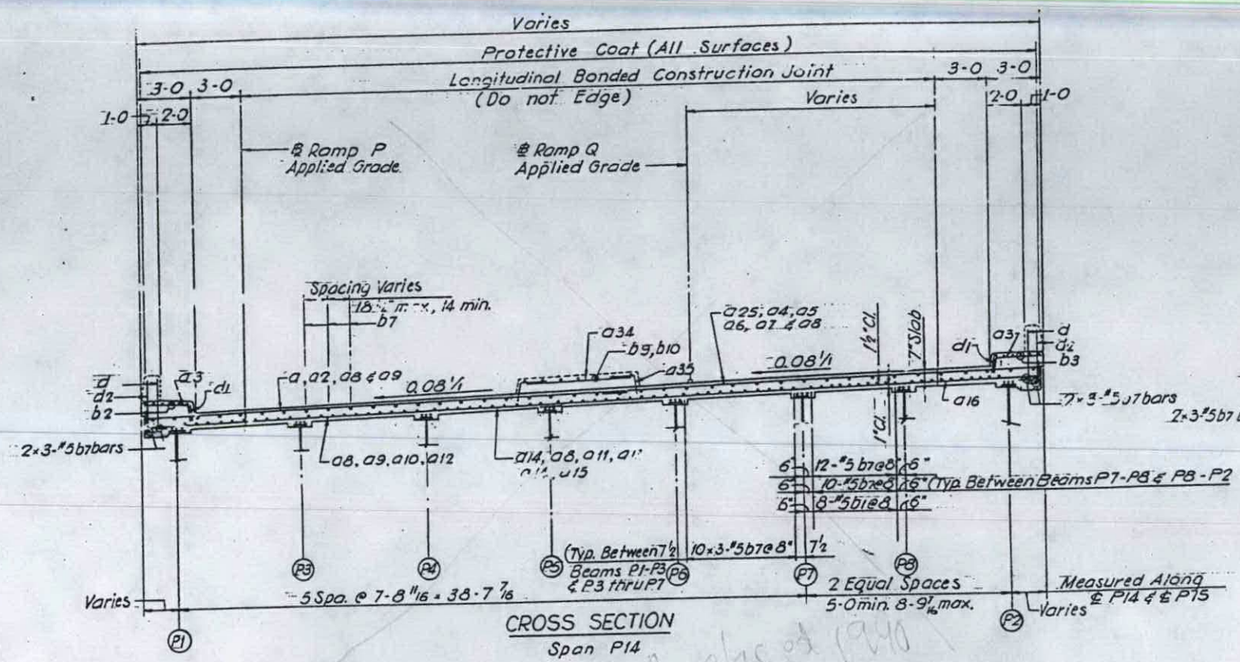
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

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

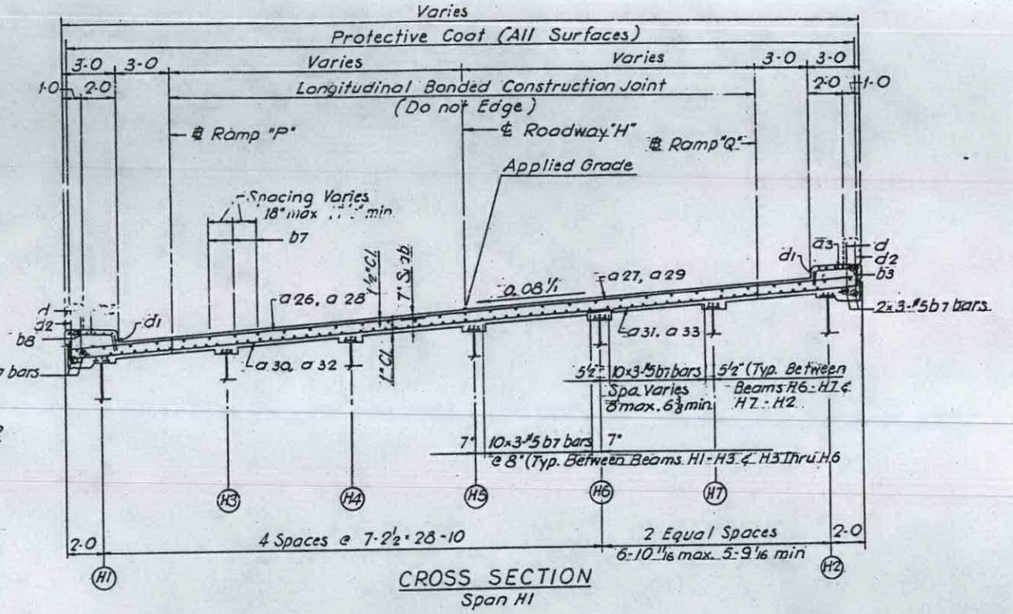
SHEET 64 OF 52E

H1 Rev. Reinf. from 30,990# to 32,960#. Added bars 64x. 6-3-66 N.R.F.
Added shear conn. in B. of M.
P14 REV. Reinf. from 37,600# to 39,030#. Added bars 64x
P15 Rev. Reinf. from 25,510# to 26,720#. Added bars 64x

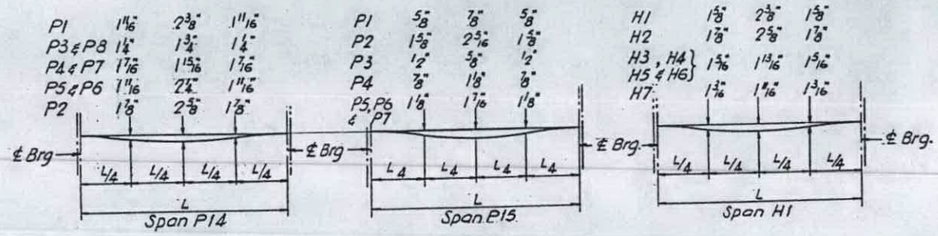
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1,	ST. CLAIR	258	118
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



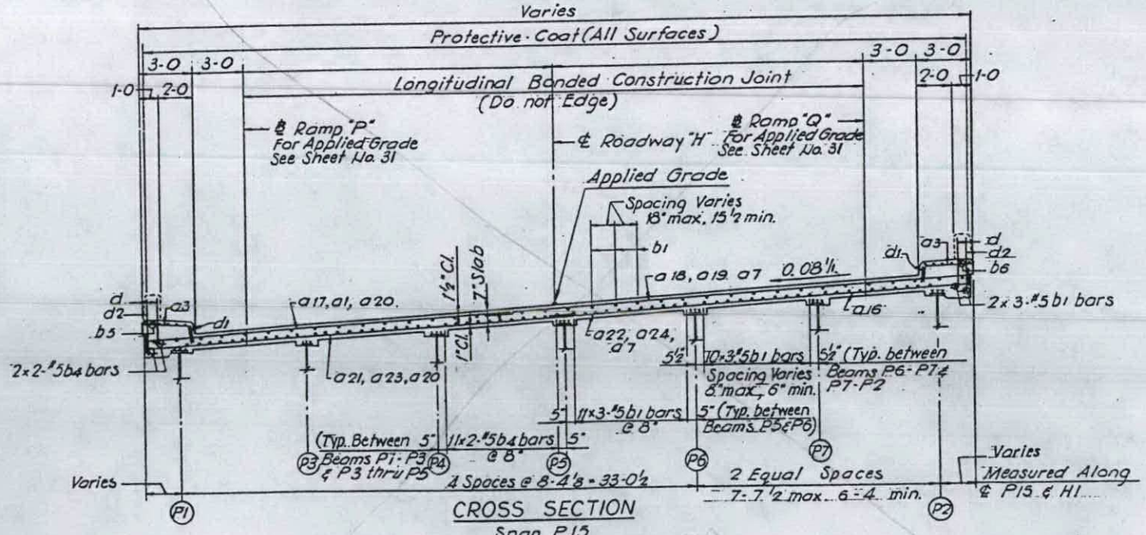
CROSS SECTION
Span P14



CROSS SECTION
Span H1



DEAD LOAD DEFLECTION DIAGRAMS
(Weight of Concrete Only)



CROSS SECTION
Span P15

Note:
For Notes & Location of Section See Sheet No. 64

DESIGNED BY R.M.P.
DRAWN BY T.R.
CHECKED BY W.J.F.
APPROVED BY K.A.

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

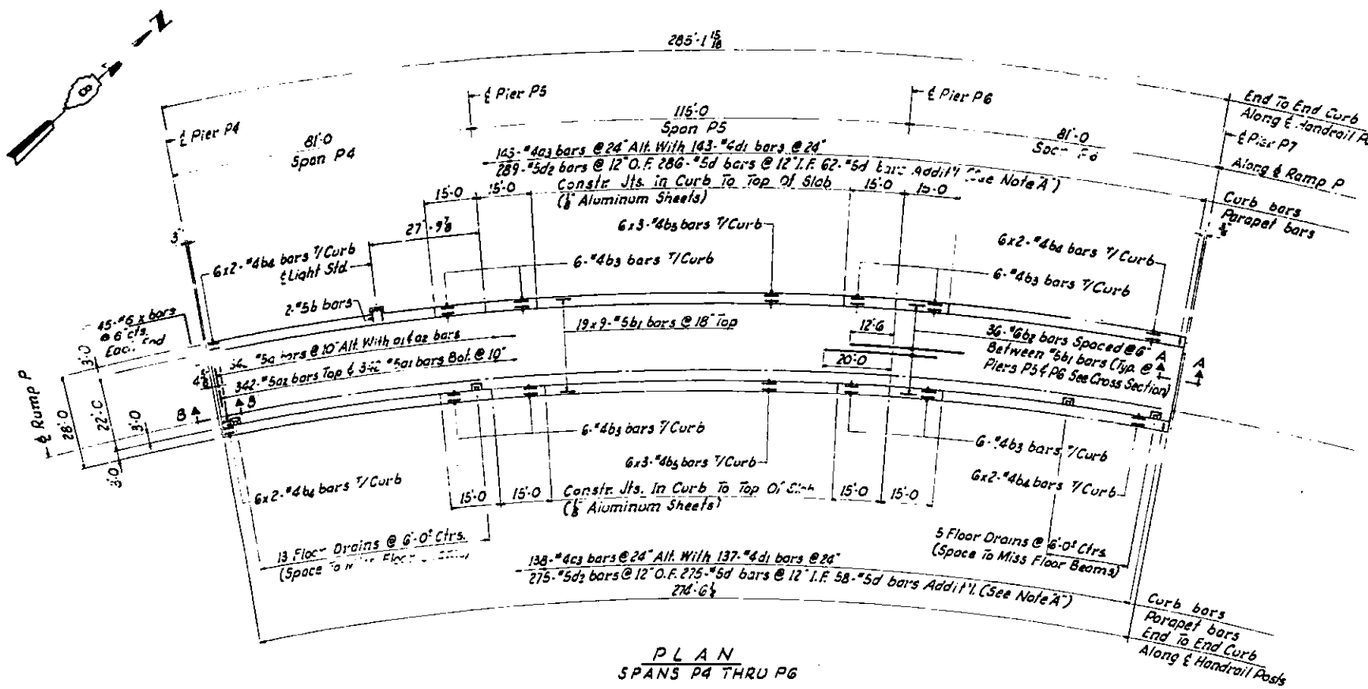
SLAB
SPANS P14, P15 AND H1
POPLAR STREET BRIDGE APPROACHES
ROADWAY "H" AND RAMPS "P" & "Q"

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

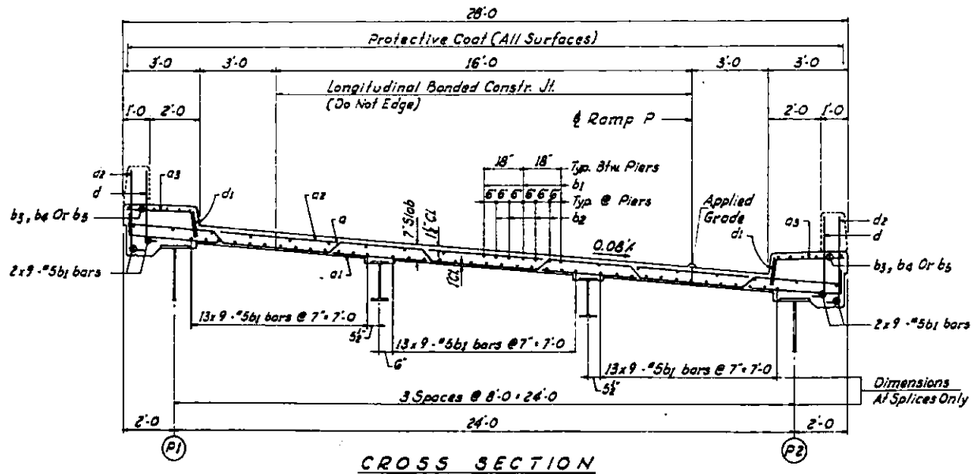
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 65 OF 525

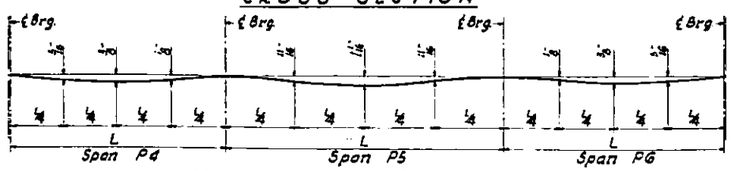
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.—70	82-3HVD-1	ST. CLAIR	258	130
FED. ROAD DIV. NO. 5	ILLINOIS	PROJECT		



PLAN
SPANS P4 THRU P6

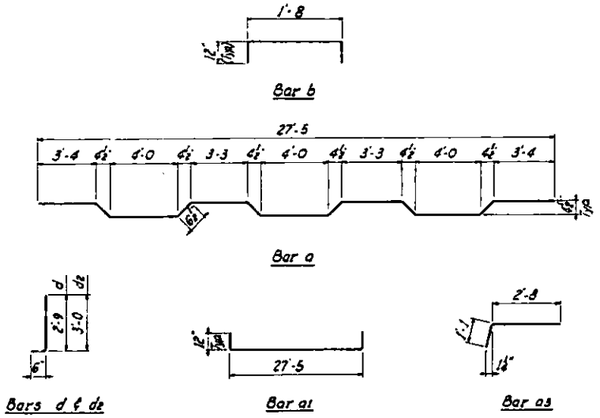


CROSS SECTION



DEAD LOAD DEFLECTION DIAGRAM
FASCIA GIRDERS
(Wt. Of Concrete Only)

DESIGNED BY R.M.D.
DRAWN BY GRATZ
CHECKED BY R.M.D.
APPROVED BY K.A.



BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
77a	342	#5	28'-5	
77a1	342	#5	29'-5	
77a2	342	#5	27'-5	
77a3	281	#4	3'-9	
77b	2	#5	3'-8	
77b1	558	#5	32'-7	
77b2	72	#6	32'-6	
77b3	48	#4	14'-9	
77b4	48	#4	34'-7	
77b5	36	#4	30'-1	
77d	681	#5	3'-3	
77d1	280	#4	1'-1	
77d2	564	#5	3'-6	
77x	90	#6	4'-9"	

• See Note X Sh. Nº 35

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	238.3
Reinforcement Bars	Lbs.	61,110
Protective Coat	Sq. Yds.	994

Notes:
For Notes And Misc. Details See Sh. Nº 35
For Sections A-A & B-B See Sh. Nº 362 & 363

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

SLAB
SPANS P4 THRU P6
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

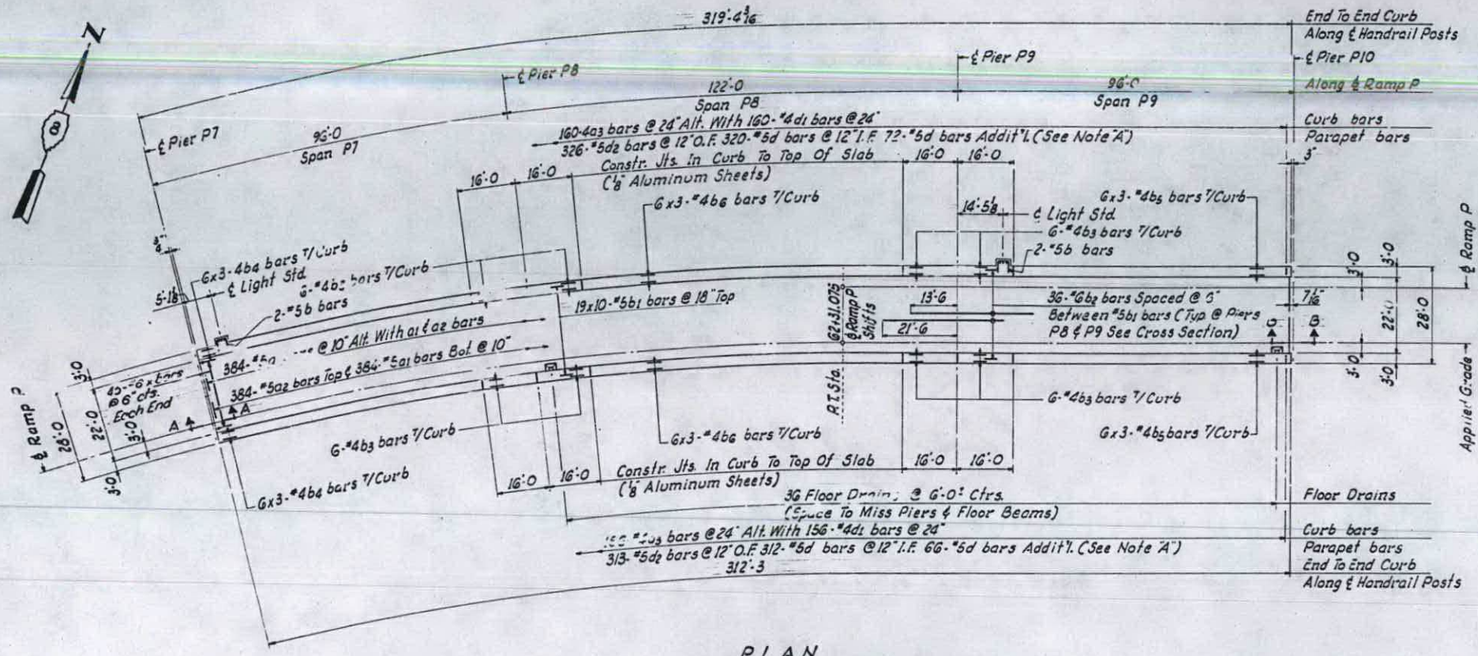
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

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

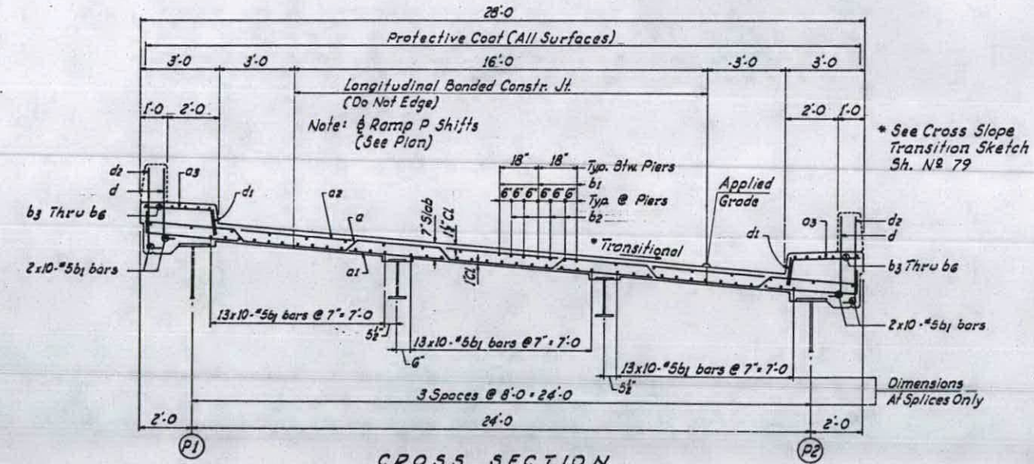
SHEET 77 OF 526

Rev. Reinf. from 60,470# to 61,110#. Added bars 77x. 6-3-66 N.R.F.

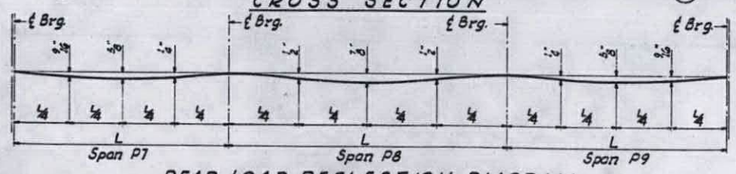
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	131
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



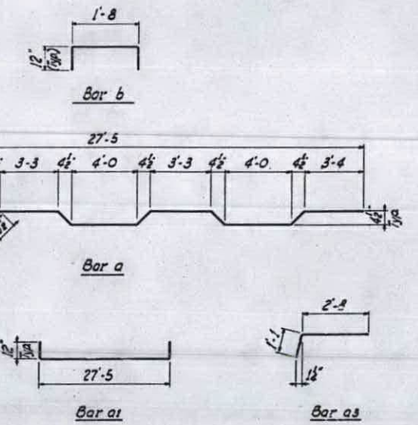
PLAN
SPANS P7 THRU P9



CROSS SECTION



DEAD LOAD DEFLECTION DIAGRAM
FASCIA GIRDERS
(Wt. Of Concrete Only)



BILL OF MATERIAL

• BAR	NO.	SIZE	LENGTH	SHAPE
78 a	384	#5	28-5	
78 a1	384	#5	29-5	
78 a2	384	#5	27-5	
78 a3	316	#4	3-9	
78 b	4	#5	3-8	
78 b1	620	#5	32-11	
78 b2	72	#6	35-0	
78 b3	48	#4	15-9	
78 b4	36	#4	28-3	
78 b5	36	#4	27-2	
78 b6	36	#4	31-6	
78 d	770	#5	3-3	
78 d1	316	#4	1-1	
78 d2	639	#5	3-6	
78 x	90	#6	4'-9"	

• See Note X Sh. № 35

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	2620
Reinforcement Bars	Lbs.	68430
Protective Coat	Sq. Yds.	1122

Notes:
For Notes And Misc. Details See Sh. № 35.
For Sections A-A & B-B See Sh. № 362 & 363.

DESIGNED BY RMR
DRAWN BY GRATZ
CHECKED BY RMR
APPROVED BY K.A.

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

SLAB
SPANS P7 THRU P9
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

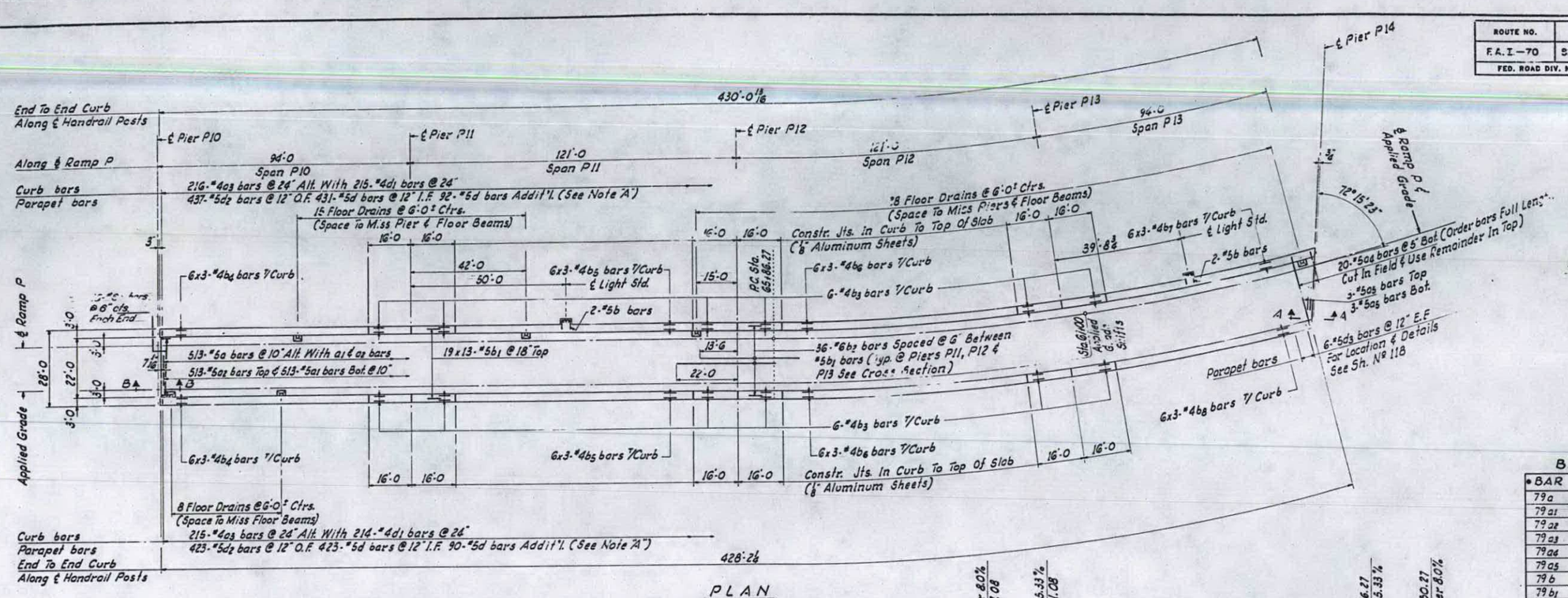
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

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

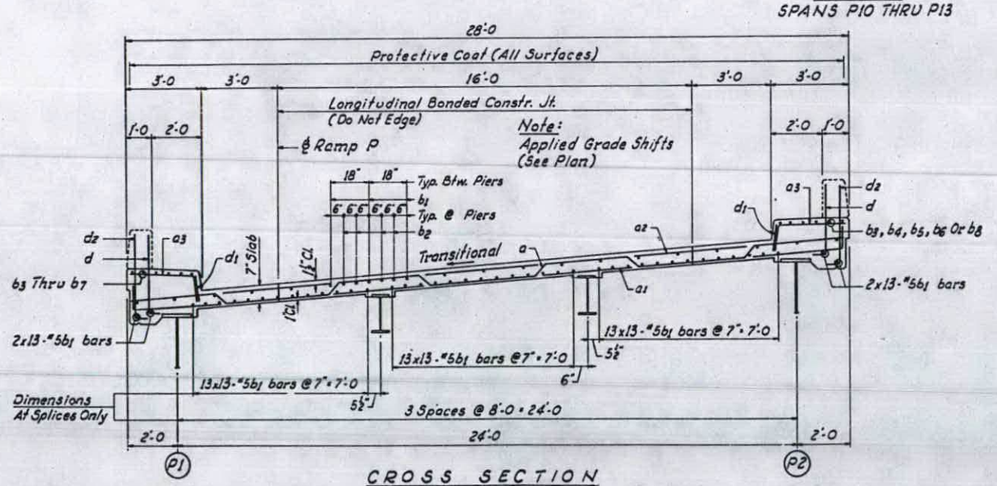
SHEET 78 OF 526

Rev. Reinf. from 67,790# to 68,430#. Added bars 78x. 6-3-66 N.R.F.

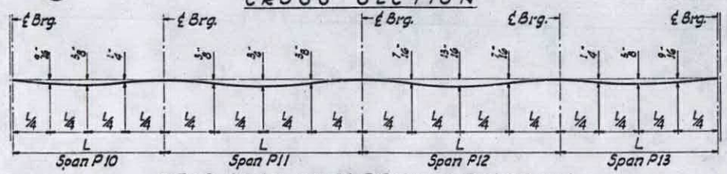
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.—70	82-3HVD-1	ST. CLAIR	258	132
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



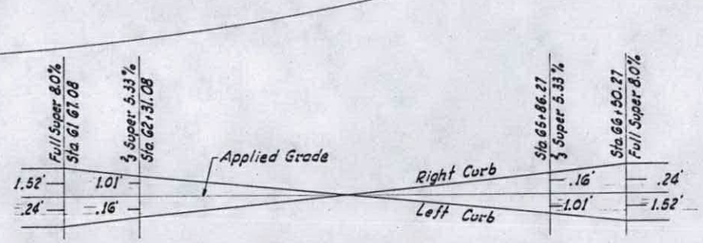
PLAN
SPANS P10 THRU P13



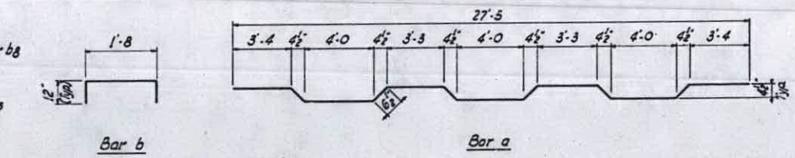
CROSS SECTION



DEAD LOAD DEFLECTION DIAGRAM
FASCIA GIRDERS
(Wt. Of Concrete Only)



RAMP P CROSS SLOPE TRANSITION



BILL OF MATERIAL

• BAR	NO.	SIZE	LENGTH	SHAPE
79a	513	#5	28'-5	
79a1	513	#5	29'-5	
79a2	513	#5	27'-5	
79a3	431	#4	3'-9	
79a4	20	#5	28'-5	
79a5	6	#5	28'-9	
79b	4	#5	3'-8	
79b1	806	#5	34'-0	
79b2	108	#6	35'-6	
79b3	72	#4	15'-9	
79b4	36	#4	26'-6	
79b5	36	#4	30'-3	
79b6	36	#4	31'-3	
79b7	18	#4	26'-11	
79b8	18	#4	25'-2	
79d	1036	#5	3'-3	
79d1	429	#4	1'-1	
79d2	860	#5	3'-6	
79d3	12	#5	4'-9	
79x	90	#6	4'-9"	

ITEM	UNIT	TOTAL
Class "X" Concrete	Cu. Yds.	363.1
Reinforcement Bars	Lbs.	92980
Protective Coat	Sq. Yds.	1525

• See Note X Sh. No. 35.

Notes:
For Notes And Misc. Details See Sh. No 35.
For Sections A-A & B-B See Sh. No 362 & 363.

DESIGNED BY RWR
DRAWN BY GRATZ
CHECKED BY RWR
APPROVED BY FA

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

SLAB
SPANS P10 THRU P13
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

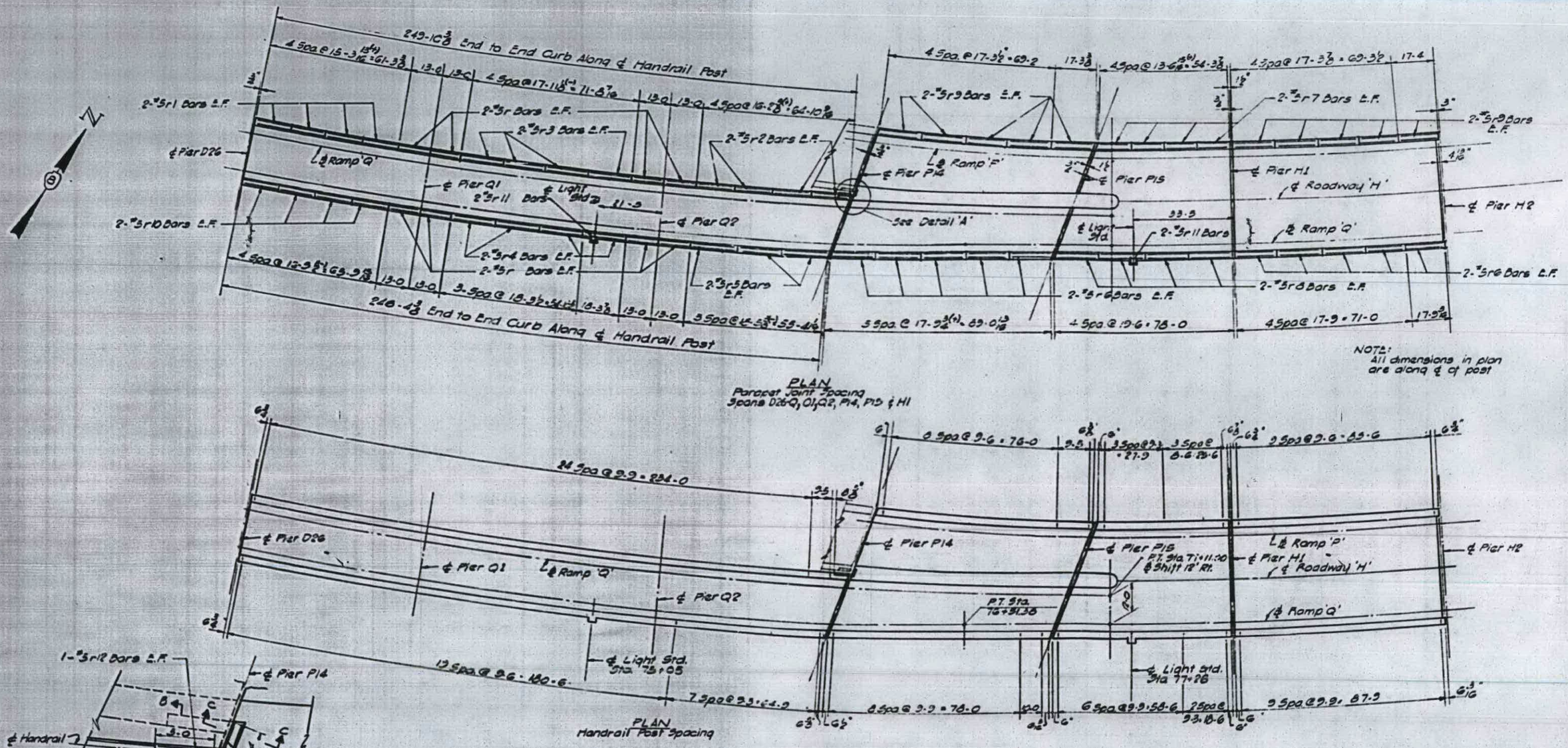
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

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

SHEET 79 OF 526

Rev. Reinf. from 92,360# to 92,980# Added bars 79x. 6-3-66 N.R.F.

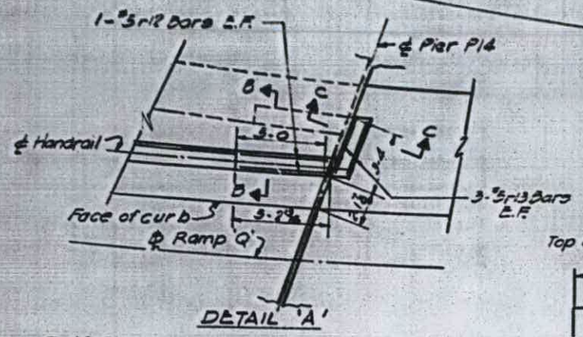
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	159
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



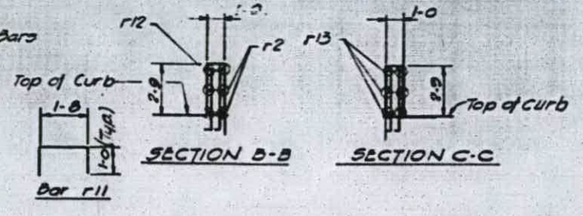
PLAN
Parapet Joint Spacing
Spans D26-Q, Q1, Q2, P14, P15 & H1

NOTE:
All dimensions in plan are along ℄ of post

PLAN
Handrail Post Spacing



DETAIL 'A'



SECTION B-B

SECTION C-C

DESIGNED BY R.M.R.
DRAWN BY
CHECKED BY W.J.F.
APPROVED BY K.A.

*See Note 'x' Sheet No. 35

BILL OF MATERIAL

*BAR	NO	SIZE	LENGTH	SHAPE
106 r	32	#5	12-6	—
106 r1	16	#5	14-11	—
106 r2	16	#5	15-10	—
106 r3	16	#5	17-7	—
106 r4	16	#5	16-0	—
106 r5	12	#5	18-2	—
106 r6	40	#5	17-6	—
106 r7	16	#5	15-4	—
106 r8	16	#5	19-2	—
106 r9	40	#5	16-11	—
106 r10	16	#5	16-1	—
106 r11	4	#5	3-8	C
106 r12	2	#5	4-8	—
106 r13	4	#5	3-2	—

ITEM	UNIT	TOTAL
Class 'X' Concrete	Cu. Yds.	50.6
Reinforcement Bars	Lbs.	4040
Aluminum Handrail	Lin. Ft.	976

NOTES:
For Detail at Light Std. see Sheet No. 35
For Handrail & Parapet Joint Details see Sheet No. 125

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

PARAPET AND HANDRAIL

SPANS D26-Q, Q1, Q2, P14, P15 & H1

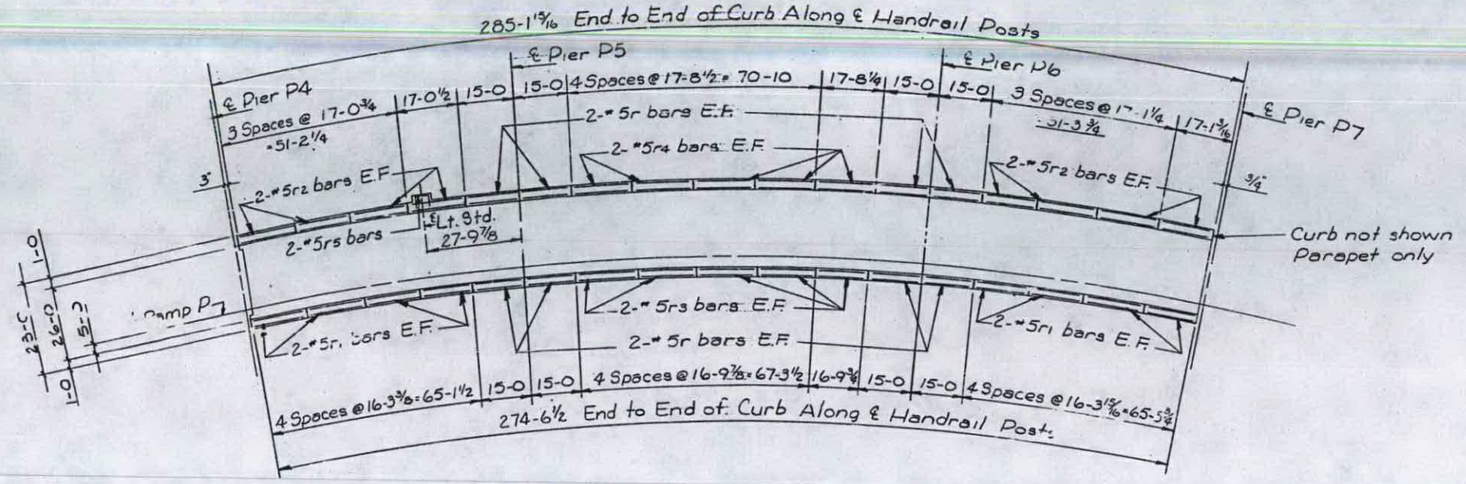
POPLAR STREET BRIDGE APPROACHES
RAMPS "P" & "Q"

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

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

SHEET 106 OF 324

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. - 70	82-3HVD-1	ST. CLAIR	258	169
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
Parapet Joint Spacing
Ramp P
Spans P4-P6

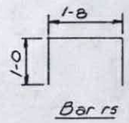
Note:
All Dimensions in Plan are along ℄ of Post

BILL OF MATERIAL

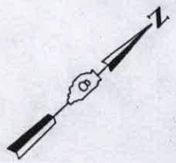
•BAR	NO.	SIZE	LENGTH	SHAPE
116r	32	#5	14-8	
116r1	32	#5	15-11	
116r2	32	#5	16-8	
116r3	20	#5	16-5	
116r4	20	#5	17-4	
116r5	2	#5	3-8	

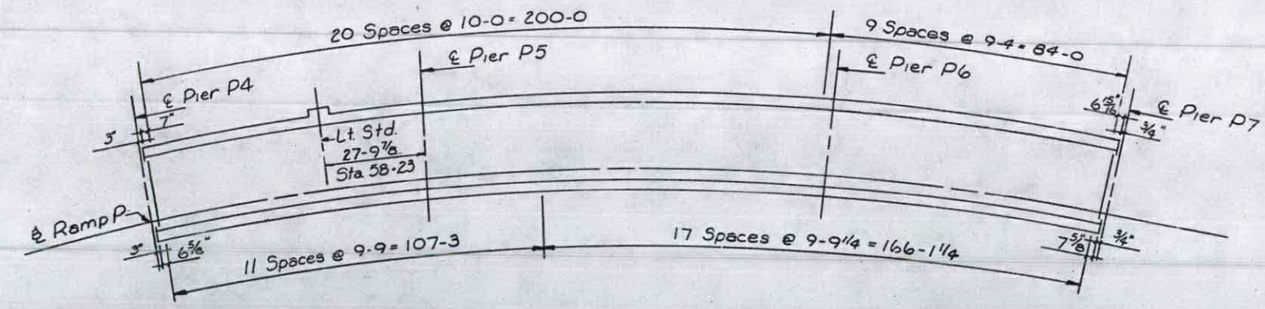
ITEM	UNIT	TOTAL
Class X Concrete	Cu. Yds.	206
Reinforcement Bars	Lbs.	2290
Aluminum Handrail	Lin. Ft.	560

• See Note 'X' Sh. No. 35



Bar r5





PLAN
Handrail Post Spacing
Ramp P

Notes:
For Detail of Lt. Std. see Sh. No. 35
For Detail of Handrail & Parapet Joint see Sh. No. 125

DESIGNED BY RMR
DRAWN BY JWA
CHECKED BY RMR
APPROVED BY KA

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

PARAPET AND HANDRAIL

SPANS P4 THRU P6

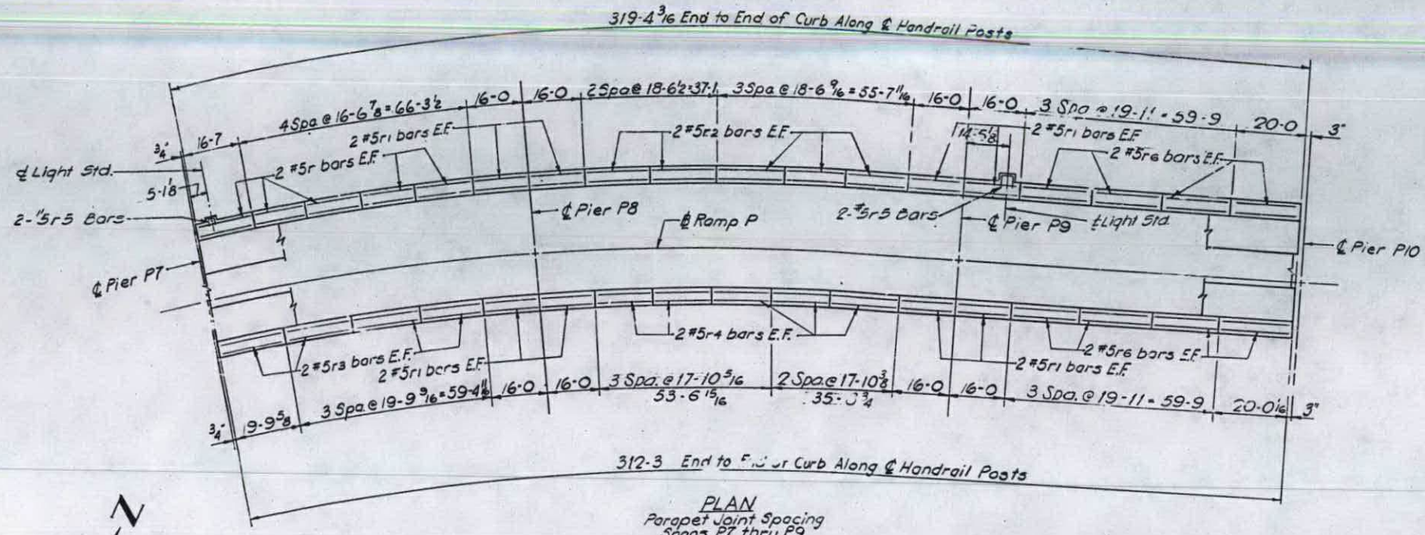
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

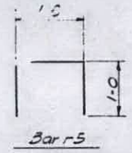
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 116 OF 225

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	170
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
Parapet Joint Spacing
Spans P7 thru P9

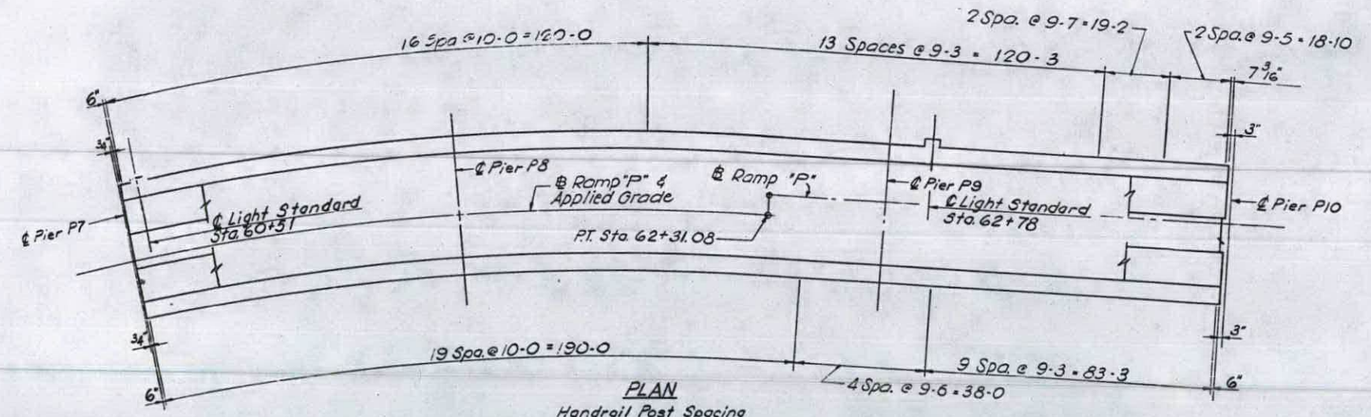


Bar r5

BILL OF MATERIAL

•BAR	NO.	SIZE	LENGTH	SHAPE
117r	20	#5	16-3	—
117r1	32	#5	15-8	—
117r2	20	#5	18-2	—
117r3	16	#5	19-5	—
117r4	20	#5	17-6	—
117r5	4	#5	3-8	⊓
117r6	32	#5	19-7	—
ITEM			UNIT	TOTAL
CLASS "A" CONCRETE			Cu Yds	323
REINFORCEMENT BARS			Lbs.	2600
ALUMINUM HANDRAIL			Lin.Ft	632

•See Note X Sh. No. 35



PLAN
Handrail Post Spacing
Spans P7 thru P9

NOTE :
All dimensions in plan are along ℄ of post

NOTE:
For Detail of Light Std. see Sheet No. 35
For Handrail & Parapet Joint Detail see Sheet No. 125

DESIGNED BY RMR
DRAWN BY MICHEL
CHECKED BY RMR
APPROVED BY KA

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC W[illegible] & BLDGS.
DIVISION OF HIG[illegible]S

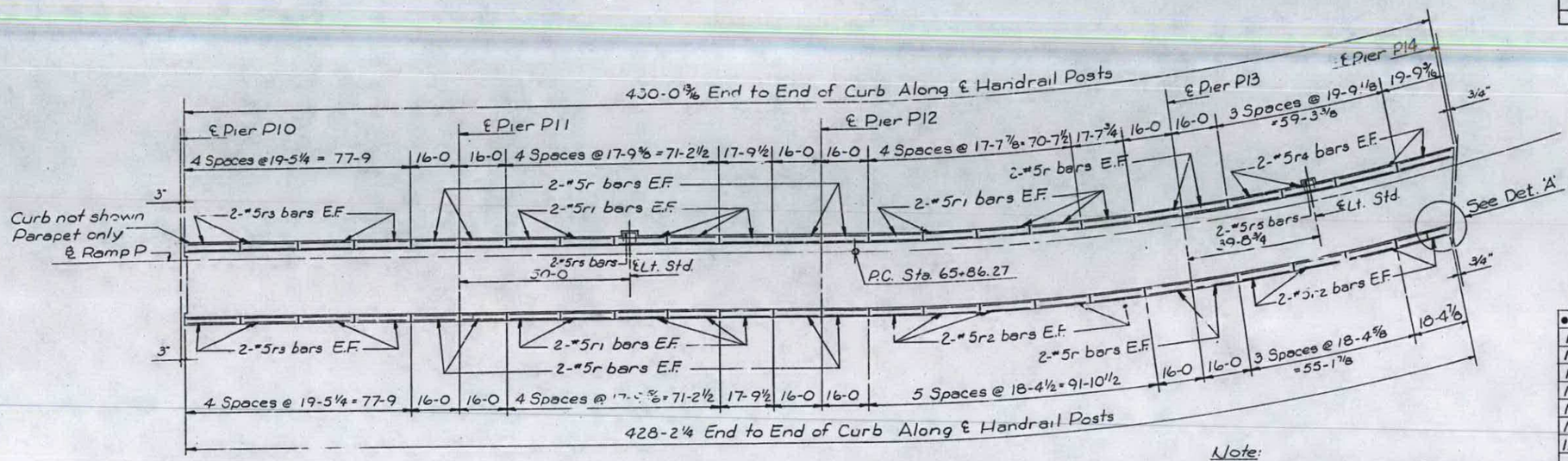
PARAPET AND HANDRAIL
SPANS P7 THRU P9
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET 117 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVD-1	ST. CLAIR	258	171
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



Note:
All Dimensions in Plan are along ℄ of Posts

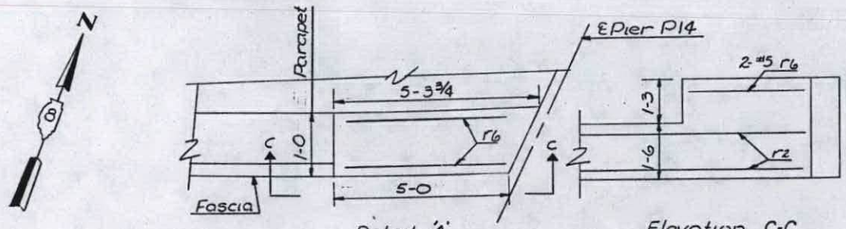
PLAN
Parapet Joint Spacing
Ramp P
Spans P10-P13

BILL OF MATERIAL

•BAR	NO.	SIZE	LENGTH	SHAPE
118 r	48	#5	15-8	
118 r1	60	#5	17-4	
118 r2	36	#5	18-0	
118 r3	32	#5	19-1	
118 r4	16	#5	19-5	
118 r5	4	#5	3-8	
118 r6	2	#5	4-8	

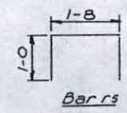
ITEM	UNIT	TOTAL
Class X Concrete	Cu. Yds.	44.1
Reinforcement Bars	Lbs.	3530
Aluminum Handrail	Lin. Ft.	854

• See Note 'X' Sh. No. 35

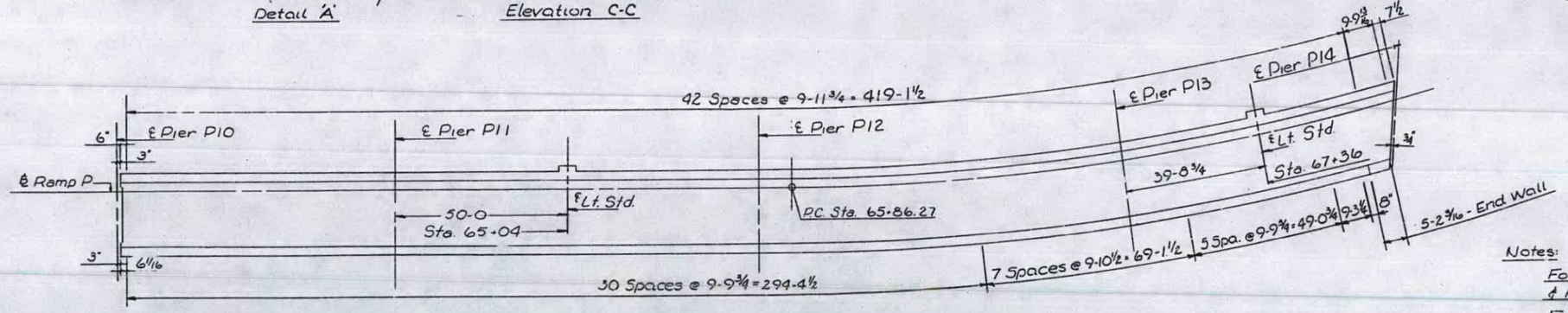


Detail 'A'

Elevation C-C



Bar r5



PLAN
Handrail Post Spacing
Ramp P

Notes:
For Detail of Parapet Joint & Handrail see Sh. No. 35
For Detail at Lt. Std. see Sh. No. 125

DESIGNED BY RMR
DRAWN BY LVA
CHECKED BY RMR
APPROVED BY KA

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

PARAPET AND HANDRAIL
SPANS P10 THRU P13
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET 118 OF 258

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-I	ST. CLAIR	258	223
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1.0	5770.297	- 20.000	471.592	471.592
	5770.312	- 12.000	470.952	470.952
	5770.327	- 4.000	470.313	470.313
	5770.342	4.000	469.673	469.673

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
1.5	5779.042	- 20.000	471.728	471.742
	5779.042	- 11.972	471.086	471.100
	5779.042	- 3.973	470.446	470.460
	5779.042	4.000	469.808	469.822

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
2.0	5787.750	- 20.000	471.855	471.880
	5787.750	- 11.948	471.211	471.236
	5787.750	- 3.949	470.571	470.596
	5787.750	4.000	469.935	469.960

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
2.5	5798.125	- 20.000	471.996	472.028
	5798.125	- 11.935	471.351	471.383
	5798.125	- 3.936	470.711	470.743
	5798.125	4.000	470.076	470.108

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
3.0	5808.500	- 20.000	472.125	472.156
	5808.500	- 11.94.	471.481	471.511
	5808.500	- 3.949	470.841	470.872
	5808.500	4.000	470.205	470.236

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
3.5	5818.875	- 20.000	472.242	472.265
	5818.875	- 11.935	471.597	471.620
	5818.875	- 3.936	470.957	470.980
	5818.875	4.000	470.322	470.345

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
4.0	5829.250	- 20.000	472.348	472.360
	5829.250	- 11.941	471.704	471.715
	5829.250	- 3.949	471.064	471.075
	5829.250	4.000	470.428	470.440

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
4.5	5839.625	- 20.000	472.441	472.445
	5839.625	- 11.935	471.796	471.799
	5839.625	- 3.936	471.156	471.159
	5839.625	4.000	470.521	470.525

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
5.0	5850.000	- 20.000	472.523	472.523
	5850.000	- 11.927	471.877	471.877
	5850.000	- 3.928	471.238	471.238
	5850.000	4.000	470.603	470.603

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
5.5	5859.583	- 20.000	472.589	472.604
	5859.583	- 11.863	471.938	471.953
	5859.583	- 3.864	471.298	471.313
	5859.583	4.000	470.669	470.684

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
6.0	5869.167	- 20.000	472.644	472.680
	5869.167	- 11.932	471.998	472.034
	5869.167	- 3.932	471.358	471.394
	5869.167	4.000	470.724	470.760

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
6.5	5878.750	- 20.000	472.689	472.745
	5878.750	- 11.945	472.044	472.101
	5878.750	- 3.946	471.404	471.461
	5878.750	4.000	470.769	470.825

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
7.0	5888.333	- 20.000	472.724	472.799
	5888.333	- 11.956	472.080	472.155
	5888.333	- 3.956	471.440	471.515
	5888.333	4.000	470.804	470.879

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
7.5	5897.917	- 20.000	472.749	472.836
	5897.917	- 11.945	472.104	472.192
	5897.917	- 3.946	471.464	471.552
	5897.917	4.000	470.829	470.916

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
8.0	5907.500	- 20.000	472.764	472.855
	5907.500	- 11.956	472.120	472.211
	5907.500	- 3.956	471.480	471.571
	5907.500	4.000	470.844	470.935

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
8.5	5917.083	- 20.000	472.769	472.856
	5917.083	- 11.945	472.124	472.212
	5917.083	- 3.946	471.484	471.572
	5917.083	4.000	470.849	470.936

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
9.0	5926.667	- 20.000	472.764	472.838
	5926.667	- 11.956	472.120	472.195
	5926.667	- 3.956	471.480	471.555
	5926.667	4.000	470.844	470.918

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
9.5	5936.250	- 20.000	472.748	472.805
	5936.250	- 11.977	472.107	472.163
	5936.250	- 3.978	471.467	471.523
	5936.250	4.000	470.828	470.885

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
10.0	5945.833	- 20.000	472.723	472.759
	5945.833	- 11.932	472.078	472.114
	5945.833	- 3.932	471.438	471.474
	5945.833	4.000	470.803	470.839

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
10.5	5955.417	- 20.000	472.688	472.703
	5955.417	- 11.863	472.037	472.052
	5955.417	- 3.864	471.397	471.412
	5955.417	4.000	470.768	470.783

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
11.0	5965.000	- 20.000	472.643	472.643
	5965.000	- 11.927	471.997	471.997
	5965.000	- 3.928	471.357	471.357
	5965.000	4.000	470.723	470.723

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
11.5	5975.375	- 20.000	472.582	472.585
	5975.375	- 11.935	471.937	471.940
	5975.375	- 3.936	471.297	471.300
	5975.375	4.000	470.662	470.665

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
12.0	5985.750	- 20.000	472.510	472.522
	5985.750	- 11.948	471.866	471.878
	5985.750	- 3.949	471.226	471.238
	5985.750	4.000	470.590	470.602

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
12.5	5996.125	- 20.000	472.426	472.449
	5996.125	- 11.935	471.781	471.804
	5996.125	- 3.936	471.141	471.164
	5996.125	4.000	470.506	470.529

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
13.0	6006.500	- 20.000	472.331	472.361
	6006.500	- 11.948	471.686	471.717
	6006.500	- 3.949	471.046	471.077
	6006.500	4.000	470.411	470.441

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
13.5	6016.875	- 20.000	472.223	472.255
	6016.875	- 11.935	471.578	471.610
	6016.875	- 3.936	470.938	470.970
	6016.875	4.000	470.303	470.335

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
14.0	6027.250	- 20.000	472.104	472.129
	6027.250	- 11.948	471.460	471.485
	6027.250	- 3.949	470.820	470.845
	6027.250	4.000	470.184	470.209

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
14.5	6035.958	- 20.000	471.995	472.009
	6035.958	- 11.972	471.352	471.367
	6035.958	- 3.973	470.713	470.727
	6035.958	4.000	470.075	470.089

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
15.0	6044.703	- 20.000	471.877	471.877
	6044.688	- 12.000	471.237	471.237
	6044.673	- 4.000	470.597	470.597
	6044.658	4.000	469.957	469.957

Note: For Notes see Sheet No. 126

DESIGNED BY R.M.R.
DRAWN BY A.J.C.
CHECKED BY A.S.
APPROVED BY K.A.

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

TABLES OF ELEVATIONS
SPANS P4 THRU P6
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET 170 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-I	ST. CLAIR	258	224
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
16.0	6047.297	- 20.000	471.840	471.840
	6047.312	- 12.000	471.200	471.200
	6047.327	- 4.000	470.560	470.560
	6047.342	4.000	469.920	469.920

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
16.5	6054.000	- 20.000	471.742	471.758
	6054.000	- 11.988	471.101	471.117
	6054.000	- 3.988	470.461	470.477
	6054.000	4.000	469.822	469.836

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
17.0	6060.667	- 20.000	471.640	471.670
	6060.667	- 11.950	470.996	471.026
	6060.667	- 3.951	470.356	470.386
	6060.667	4.000	469.720	469.750

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
17.5	6070.833	- 20.000	471.474	471.521
	6070.833	- 11.938	470.830	470.876
	6070.833	- 3.939	470.190	470.236
	6070.833	4.000	469.554	469.601

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
18.0	6081.000	- 20.000	471.298	471.353
	6081.000	- 11.950	470.654	470.709
	6081.000	- 3.951	470.014	470.069
	6081.000	4.000	469.378	469.433

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
18.5	6091.167	- 20.000	471.110	471.164
	6091.167	- 11.932	470.465	470.520
	6091.167	- 3.939	469.825	469.880
	6091.167	4.000	469.190	469.244

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
19.0	6101.333	- 20.000	470.910	470.957
	6101.333	- 11.950	470.267	470.313
	6101.333	- 3.951	469.627	469.673
	6101.333	4.000	468.990	469.037

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
19.5	6111.500	- 20.000	470.700	470.733
	6111.500	- 11.938	470.055	470.088
	6111.500	- 3.939	469.415	469.448
	6111.500	4.000	468.780	468.813

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
20.0	6121.667	- 20.000	470.478	470.495
	6121.667	- 11.924	469.832	469.849
	6121.667	- 3.925	469.192	469.209
	6121.667	4.000	468.558	468.575

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
20.5	6131.833	- 20.000	470.245	470.250
	6131.833	- 11.849	469.593	469.598
	6131.833	- 3.851	468.953	468.958
	6131.833	4.000	468.325	468.330

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
21.0	6142.000	- 20.000	470.000	470.000
	6142.000	- 11.924	469.354	469.354
	6142.000	- 3.925	468.714	468.714
	6142.000	4.000	468.080	468.080

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
21.5	6152.167	- 20.000	469.744	469.752
	6152.167	- 11.938	469.099	469.107
	6152.167	- 3.939	468.460	468.467
	6152.167	4.000	467.824	467.832

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
22.0	6162.333	- 20.000	469.477	469.500
	6162.333	- 11.950	468.833	468.856
	6162.333	- 3.951	468.193	468.216
	6162.333	4.000	467.557	467.580

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
22.5	6172.500	- 20.000	469.154	469.194
	6172.500	- 11.938	468.527	468.567
	6172.500	- 3.939	467.905	467.945
	6172.500	4.000	467.288	467.328

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
23.0	6182.667	- 20.000	468.779	468.836
	6182.667	- 11.950	468.187	468.244
	6182.667	- 3.951	467.600	467.656
	6182.667	4.000	467.015	467.072

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
23.5	6192.833	- 20.000	468.393	468.461
	6192.833	- 11.938	467.835	467.903
	6192.833	- 3.939	467.281	467.349
	6192.833	4.000	466.731	466.799

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
24.0	6203.000	- 20.000	467.996	468.068
	6203.000	- 11.950	467.473	467.545
	6203.000	- 3.951	466.953	467.025
	6203.000	4.000	466.436	466.508

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
24.5	6213.167	- 20.000	467.588	467.656
	6213.167	- 11.938	467.098	467.166
	6213.167	- 3.939	466.611	466.680
	6213.167	4.000	466.129	466.197

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
25.0	6223.333	- 20.000	467.168	467.225
	6223.333	- 11.950	466.713	466.770
	6223.333	- 3.951	466.261	466.318
	6223.333	4.000	465.811	465.868

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
25.5	6233.500	- 4.000	466.742	466.784
	6233.500	4.000	466.322	466.363
	6233.500	12.000	465.901	465.942
	6233.500	20.000	465.481	465.522

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
26.0	6243.667	- 4.000	466.324	466.347
	6243.667	4.000	465.928	465.951
	6243.667	12.000	465.531	465.555
	6243.667	20.000	465.135	465.159

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
26.5	6253.833	- 4.000	465.894	465.902
	6253.833	4.000	465.522	465.531
	6253.833	12.000	465.150	465.159
	6253.833	20.000	464.779	464.787

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
27.0	6264.000	- 4.000	465.453	465.453
	6264.000	4.000	465.105	465.105
	6264.000	12.000	464.758	464.758
	6264.000	20.000	464.411	464.411

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
27.5	6274.167	- 4.000	465.006	465.006
	6274.167	4.000	464.677	464.683
	6274.167	12.000	464.354	464.360
	6274.167	20.000	464.031	464.037

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
28.0	6284.333	- 4.000	464.537	464.554
	6284.333	4.000	464.238	464.255
	6284.333	12.000	463.940	463.957
	6284.333	20.000	463.641	463.658

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
28.5	6294.500	- 4.000	464.069	464.101
	6294.500	4.000	463.795	463.827
	6294.500	12.000	463.521	463.553
	6294.500	20.000	463.247	463.279

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
29.0	6304.667	- 4.000	463.601	463.647
	6304.667	4.000	463.352	463.397
	6304.667	12.000	463.102	463.148
	6304.667	20.000	462.852	462.896

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
29.5	6314.833	- 4.000	463.134	463.187
	6314.833	4.000	462.908	462.962
	6314.833	12.000	462.683	462.737
	6314.833	20.000	462.458	462.511

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
30.0	6325.000	- 4.000	462.666	462.720
	6325.000	4.000	462.465	462.519
	6325.000	12.000	462.264	462.318
	6325.000	20.000	462.063	462.117

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
30.5	6335.167	- 4.000	462.192	462.245
	6335.167	4.000	462.022	462.068
	6335.167	12.000	461.845	461.892
	6335.167	20.000	461.669	461.715

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
31.0	6345.333	- 4.000	461.730	461.761
	6345.333	4.000	461.578	461.609
	6345.333	12.000	461.426	461.457
	6345.333	20.000	461.274	461.305

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
31.5	6352.000	- 4.000	461.424	461.440
	6352.000	4.000	461.288	461.304
	6352.000	12.000	461.152	461.168
	6352.000	20.000	461.016	461.032

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
32.0	6358.666	- 4.000	461.117	461.117
	6358.666	4.000	460.997	460.997
	6358.666	12.000	460.877	460.877
	6358.666	20.000	460.757	460.757

Note: For Notes see Sheet No. 126

DESIGNED BY R.M.R.
DRAWN BY A.S
CHECKED BY A.J.C
APPROVED BY K.A

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

TABLES OF ELEVATIONS
SPANS P7 THRU P9

POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET
171 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-1	ST. CLAIR	258	225
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
33.0	6361.334	- 4.000	460.994	460.994
	6361.334	4.000	460.881	460.881
	6361.334	12.000	460.767	460.767
	6361.334	20.000	460.653	460.653
33.5	6369.167	- 4.000	460.634	460.652
	6369.167	4.000	460.539	460.557
	6369.167	12.000	460.444	460.463
	6369.167	20.000	460.349	460.368
34.0	6377.000	- 4.000	460.274	460.307
	6377.000	4.000	460.198	460.231
	6377.000	12.000	460.122	460.155
	6377.000	20.000	460.046	460.079
34.5	6386.625	- 4.000	459.831	459.878
	6386.625	4.000	459.778	459.825
	6386.625	12.000	459.725	459.772
	6386.625	20.000	459.672	459.719
35.0	6396.250	- 4.000	459.388	459.441
	6396.250	4.000	459.358	459.411
	6396.250	12.000	459.328	459.381
	6396.250	20.000	459.299	459.352
35.5	6405.875	- 4.000	458.945	458.996
	6405.875	4.000	458.939	458.990
	6405.875	12.000	458.932	458.983
	6405.875	20.000	458.925	458.976

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
36.0	6415.500	- 4.000	458.503	458.545
	6415.500	4.000	458.519	458.561
	6415.500	12.000	458.535	458.578
	6415.500	20.000	458.552	458.594
36.5	6425.125	- 4.000	458.060	458.089
	6425.125	4.000	458.099	458.128
	6425.125	12.000	458.139	458.168
	6425.125	20.000	458.178	458.207
37.0	6434.750	- 4.000	457.617	457.632
	6434.750	4.000	457.680	457.695
	6434.750	12.000	457.742	457.757
	6434.750	20.000	457.805	457.820
37.5	6444.375	- 4.000	457.175	457.180
	6444.375	4.000	457.261	457.266
	6444.375	12.000	457.347	457.351
	6444.375	20.000	457.433	457.437
38.0	6454.000	- 4.000	456.742	456.742
	6454.000	4.000	456.851	456.851
	6454.000	12.000	456.960	456.960
	6454.000	20.000	457.069	457.069
38.5	6464.083	- 4.000	456.300	456.304
	6464.083	4.000	456.433	456.437
	6464.083	12.000	456.566	456.570
	6464.083	20.000	456.699	456.703

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
39.0	6474.167	- 4.000	455.866	455.885
	6474.167	4.000	456.026	456.042
	6474.167	12.000	456.183	456.199
	6474.167	20.000	456.340	456.356
39.5	6484.250	- 4.000	455.448	455.480
	6484.250	4.000	455.630	455.661
	6484.250	12.000	455.811	455.843
	6484.250	20.000	455.993	456.024
40.0	6494.333	- 4.000	455.039	455.086
	6494.333	4.000	455.245	455.291
	6494.333	12.000	455.450	455.497
	6494.333	20.000	455.656	455.703
40.5	6504.417	- 4.000	454.641	454.698
	6504.417	4.000	454.871	454.928
	6504.417	12.000	455.101	455.158
	6504.417	20.000	455.331	455.388
41.0	6514.500	- 4.000	454.255	454.315
	6514.500	4.000	454.509	454.569
	6514.500	12.000	454.763	454.823
	6514.500	20.000	455.017	455.077
41.5	6524.583	- 4.000	453.879	453.935
	6524.583	4.000	454.157	454.213
	6524.583	12.000	454.436	454.492
	6524.583	20.000	454.714	454.770

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
42.0	6534.667	- 4.000	453.515	453.560
	6534.667	4.000	453.817	453.862
	6534.667	12.000	454.120	454.165
	6534.667	20.000	454.422	454.467
42.5	6544.750	- 4.000	453.161	453.206
	6544.750	4.000	453.468	453.513
	6544.750	12.000	453.815	453.845
	6544.750	20.000	454.141	454.172
43.0	6554.833	- 4.000	452.819	452.854
	6554.833	3.991	453.170	453.185
	6554.833	11.991	453.521	453.536
	6554.833	20.000	453.872	453.887
43.5	6564.917	- 4.000	452.488	452.492
	6564.917	3.969	452.862	452.866
	6564.917	11.969	453.237	453.241
	6564.917	20.000	453.614	453.618
44.0	6575.000	- 4.000	452.169	452.1[illegible]
	6575.000	3.947	452.565	452.565
	6575.000	11.946	452.965	452.965
	6575.000	20.000	453.367	453.367

Note: For Notes see Sheet No. 126

DESIGNED BY R.M.R.
DRAWN BY A.S.
CHECKED BY A.J.C.
APPROVED BY K.A.

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

TABLES OF ELEVAT
SPANS P10 AND P11

POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET
172 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-1	ST. CLAIR	258	226
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
44.5	6585.083	- 4.000	451.860	451.865
	6585.083	3.925	452.280	452.285
	6585.083	11.924	452.703	452.708
	6585.083	20.000	453.191	453.196

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
45.0	6595.167	- 4.000	451.542	451.560
	6595.167	3.952	451.995	452.014
	6595.167	11.951	452.451	452.470
	6595.167	20.000	452.910	452.929

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
45.5	6605.250	- 4.000	451.232	451.268
	6605.250	3.949	451.719	451.755
	6605.250	11.948	452.208	452.244
	6605.250	20.000	452.701	452.737

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
46.0	6615.333	- 4.000	450.933	450.986
	6615.333	3.958	451.454	451.507
	6615.333	11.958	451.978	452.030
	6615.333	20.000	452.504	452.556

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
46.5	6625.417	- 4.000	450.646	450.711
	6625.417	3.949	451.199	451.264
	6625.417	11.948	451.756	451.821
	6625.417	20.000	452.317	452.382

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
47.0	6635.500	- 4.000	450.370	450.439
	6635.500	3.958	450.957	451.027
	6635.500	11.958	451.548	451.618
	6635.500	20.000	452.142	452.212

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
47.5	6645.583	- 4.000	450.105	450.171
	6645.583	3.949	450.725	450.791
	6645.583	11.948	451.349	451.416
	6645.583	20.000	451.978	452.044

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
48.0	6655.667	- 4.000	449.896	449.951
	6655.667	3.958	450.532	450.588
	6655.667	11.958	451.172	451.228
	6655.667	20.000	451.816	451.871

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
48.5	6665.750	- 4.000	449.737	449.776
	6665.750	3.979	450.375	450.415
	6665.750	11.979	451.015	451.054
	6665.750	20.000	451.657	451.696

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
49.0	6675.833	- 4.000	449.589	449.611
	6675.833	3.958	450.226	450.248
	6675.833	11.958	450.866	450.888
	6675.833	20.000	451.509	451.531

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
49.5	6685.917	- 4.000	449.453	449.460
	6685.917	3.949	450.089	450.096
	6685.917	11.948	450.729	450.736
	6685.917	20.000	451.373	451.380

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
50.0	6696.000	- 4.000	449.328	449.328
	6696.000	3.939	449.963	449.963
	6696.000	11.939	450.603	450.603
	6696.000	20.000	451.248	451.248

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
50.5	6705.625	- 4.000	449.219	449.224
	6705.625	3.884	449.850	449.855
	6705.625	11.882	450.490	450.495
	6705.625	20.000	451.139	451.144

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
51.0	6715.250	- 4.000	449.120	449.135
	6715.250	3.942	449.756	449.771
	6715.250	11.902	450.395	450.412
	6715.250	20.000	451.040	451.058

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
51.5	6724.875	- 4.000	449.031	449.061
	6724.875	3.953	449.668	449.698
	6724.875	11.952	450.308	450.340
	6724.875	20.000	450.951	450.985

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
52.0	6734.500	- 4.000	448.953	448.996
	6734.500	3.962	449.590	449.635
	6734.500	11.962	450.230	450.276
	6734.500	20.000	450.873	450.920

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
52.5	6744.125	- 4.000	448.884	448.936
	6744.125	3.953	449.520	449.573
	6744.125	11.952	450.160	450.214
	6744.125	20.000	450.804	450.858

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
53.0	6753.750	- 4.000	448.816	448.871
	6753.750	3.962	449.453	449.508
	6753.750	11.962	450.093	450.147
	6753.750	20.000	450.736	450.790

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
53.5	6763.375	- 4.000	448.746	448.798
	6763.375	3.916	449.381	449.429
	6763.375	11.923	450.022	450.068
	6763.375	20.000	450.668	450.711

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
54.0	6773.000	- 4.000	448.680	448.717
	6773.000	3.861	449.309	449.342
	6773.000	11.883	449.951	449.979
	6773.000	20.000	450.600	450.624

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
54.5	6780.800	- 4.000	448.625	448.647
	6780.800	3.901	449.257	449.274
	6780.800	11.936	449.900	449.910
	6780.800	20.000	450.545	450.550

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
55.0	6789.878	- 4.000	448.561	448.561
	6787.336	3.932	449.219	449.219
	6784.843	11.932	449.876	449.876
	6782.397	20.000	450.534	450.534

Note: For Notes see Sheet No. 126

DESIGNED BY R M R
DRAWN BY A.S.
CHECKED BY A J C
APPROVED BY K.A.

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

TABLES OF ELEVATIONS
SPANS P12 AND P
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET
173 OF 525

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-I	ST. CLAIR	258	227
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56	6792.714	- 4.060	448.537	448.537
	6790.345	3.294	449.142	449.142
	6788.017	10.654	449.747	449.747
	6785.731	18.021	450.352	450.352
	6783.485	25.395	450.958	450.089
	6781.278	32.774	451.564	450.653
	6778.831	41.117	452.249	451.289
	6776.430	49.471	452.934	451.924

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+10'	6802.760	- 4.395	448.439	448.513
	6800.300	2.929	449.042	449.098
	6797.883	10.260	449.646	449.719
	6795.509	17.599	450.250	450.334
	6793.176	24.944	450.854	450.228
	6790.884	32.296	451.458	450.782
	6788.469	40.190	452.107	451.370
	6786.097	48.093	452.756	452.002

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+20'	6812.814	- 4.607	448.351	448.488
	6810.263	2.686	448.953	449.054
	6807.757	9.987	449.555	449.672
	6805.295	17.296	450.157	450.294
	6802.876	24.612	450.759	450.329
	6800.499	31.936	451.362	450.876
	6798.126	39.382	451.974	451.435
	6795.794	46.837	452.587	452.061

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+30'	6822.870	- 4.696	448.273	448.452
	6820.230	2.566	448.873	449.004
	6817.636	9.835	449.473	449.621
	6815.097	17.114	450.073	450.245
	6812.583	24.400	450.674	450.405
	6810.121	31.694	451.274	450.950
	6807.800	38.694	451.851	451.478
	6805.517	45.703	452.428	452.090

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
[illegible]	6832.928	- 4.662	448.205	448.403
	6830.199	2.567	448.803	448.947
	6827.517	9.805	449.401	449.562
	6824.882	17.051	449.999	450.186
	6822.292	24.305	450.598	450.455
	6819.747	31.569	451.197	450.999
	6817.489	38.126	451.737	451.497
	6815.264	44.692	452.278	452.085

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+50'	6842.983	- 4.504	448.147	448.336
	6840.166	2.691	448.743	448.879
	6837.397	9.895	449.338	449.493
	6834.677	17.108	449.935	450.115
	6832.003	24.331	450.531	450.477
	6829.375	31.562	451.128	451.023
	6827.189	37.679	451.633	451.489
	6825.033	43.804	452.138	452.044

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+60'	6853.033	- 4.223	448.099	448.252
	6850.128	2.636	448.692	448.803
	6847.274	10.106	449.286	449.419
	6844.469	17.286	449.880	450.032
	6841.712	24.475	450.474	450.470
	6839.001	31.674	451.069	451.026
	6836.338	37.353	451.539	451.457
	6834.821	43.040	452.008	451.967

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+70'	6863.075	- 3.820	448.060	448.157
	6860.084	3.304	448.651	448.722
	6857.144	10.438	449.243	449.332
	6854.255	17.583	449.835	449.940
	6851.415	24.738	450.427	450.440
	6848.624	31.903	451.020	451.001
	6846.612	37.147	451.454	451.403
	6844.625	42.390	451.888	451.860

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
57	6876.401	- 3.093	448.025	448.025
	6873.297	3.981	448.613	448.613
	6870.247	11.067	449.201	449.201
	6867.248	18.164	449.790	449.790
	6864.300	25.272	450.379	450.346
	6861.401	32.390	450.969	450.926
	6859.528	37.061	451.356	451.305
	6857.674	41.739	451.743	451.685

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58	6879.314	- 3.858	447.007	448.007
	6875.936	4.572	448.641	448.641
	6872.621	12.216	449.276	449.276
	6869.366	19.874	449.8[illegible]	449.893
	6866.171	27.545	450.521	450.521
	6863.307	34.551	451.093	451.093
	6860.489	41.571	451.664	451.664

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+10'	6889.342	- 3.372	447.910	447.952
	6885.877	4.219	448.543	448.572
	6882.468	11.822	449.175	449.233
	6879.122	19.440	449.807	449.876
	6875.836	27.071	450.438	450.504
	6872.921	33.971	451.006	451.070
	6870.049	40.891	451.574	451.654

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+20'	6899.379	- 3.613	447.809	447.877
	6895.868	3.958	448.446	448.495
	6892.388	11.537	449.081	449.164
	6888.937	19.122	449.715	449.818
	6885.530	26.714	450.348	450.448
	6882.565	33.509	450.910	451.011
	6879.641	40.328	451.478	451.622

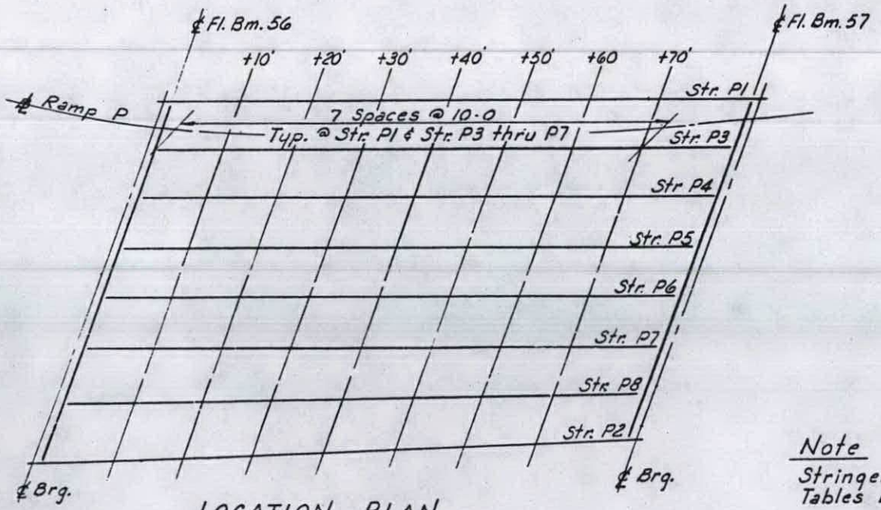
FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+30'	6909.449	- 3.797	447.702	447.773
	6905.895	3.754	448.341	448.395
	6902.371	11.312	448.979	449.072
	6898.877	18.878	449.616	449.733
	6895.413	26.450	450.252	450.366
	6892.374	33.152	450.813	450.929
	6889.349	39.880	451.375	451.558

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+40'	6919.555	- 3.923	447.587	[illegible]
	6915.956	3.607	[illegible]	[illegible]
	6912.388	11.145	[illegible]	448.954
	6908.851	18.690	449.510	449.619
	6905.344	26.242	450.148	450.262
	6902.300	32.857	450.706	450.821
	6899.266	39.503	451.265	451.454

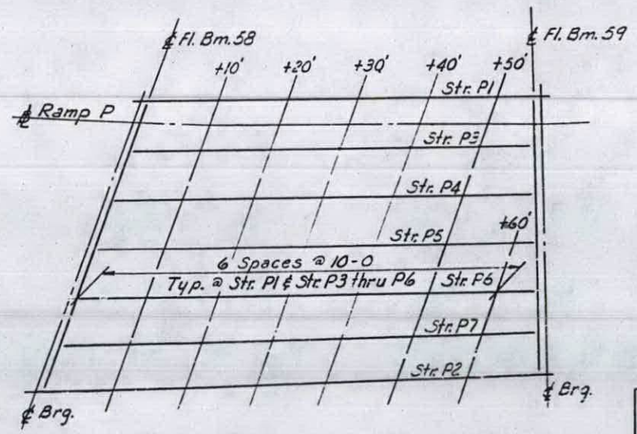
FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+50'	6929.696	- 3.991	447.465	447.476
	6926.054	3.518	448.110	448.129
	6922.443	11.035	448.754	448.812
	6918.862	18.560	449.397	449.478
	6915.312	26.091	450.038	450.129
	6912.263	32.618	450.592	450.689
	6909.222	39.182	451.146	451.312

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+60'				
	6928.911	18.487	449.277	449.308
	6925.318	[illegible]	449.921	449.974
	6922.265	32.437	450.472	450.536
	6919.217	38.919	451.025	451.132

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
59	6932.236	- [illegible]	447.433	447.433
	6932.346	3.493	448.033	448.033
	6932.455	10.984	448.632	448.632
	6932.564	18.475	449.231	449.231
	6932.671	25.967	449.831	449.831
	6932.761	32.310	450.338	450.338
	6932.851	38.653	450.846	450.846



LOCATION PLAN
Span P14



LOCATION PLAN
Span P15

Note
Stringers are identified in the Tables by their offset.

DESIGNED BY R.M.R.
DRAWN BY A.J.C.
CHECKED BY A.S.
APPROVED BY K.A.

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

TABLES OF ELEVATIONS
SPANS P14 AND P15

POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET
174 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVD-1	ST. CLAIR	256	227a
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56	6792.714	4.060	448.537	448.537
	6790.345	3.294	449.142	449.142
	6788.017	10.654	449.747	449.747
	6785.731	18.021	450.352	450.352
	6783.485	25.395	450.968	450.089
	6781.278	32.774	451.584	450.653
	6778.831	41.117	452.248	451.289
	6776.[illegible]	49.471	452.924	451.924

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+10'	6802.760	4.395	448.439	448.513
	6800.300	2.929	449.062	449.098
	6797.883	10.260	449.646	449.719
	6795.509	17.599	450.250	450.334
	6793.176	24.944	450.864	450.228
	6790.884	32.296	451.468	450.782
	6788.469	40.190	452.147	451.370
	6786.097	48.093	452.766	452.002

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+20'	6812.614	4.607	448.351	448.488
	6810.263	2.686	448.953	449.054
	6807.757	9.987	449.555	449.672
	6805.295	17.296	450.157	450.294
	6802.876	24.612	450.769	450.329
	6800.499	31.936	451.382	450.676
	6798.125	39.382	451.994	451.435
	6795.794	46.837	452.667	452.061

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+30	6822.870	4.696	448.273	448.452
	6820.230	2.566	448.873	449.004
	6817.636	9.835	449.473	449.621
	6815.087	17.114	450.073	450.245
	6812.583	24.400	450.694	450.[illegible]
	6810.121	31.694	451.314	450.950
	6807.800	38.694	451.951	451.478
	6805.517	45.703	452.[illegible]	452.090

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+40'	6832.928	4.662	448.205	448.403
	6830.199	2.567	448.803	448.947
	6827.517	9.805	449.401	449.552
	6824.882	17.051	449.999	450.186
	6822.292	24.306	450.598	450.455
	6819.747	31.569	451.187	450.999
	6817.489	38.126	451.797	451.497
	6815.264	44.692	452.428	452.085

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+50'	6842.983	4.504	448.147	448.336
	6840.166	2.691	448.743	448.879
	6837.397	9.895	449.338	449.493
	6834.677	17.108	449.935	450.115
	6832.003	24.331	450.531	450.477
	6829.375	31.562	451.128	451.023
	6827.189	37.679	451.732	451.489
	6825.033	43.804	452.[illegible]	452.044

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+60'	6853.033	4.223	448.099	448.252
	6850.128	2.936	448.692	448.803
	6847.274	10.106	449.286	449.419
	6844.469	17.286	449.880	450.032
	6841.712	24.475	450.474	450.470
	6839.001	31.674	451.068	451.026
	6836.398	37.353	451.599	451.457
	6834.821	43.040	452.[illegible]	451.967

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
56+70'	6863.075	3.620	448.060	448.157
	6860.084	3.304	448.651	448.722
	6857.144	10.438	449.243	449.332
	6854.255	17.583	449.835	448.940
	6851.415	24.738	450.427	450.440
	6848.624	31.903	451.020	451.001
	6845.612	37.147	451.[illegible]	451.403
	6844.625	42.399	451.[illegible]	451.860

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
57	6876.401	3.093	448.025	448.025
	6873.297	3.981	448.613	448.613
	6870.247	11.067	449.201	449.201
	6867.248	18.164	449.790	449.790
	6864.300	25.272	450.378	450.346
	6861.401	32.390	450.966	450.926
	6859.528	37.061	451.[illegible]	451.305
	6857.674	41.739	451.[illegible]	451.685

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58	6872.314	3.058	448.007	448.007
	6875.936	4.570	448.641	448.641
	6872.621	12.216	449.276	449.276
	6869.366	19.874	449.893	449.893
	6866.171	27.545	450.521	450.521
	6863.307	34.501	451.093	451.093
	6860.489	41.571	451.664	451.664

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+10'	6[illegible]	3.372	447.910	447.952
	6885.[illegible]77	4.219	448.543	448.572
	6882.468	11.822	449.175	449.233
	6879.122	19.440	449.807	449.876
	6875.836	27.071	450.438	450.504
	6872.921	33.971	451.006	451.070
	6870.049	40.891	451.574	451.654

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+20'	6899.379	3.613	447.809	447.877
	6895.868	3.958	448.446	448.495
	6892.388	11.537	449.081	449.164
	6888.937	19.122	449.715	449.818
	6885.530	26.714	450.348	450.448
	6882.565	33.509	450.913	451.011
	6879.641	40.328	451.478	451.622

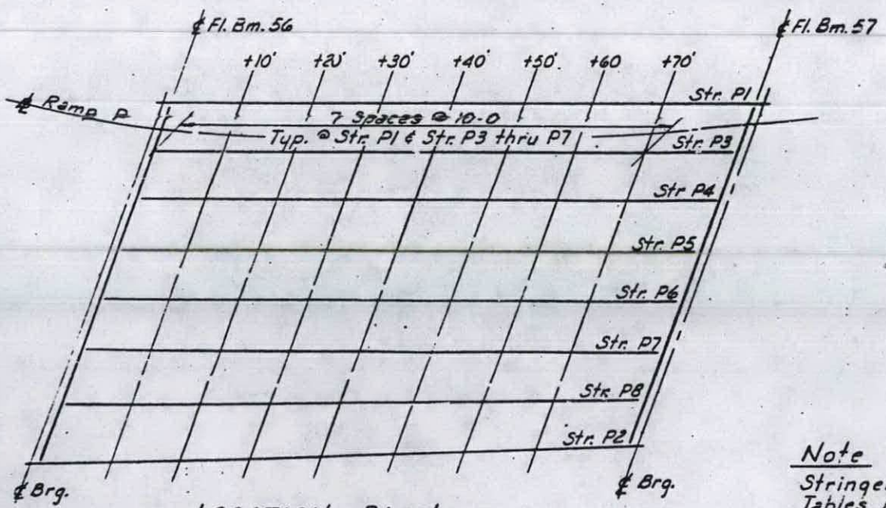
FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
53+30'	6905.449	3.787	447.702	447.773
	6905.895	3.754	448.341	448.395
	6902.371	11.312	448.979	449.072
	6898.877	18.878	449.616	449.733
	6895.[illegible]	26.450	450.252	450.368
	6892.374	33.152	450.813	450.829
	6889.349	39.880	451.375	451.558

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+40'	6919.[illegible]	[illegible]	447.567	447.638
	6915.956	3.607	448.229	448.273
	6912.[illegible]	11.145	448.870	448.954
	6908.851	18.690	449.510	449.619
	6905.344	26.242	450.148	450.262
	6902.300	32.857	450.706	450.821
	6899.266	39.503	451.265	451.454

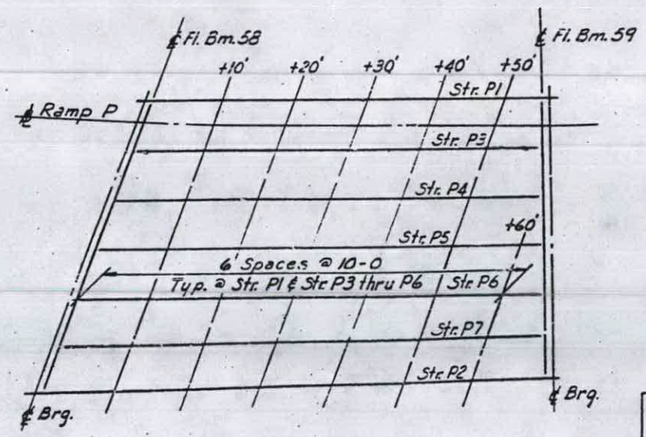
FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+50'	6929.696	3.991	447.465	447.476
	6926.054	3.518	448.110	448.129
	6922.443	11.035	448.754	448.812
	6918.862	18.560	449.397	449.478
	6915.312	26.091	450.038	450.129
	6912.263	32.618	450.592	450.689
	6909.222	39.182	451.148	451.312

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
58+60'				
	6928.511	18.487	449.277	449.308
	6925.318	25.998	449.921	449.974
	6922.265	32.437	450.472	[illegible]
	6919.217	38.919	451.025	451.132

FL BM NO.	STATION	OFFSET	THEO. TOP OF ROAD	THEO. ADJ. FOR D.L.
59	6932.236	3.999	447.433	447.433
	6932.346	3.493	448.033	448.033
	6932.455	10.984	448.632	448.632
	6932.564	18.475	449.231	449.231
	6932.671	25.967	449.831	449.831
	6932.761	32.310	450.338	450.338
	6932.851	38.653	450.846	450.846



LOCATION PLAN
Span P14



LOCATION PLAN
Span P15

Note
Stringers are identified in the Tables by their offset.

DESIGNED BY R.M.R.
DRAWN BY A.J.C.
CHECKED BY A.S.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC [illegible]S & BLDGS.
DIVISION OF HI[illegible]S

TABLES OF ELEVATIONS
SPANS P14 AND P15

POPLAR STREET BRIDGE APPROACHES
RAMP "P"

FAI RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

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

SHEET
174 OF 526

[ ] As Revised 8-15-68 A.P.H.

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(78)0	

P-98-087-00

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

DESCRIPTION OF PROJECT:

SECTION 82-3HVF & E-1 INCLUDES THE FURNISHING, FABRICATING AND ERECTING OF THE STRUCTURAL STEEL FOR THE FOLLOWING:

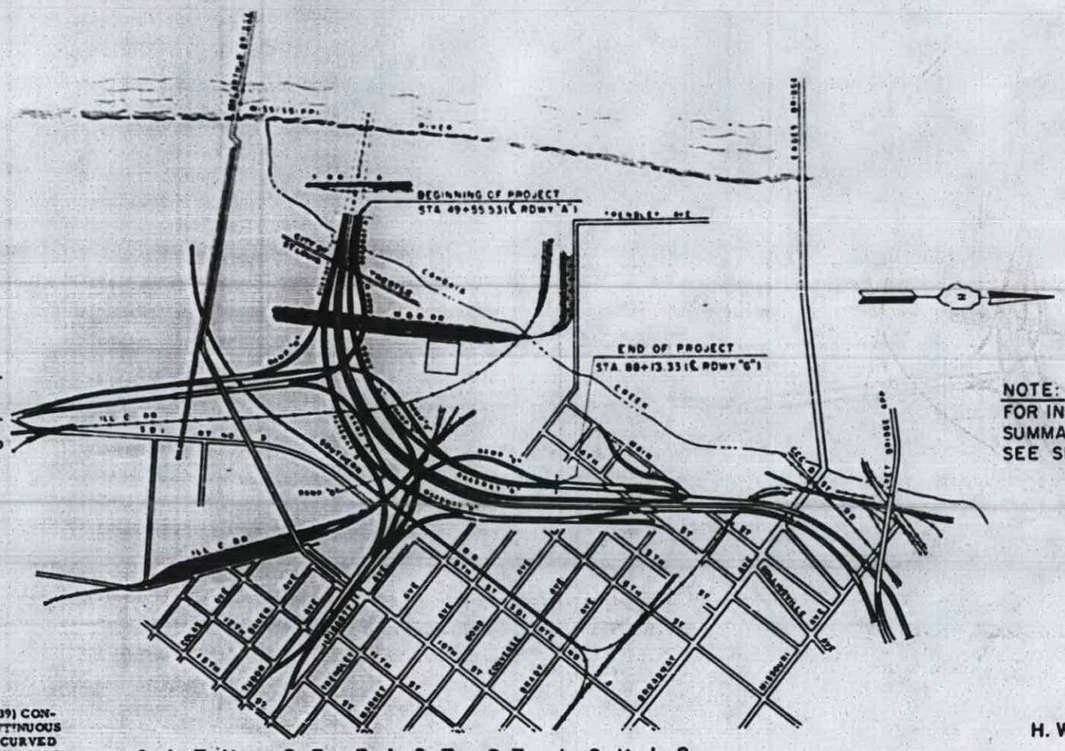
ROADWAY A	0141	TWO 4-SPAN CONTINUOUS UNITS SPANS: 1 EACH @ 83-5 5/8, 106'-106'-83; 87'-110'-110'-87'
		FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 97'-124'-97' 1 EACH @ 75'-96'-75' 95'-122'-95' 89'-114'-89'
		ONE SIMPLE SPAN - 80'
ROADWAY D	0164	TWO 4-SPAN CONTINUOUS UNIT SPANS: 1 @ 90-7 9/16, 115'-115'-90' 1 @ 100'-128'-128'-100'
		ONE 5-SPAN CONTINUOUS UNIT SPANS: 107'-137'-137'-137'-107'
		FIVE 3-SPAN CONTINUOUS UNITS SPANS: 2 @ 83'-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	0254	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	0256	ONE 3-SPAN CONTINUOUS UNIT SPAN: 97'-124'-97'
		ONE SIMPLE SPAN - 88'
RAMP M	0145	THREE 3-SPAN CONTINUOUS UNITS SPANS: 1 @ 90'-115'-90' 1 @ 105'-134'-105' 1 @ 90'-115'-85-10 11/16
RAMP N	0202	ONE 4-SPAN CONTINUOUS UNIT SPANS: 90'-115'-115'-90'
		ONE SIMPLE SPAN - 73-3 5/16
RAMP O	0143 & 0201	FOUR 3-SPAN CONTINUOUS UNIT SPANS: 1 @ 97-5 3/4, 130'-101' 1 @ 90'-115'-90' 1 @ 93'-121'-93' 1 @ 94'-120'-94'
		ONE SIMPLE SPAN - 65'
RAMP P	0203	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 @ 49'

RAMP Q	ONE 3-SPAN CONTINUOUS UNIT SPANS: 75-2 7/8, 98'-76'
RAMP R	TWO 3-SPAN CONTINUOUS UNITS SPANS 1 @ 104-6 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'

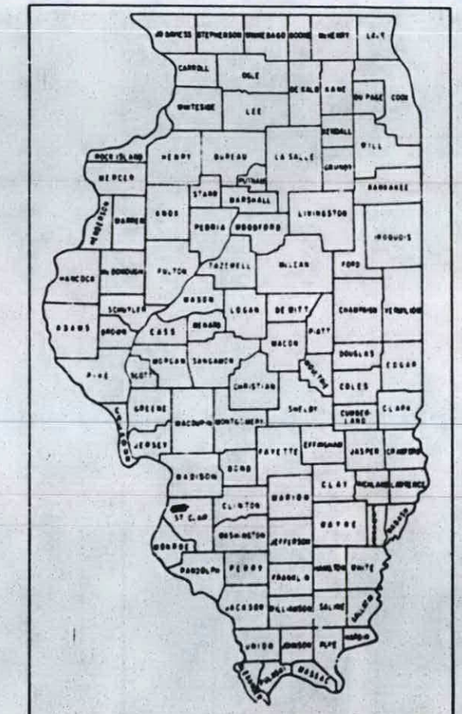
THE POPLAR STREET BRIDGE APPROACHES FOR THIS SECTION CARRY THE FOLLOWING:

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.



LOCATION PLAN



LOCATION OF SECTION INDICATED THUS:

APPROVED

DEPARTMENT OF REGISTRATION OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS	
DIRECTOR	11-30 1966 Robert F. Kruger
CHECKED	12-20 1966 A.W. Van Arsdell
PROJECT	12-20 1966 M.E. Bussman
APPROVED	12-20 1966
APPROVED	12-20 1966 Francis A. Lorey

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

8-64

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

LENGTH OF PROJECT
4261.16 FT. = .807 MILES

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

2259
Aug. 27, 1965

Contract No. 24962

ST. CLAIR COUNTY • SECTION 82-3HVF&E-1 F.A.I. ROUTE 70 PROJECT I-IG-70-1(78)0

082-0203

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 1606-9 AND 2176-1
	STANDARD 2114

SUMMARY OF QUANTITIES
SECTION 82-3HVF&E-1

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20398	ENGINEER'S FIELD OFFICE TYPE "A"	EACH	1
20665	RAILROAD PROTECTIVE SERVICES	L SUM	1
654001	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	17,674,325
20023	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 BRIDGES 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 82-3HVD-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

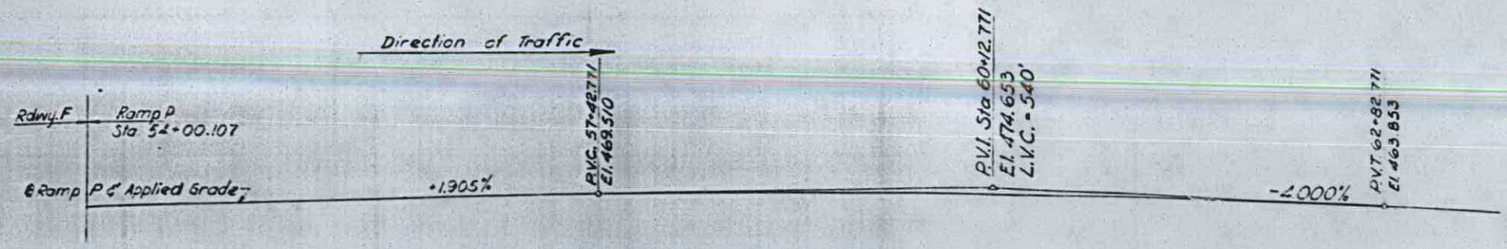
F. A. I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF&E-1

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

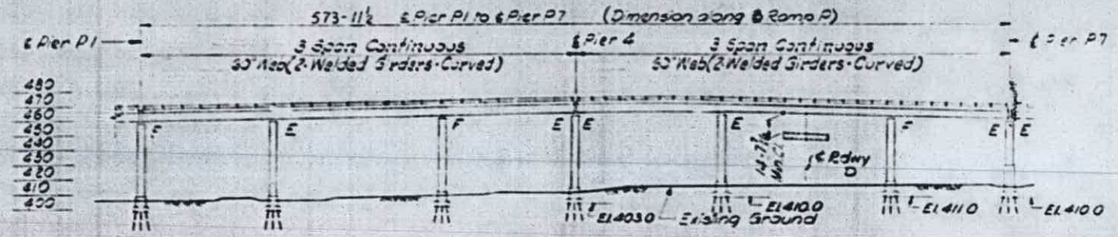
SHEET OF

Rev. Total Quand. Str. Steel from 17,690,150# to 17,674,325# 6-3-66 N.R.F.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3MVFBE-1	ST. CLAIR	247	39
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

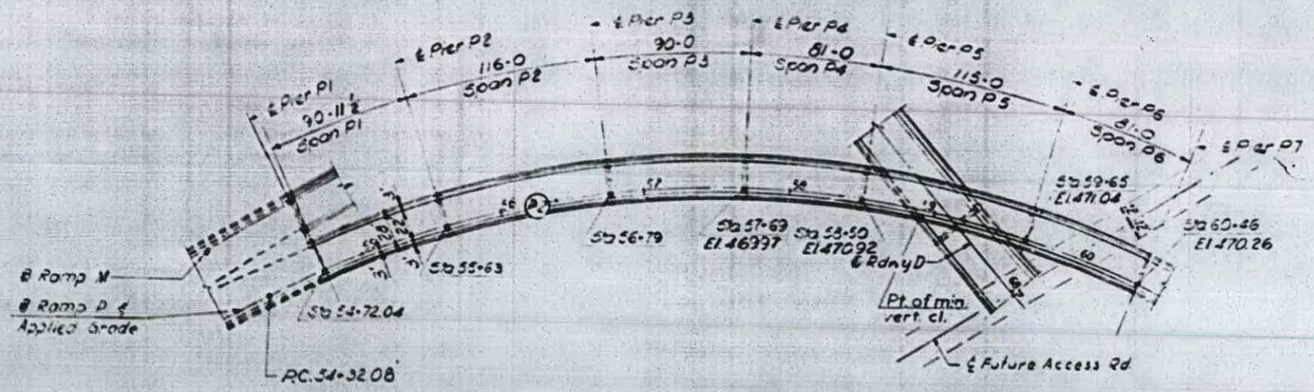


PROFILE RAMP P



ELEVATION

Developed Length along ℄ Ramp P



PLAN

THIS SECTION INCLUDES SPANS P4 THRU P6 ONLY. OTHER DATA SHOWN ON THIS SHEET IS FOR REFERENCE ONLY.

DESIGNED BY J.J.N.
DRAWN BY T.A.M.
CHECKED BY B.H.
APPROVED BY K.A.

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

PLAN AND ELEVATION

SPANS P1 THRU P6

POPLAR STREET BRIDGE APPROACHES RAMP "P"

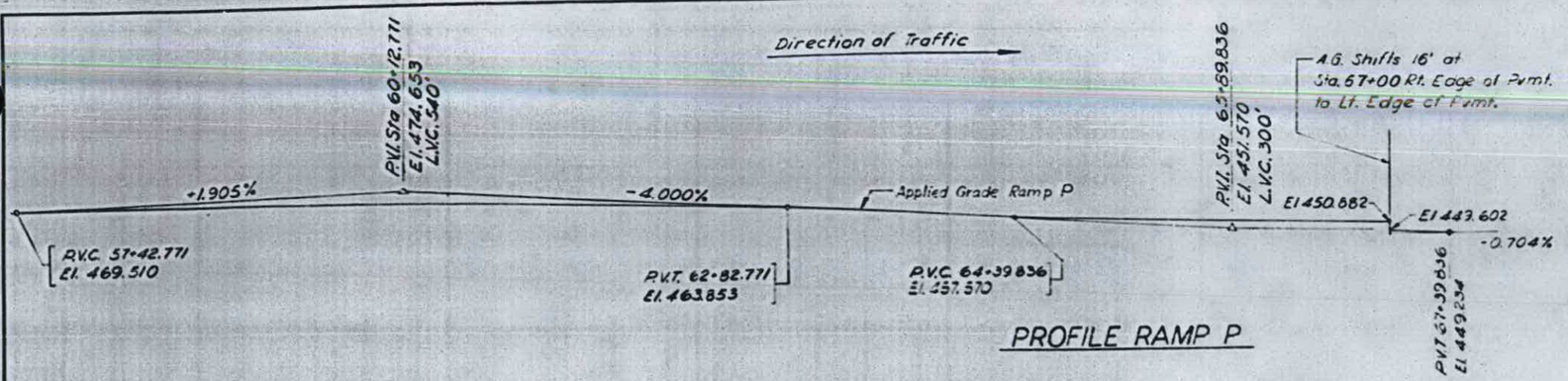
SECTIONS 82-3MVB-1
82-3MVFBE-1
82-3MVD-1

F.A.I. RT. 70 ST. CLAIR CO.

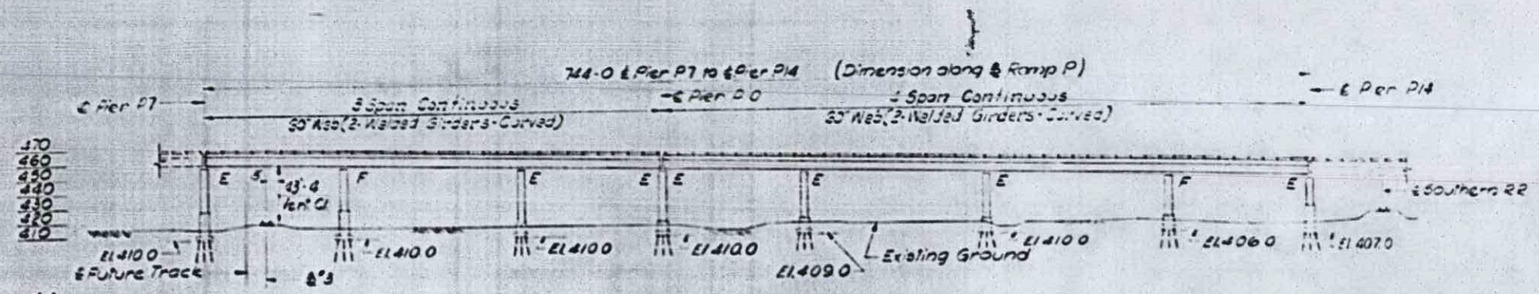
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 21 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	247	40
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



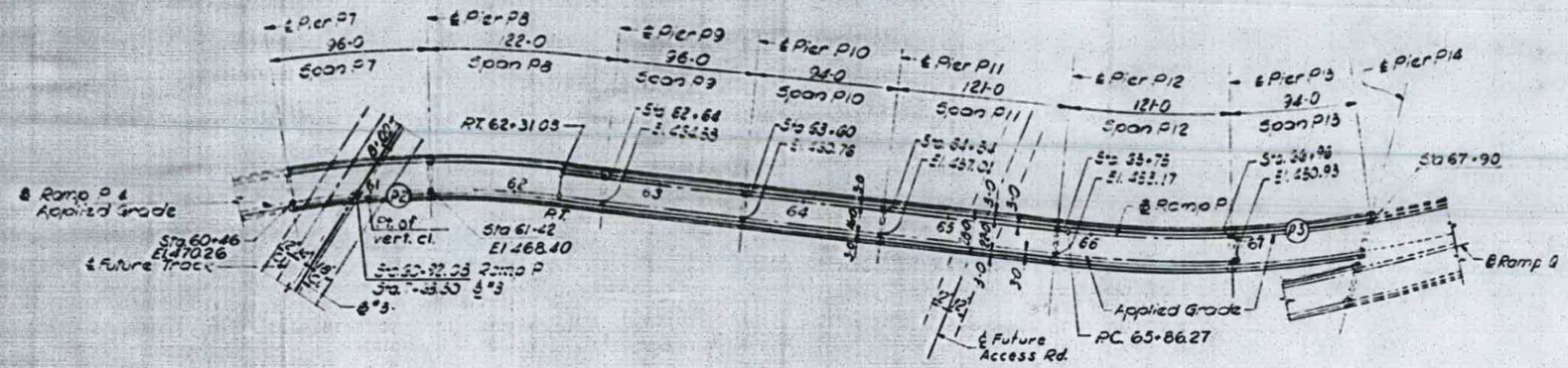
PROFILE RAMP P



ELEVATION

Developed Length along ℄ Ramp P

N



PLAN

DESIGNED BY J.J.N.
DRAWN BY I.A.M.
CHECKED BY B.H.
APPROVED BY K.A.

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

PLAN AND ELEVATION

SPANS P7 THRU P13

POPLAR STREET BRIDGE APPROACHES RAMP "P"

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

SHEET 40 OF 516

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HVB-1	ST.CLAIR	247	19
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

Curve P2

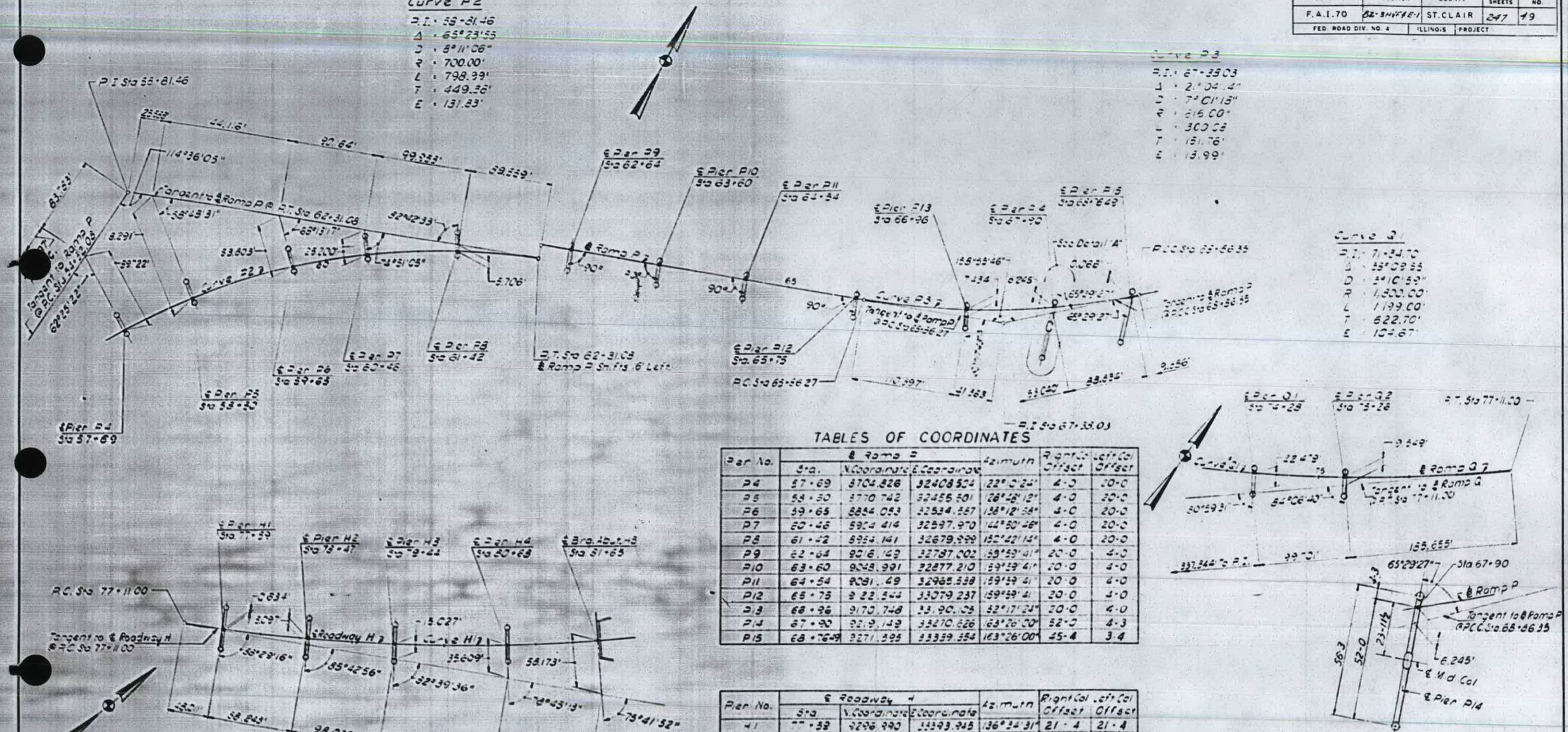
P.I. = 56+81.46
Δ = 65°23'55"
D = 8°11'06"
R = 700.00'
L = 798.39'
T = 449.36'
E = 131.83'

Curve P3

P.I. = 67+33.03
Δ = 2°04'14"
D = 7°01'15"
R = 816.00'
L = 300.08'
T = 150.06'
E = 13.99'

Curve P1

P.I. = 71+34.70
Δ = 35°09'55"
D = 5°10'59"
R = 1,100.00'
L = 1,199.00'
T = 622.70'
E = 102.67'



TABLES OF COORDINATES

Pier No.	℄ Ramp P Sta.	N Coordinate	E Coordinate	Azimuth	Right Col Offset	Left Col Offset
P4	57+69	8704.826	32408.524	22°0'24"	4-0	20-0
P5	58+50	8770.742	32455.501	28°48'12"	4-0	20-0
P6	59+65	8854.053	32534.367	138°12'58"	4-0	20-0
P7	60+46	9904.414	32597.970	144°50'46"	4-0	20-0
P8	61+42	8954.141	32679.999	152°42'14"	4-0	20-0
P9	62+64	9016.142	32787.002	159°59'41"	20-0	4-0
P10	63+60	9048.991	32877.210	159°59'41"	20-0	4-0
P11	64+54	9081.49	32968.538	159°59'41"	20-0	4-0
P12	65+75	9122.544	33079.237	159°59'41"	20-0	4-0
P13	66+96	9170.748	33190.105	152°17'24"	20-0	4-0
P14	67+90	9219.149	33270.626	163°26'00"	52-0	4-3
P15	68+76.49	9271.595	33339.354	163°26'00"	45-4	3-4

Pier No.	℄ Roadway H Sta	N Coordinate	E Coordinate	Azimuth	Right Col Offset	Left Col Offset
H1	77+39	9296.990	33393.945	136°34'31"	21-4	21-4
H2	78+47	9359.304	33456.369	133°48'11"	20-2	20-2
H3	79+44	9430.767	33521.613	130°44'5"	19-0½	19-0½
H4	80+68	9527.394	33599.287	126°50'23"	17-0½	17-10½
Brg Abut H5	81+65	9606.537	33655.351	123°47'07"	17-1 15/16	17-2

Pier No.	℄ Ramp Q Sta.	N Coordinate	E Coordinate	Azimuth	Right Col Offset	Left Col Offset
Q1	74+28	9088.251	33193.097	147°05'41"	20-0	4-0
Q2	75+26	9143.701	33219.686	143°58'35"	20-0	4-0

Curve H1

P.I. = 83+18.92
Δ = 36°57'31"
D = 3°09'01"
R = 1,818.76'
L = 1,173.19'
T = 607.32'
E = 98.88'

DETAIL - "A"

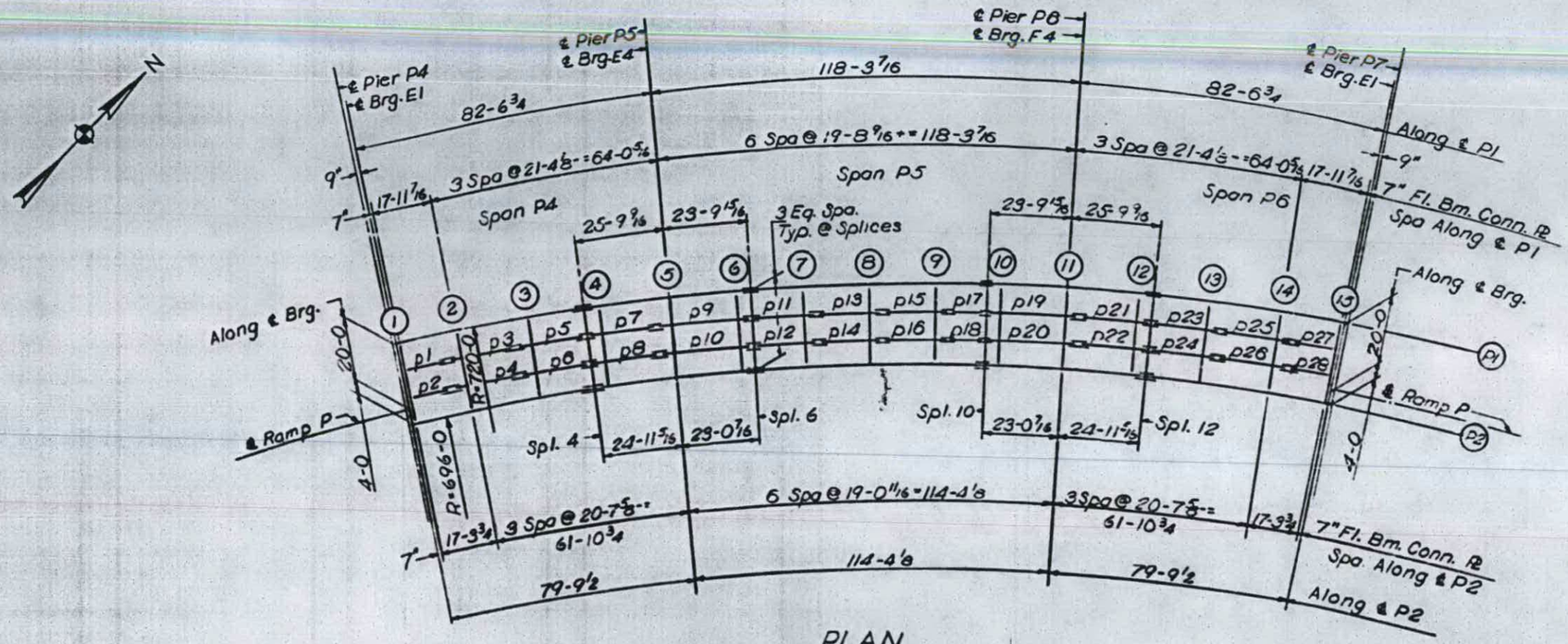
DESIGNED BY R.M.P.
DRAWN BY I.M.
CHECKED BY S.G.B.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
GEOMETRIC LAYOUT
PIERS P4 THRU P15, Q1 & Q2, H1 THRU H5
POPLAR STREET BRIDGE APPROACHES
RAMPS P&Q AND ROADWAY "H"
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

SHEET 31 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF8E-1	ST. CLAIR	247	174
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
SPANS P4 THRU P6

ELEVATION TOP OF GIRDER WEB

		GIR. P1	GIR. P2	DIFF.
CL. BRG.		470.667	468.747	1.920
FLOOR BEAM	1	470.674	468.755	1.919
FLOOR BEAM	2	470.903	468.982	1.921
FLOOR BEAM	3	471.174	469.254	1.920
SPLICE	4	471.389	469.469	1.920
FLOOR BEAM	4	471.421	469.501	1.920
FLOOR BEAM	5	471.575	469.655	1.920
FLOOR BEAM	6	471.717	469.797	1.920
SPLICE	6	471.747	469.827	1.920
FLOOR BEAM	7	471.763	469.843	1.920
FLOOR BEAM	8	471.783	469.863	1.920
FLOOR BEAM	9	471.803	469.883	1.920
SPLICE	10	471.818	469.898	1.920
FLOOR BEAM	10	471.797	469.877	1.920
FLOOR BEAM	11	471.694	469.774	1.920
FLOOR BEAM	12	471.583	469.663	1.920
SPLICE	12	471.560	469.640	1.920
FLOOR BEAM	13	471.479	469.459	1.920
FLOOR BEAM	14	471.151	469.231	1.920
FLOOR BEAM	15	470.959	469.039	1.920
... BRG.		470.952	469.032	1.920

Note:
Dimensions locating Floor Beams are given to the Floor Beam Conn. Plate. See sketch Sheet No. 183

BILL OF MATERIAL		
*Structural Steel	Lbs.	315,300

* Weight of Bearing Assemblies with Lead Plates and Anchor Bolts are Included as Structural Steel Est. Wt. 6960 Lbs.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
FRAMING PLAN
SPANS P4 THRU P6
POPLAR STREET BRIDGE APPROACHES
RAMP "P"
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF8E-1

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

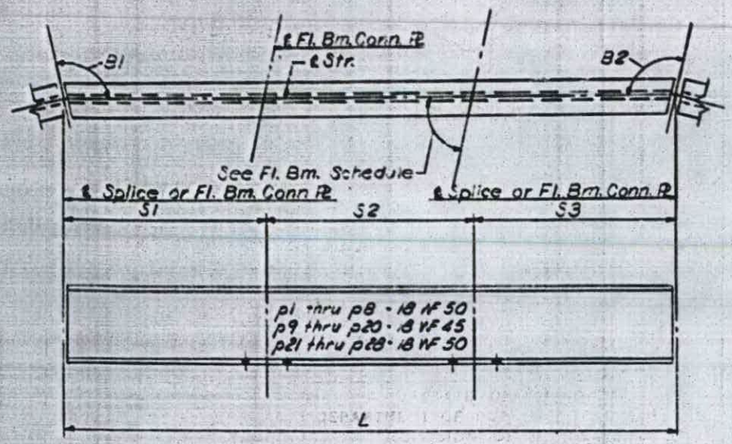
SHEET 304 of 526

DESIGNED BY R.W.R
DRAWN BY OCH
CHECKED BY A.T.
APPROVED BY K.C.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. - 70	82-3HVFBE-1	ST CLAIR	247	175
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

STRINGER DIMENSIONS

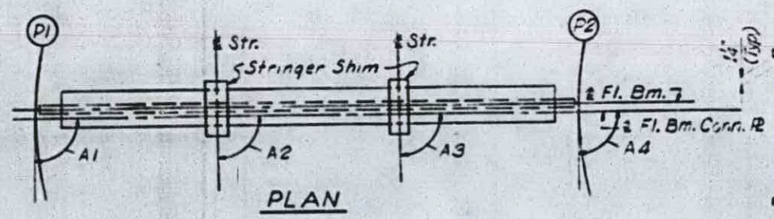
STR	L	S1	S2	S3	B1	B2
1	13' 3 15/16"	O	O	O	90°38'37"	90°32'11"
2	13 2	O		13 2	90.38.39	90.32.09
3	21 1 1/4	4 4 7/8		16 8 3/8	90.50.57	90.50.57
4	20 10 7/16	4 4 5/16		16 6 1/8	90.50.57	90.50.57
5	21 1 1/4	4 4 7/8		16 9 3/8	90.50.57	90.50.57
6	20 10 7/16	4 4 5/16		16 6 1/8	90.50.57	90.50.57
7	21 1 1/4	4 4 7/8		16 8 3/8	90.50.57	90.50.57
8	20 10 7/16	4 4 5/16	O	16 6 1/8	90.50.57	90.50.57
9	27 11 5/8	4 4 7/8	19 5 15/16	4 13/16	91.07.32	91.07.32
10	27 7 7/8	4 4 5/16	19 3 5/16	4 1/4	91.07.32	91.07.32
11	19 5 15/16	15 5 1/8	O	4 13/16	90.47.06	90.47.06
12	19 3 5/16	15 3		4 1/4	90.47.06	90.47.06
13	19 5 15/16	15 5 1/8		4 13/16	90.47.06	90.47.06
14	19 3 5/16	15 3 1/16		4 1/4	90.47.06	90.47.06
15	19 5 15/16	15 5 1/8		4 13/16	90.47.06	90.47.06
16	19 3 5/16	15 3 1/16		4 1/4	90.47.06	90.47.06
17	11 4 5/16	O	O	O	90.27.25	90.27.25
18	11 2 3/4	O	O	O	90.27.25	90.27.25
19	27 11 5/8	4 13/16	19 5 15/16	4 4 7/8	91.07.32	91.07.32
20	27 7 7/8	4 1/4	19 3 5/16	4 4 5/16	91.07.32	91.07.32
21	21 1 1/4	16 8 3/8	O	4 4 7/8	90.50.57	90.50.57
22	20 10 7/16	16 6 1/8		4 4 5/16	90.50.57	90.50.57
23	21 1 1/4	16 8 3/8		4 4 7/8	90.50.57	90.50.57
24	20 10 7/16	16 6 1/8		4 4 5/16	90.50.57	90.50.57
25	21 1 1/4	16 8 3/8		4 4 7/8	90.50.57	90.50.57
26	20 10 7/16	16 6 1/8		4 4 5/16	90.50.57	90.50.57
27	13 3 15/16	13 3 15/16		O	90.32.11	90.38.37
28	13 2	O	O	O	90.32.09	90.38.39



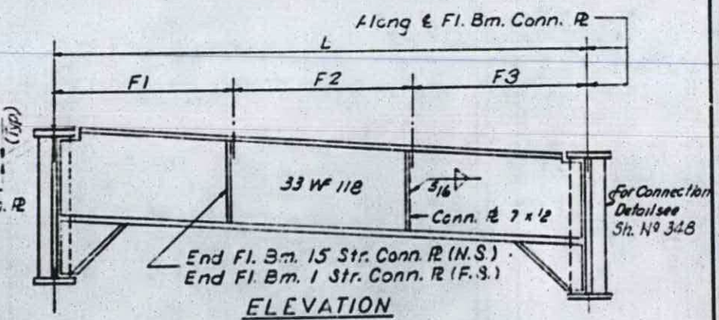
TYPICAL STRINGER

FLOOR BEAM DIMENSIONS

FL BM	L	F1	F2	F3	A1	A2	A3	A4
1	24'—0"	8'—0"	8'—0"	8'—0"	90°08'22"	90°38'37"	90°38'39"	90°08'38"
2	24	8 5/8	8	7 11 3/8	90.00.00	90.29.40	90.29.40	90.00.00
3	24	8 5/8	8	7 11 3/8	90.00.00	90.29.40	90.29.40	90.00.00
4	24	8 5/8	8	7 11 3/8	90.00.00	90.29.40	90.29.40	90.00.00
5	24	8 7/8	8	7 11 1/8	90.00.00	90.46.15	90.46.15	90.00.00
6	24	8 13/16	8	7 11 3/16	90.00.00	89.12.07	89.12.07	90.00.00
7	24	8 1/2	8	7 11 1/2	90.00.00	89.32.35	89.32.35	90.00.00
8	24	8 1/2	8	7 11 1/2	90.00.00	89.32.35	89.32.35	90.00.00
9	24	8 1/2	8	7 11 1/2	90.00.00	89.32.35	89.32.35	90.00.00
10	24	8 13/16	8	7 11 3/16	90.00.00	89.47.53	89.47.53	90.00.00
11	24	8 7/8	8	7 11 1/8	90.00.00	89.13.45	89.13.45	90.00.00
12	24	8 5/8	8	7 11 3/8	90.00.00	89.30.20	89.30.20	90.00.00
13	24	8 5/8	8	7 11 3/8	90.00.00	89.30.20	89.30.20	90.00.00
14	24	8 5/8	8	7 11 3/8	90.00.00	89.30.20	89.30.20	90.00.00
15	24	8	8	8	89.53.38	89.21.23	89.21.21	89.53.25

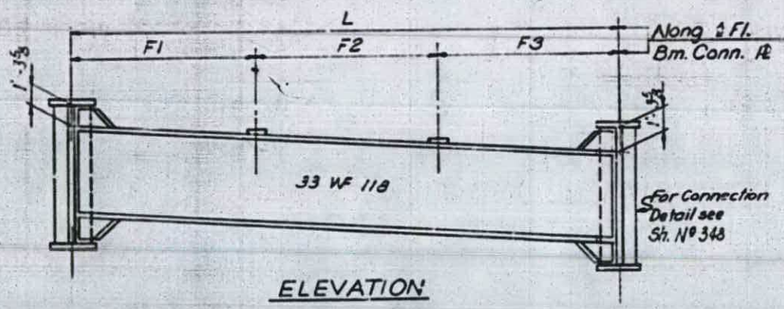


PLAN

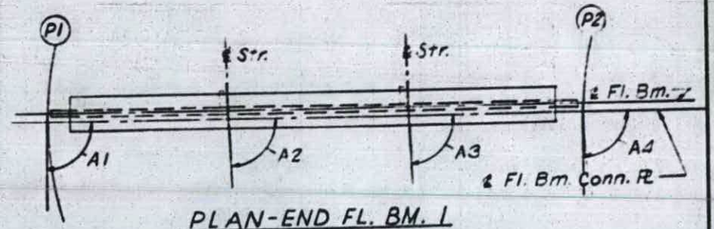


ELEVATION

END FLOOR BEAM 1 AND 15



ELEVATION



PLAN-END FL. BM. 1

INTERIOR FLOOR BEAM 2 THRU 14

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 Detail see Sh. № 348

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
STRINGER AND FLOOR BEAM SCHEDULE
SPANS P4 THRU P6
POPLAR STREET BRIDGE APPROACHES
RAMP "P"
F.A.I. RT 70 ST. CLAIR CO. SECTION 82-3HVFBE-1

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

SHEET 305 OF 526

DESIGNED BY R.M.R.
DRAWN BY D.C.H.
CHECKED BY A.S.
APPROVED BY K.A.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF8E-1	ST. CLAIR	247	176
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

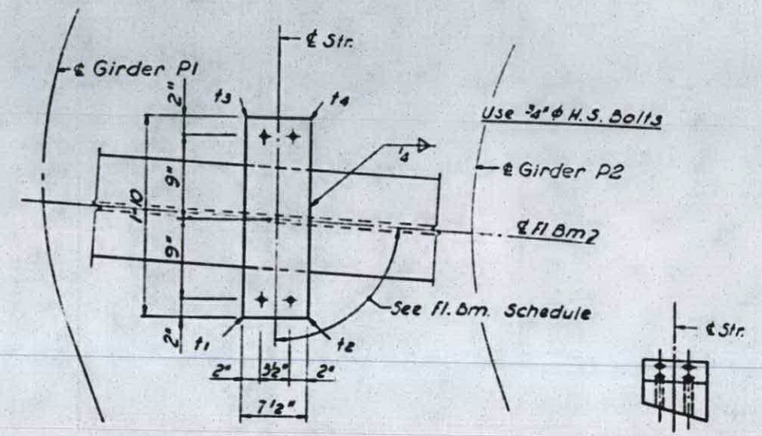
FLOOR BEAM 2 THRU 3	T1	T2	T3	T4
STR. 1 THRU 6	3/8	1	5/8	1 1/4

FLOOR BEAM 4 THRU 6	T1	T2	T3	T4
STR. 7 THRU 10	7/16	1 1/16	9/16	1 3/16

FLOOR BEAM 7 THRU 9	T1	T2	T3	T4
STR. 11 THRU 16	1/2	1 1/8	1/2	1 1/8

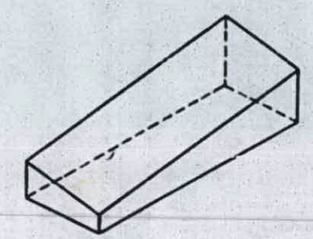
FLOOR BEAM 10 THRU 12	T1	T2	T3	T4
STR. 19 THRU 22	9/16	1 3/16	7/16	1 1/16

FLOOR BEAM 13 THRU 14	T1	T2	T3	T4
STR. 23 THRU 28	5/8	1 1/4	3/8	1

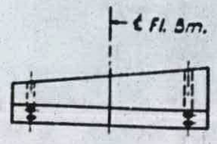


PLAN

END VIEW



ISOMETRIC VIEW



SIDE VIEW

SHIM DETAIL

Shim thickness t1, t2, t3 & t4 shown in the Table are orientated with the Plan View shown above.

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

STRINGER SHIMS

SPANS P4 THRU P6

POPLAR STREET BRIDGE APPROACHES

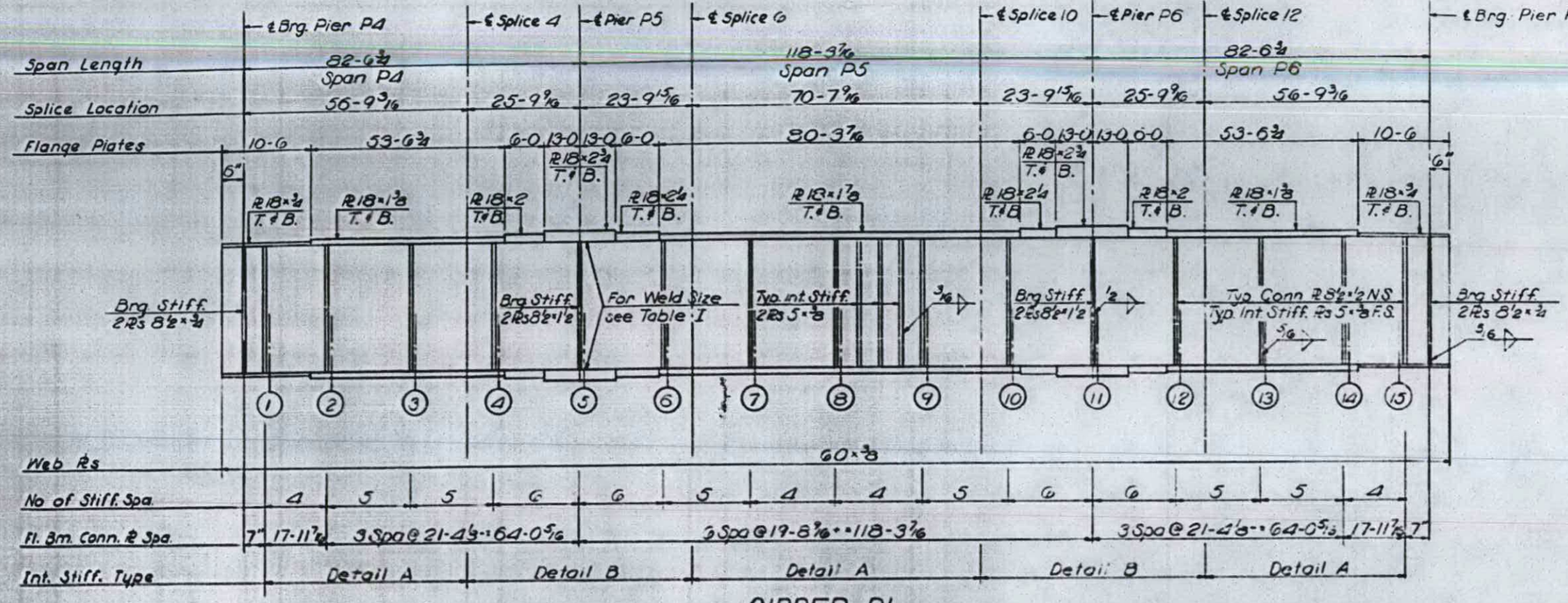
RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF8E-1

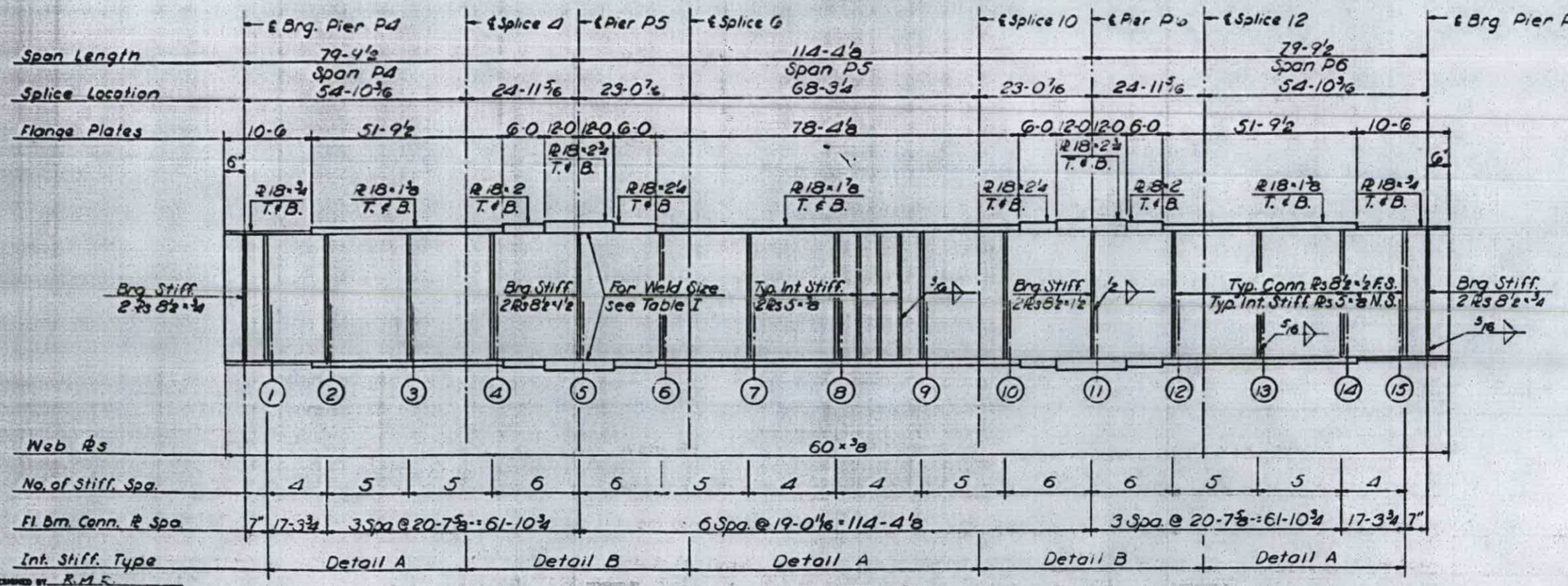
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 306 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			247	177
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



GIRDER P1
SPANS P4 thru P6



GIRDER P2
SPANS P4 thru P6

Notes:
All Longitudinal Dimensions shown are given along ℄ of Web. See Sheet No. 304.
All Bearing Stiffeners and Connection Plates to be vertical.
For Splice, Stiffener, Connection Plate Details and Table I see Sheet No. 348, 349, 350.

DESIGNED BY R.M.F.
DRAWN BY D.O.H.H.
CHECKED BY A.T.
APPROVED BY K.A.

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

GIRDERS P1 AND P2
SPANS P4 THRU P6

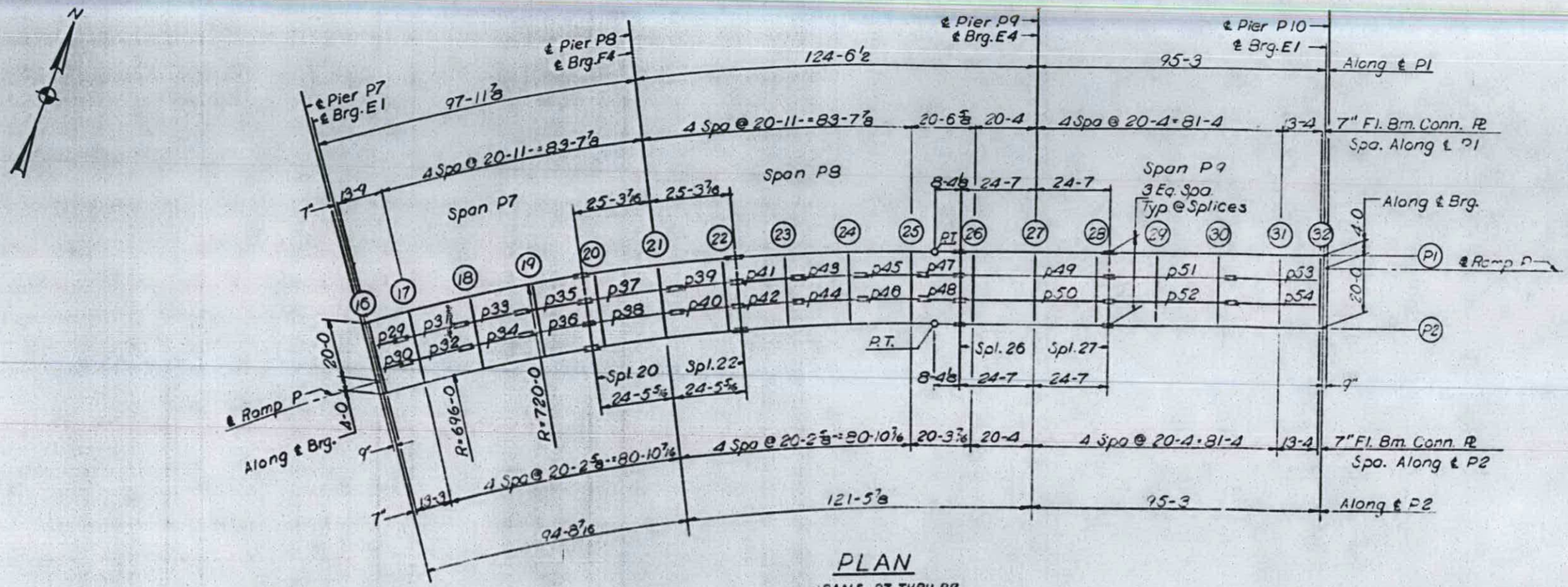
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET 307 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF&E-1	ST. CLAIR	247	78
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN

SPANS P7 THRU P9

ELEVATION TOP OF GIRDER WEB

		GIR. P1	GIR. P2	DIFF.
CL. BRG.		470.931	469.011	1.920
FLOOR BEAM	16	470.921	469.001	1.920
FLOOR BEAM	17	470.680	468.760	1.920
FLOOR BEAM	18	470.313	468.393	1.920
FLOOR BEAM	19	469.946	468.026	1.920
SPLICE	20	469.655	467.735	1.920
FLOOR BEAM	20	469.551	467.631	1.920
FLOOR BEAM	21	469.051	467.131	1.920
FLOOR BEAM	22	468.550	466.630	1.920
SPLICE	22	468.446	466.526	1.920
FLOOR BEAM	23	467.812	466.049	1.763
FLOOR BEAM	24	467.010	465.446	1.564
FLOOR BEAM	25	466.209	464.843	1.366
SPLICE	26	465.584	464.364	1.220
FLOOR BEAM	26	465.397	464.208	1.189
FLOOR BEAM	27	464.504	463.462	1.042
FLOOR BEAM	28	463.611	462.715	.896
SPLICE	27	463.424	462.559	.865
FLOOR BEAM	29	462.684	461.935	.749
FLOOR BEAM	30	461.749	461.146	.603
FLOOR BEAM	31	460.814	460.357	.456
FLOOR BEAM	32	460.200	459.840	.360
CL. BRG.		460.173	459.817	.356

Notes:
Dimensions locating Floor Beams are given to the Floor Beam Conn. Plate. See sketch Sheet No. 183

BILL OF MATERIAL		
*Structural Steel	Lbs.	375,830

* 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 & BRIDGES
DIVISION OF HIGHWAYS
FRAMING PLAN
SPANS P7 THRU P9
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

F.A.I. RT.70 ST. CLAIR CO. SECTION

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

DESIGNED BY R.M.R.
DRAWN BY D.C.H.
CHECKED BY
APPROVED BY

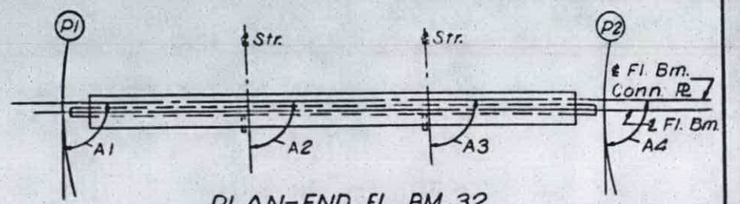
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. - 70	82-3HVF&E-1	ST. CLAIR	247	179
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

STRINGER DIMENSIONS

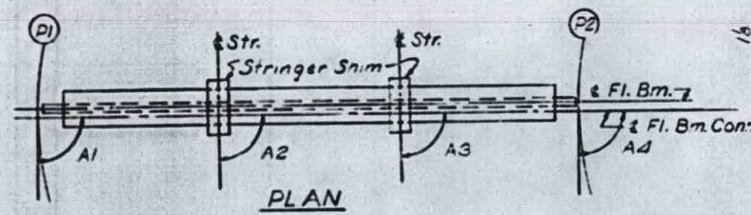
STR	L	S1	S2	S3	S4	D1	D2
29	9'-3 1/8"	O	O	O	O	90°28'48"	90°22'22"
30	9 1 11/16	O			O	90.28.50	90.22.19
31	20 8 3/16	4 3 7/8			16 4 5/16	90.49.56	90.49.56
32	20 5 3/8	4 3 5/16			16 2 1/16	90.49.56	90.49.56
33	20 8 3/16	4 3 7/8			16 4 5/16	90.49.56	90.49.56
34	20 5 3/8	4 3 5/16			16 2 1/16	90.49.56	90.49.56
35	20 8 3/16	4 3 7/8			16 4 5/16	90.49.56	90.49.56
36	20 5 3/8	4 3 5/16	O		16 2 1/16	90.49.56	90.49.56
37	29 3 7/8	4 3 7/8	20 8 1/8		4 3 7/8	91.10.48	91.10.48
38	28 11 15/16	4 3 5/16	20 5 3/8		4 3 5/16	91.10.48	91.10.48
39	20 8 3/16	16 4 5/16	O		4 3 7/8	90.49.56	90.49.56
40	20 5 3/8	16 2 1/16			4 3 5/16	90.49.56	90.49.56
41	20 8 3/16	16 4 5/16			4 3 7/8	90.49.56	90.49.56
42	20 5 3/8	16 2 1/16			4 3 5/16	90.49.56	90.49.56
43	20 8 3/16	16 4 5/16			4 3 7/8	90.49.56	90.49.56
44	20 5 3/8	16 2 1/16			4 3 5/16	90.49.56	90.49.56
45	20 8 3/16	16 4 5/16			4 3 7/8	90.49.56	90.49.56
46	20 5 3/8	16 2 1/16			4 3 5/16	90.49.56	90.49.56
47	11 10 3/4	O			O	90.14.35	90.12.34
48	11 10 1/4	O	O	O	O	90.14.36	90.12.32
49	49 2	4 3	20 4	29 4	4 3	90.00.00	90.00.00
50	49 2	4 3	20 4	29 4	4 3	90.00.00	90.00.00
51	40 8	16 1	20 4	O	4 3	90.00.00	90.00.00
52	40 8	16 1	20 4		4 3	90.00.00	90.00.00
53	29 5	16 1	O		13 4	90.00.00	90.00.00
54	29 5	16 1	O	O	13 4	90.00.00	90.00.00

FLOOR BEAM DIMENSIONS

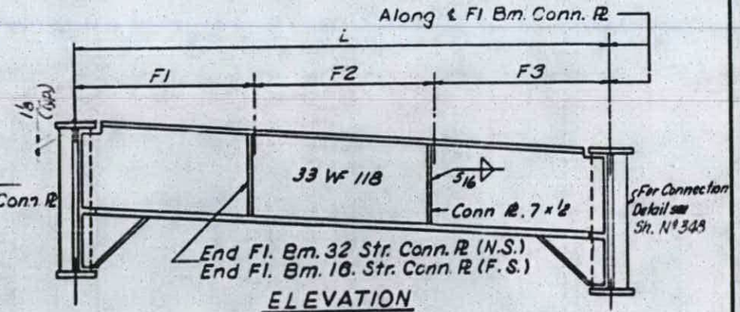
FL BM	L	F1	F2	F3	A1	A2	A3	A4
16	24'—0"	8'—0"	8'—0"	8'—0"	90°06'22"	90°28'48"	90°28'50"	90°06'35"
17	24	8 5/8	8	7 11 7/16	90.00.00	90.29.03	90.29.03	90.00.00
18	24	8 5/8	8	7 11 7/16	90.00.00	90.29.03	90.29.03	90.00.00
19	24	8 5/8	8	7 11 7/16	90.00.00	90.29.03	90.29.03	90.00.00
20	24	8 15/16	8	7 11 1/8	90.00.00	90.49.56	90.49.56	90.00.00
21	24	8 15/16	8	7 11 1/8	90.00.00	89.10.04	89.10.04	90.00.00
22	24	8 5/8	8	7 11 7/16	90.00.00	89.30.57	89.30.57	90.00.00
23	24	8 5/8	8	7 11 7/16	90.00.00	89.30.57	89.30.57	90.00.00
24	24	8 5/8	8	7 11 7/16	90.00.00	89.30.57	89.30.57	90.00.00
25	24	8 5/8	8	7 11 7/16	90.00.00	89.30.57	89.30.57	90.00.00
26	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
27	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
28	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
29	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
30	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
31	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
32	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00



PLAN-END FL. BM. 32

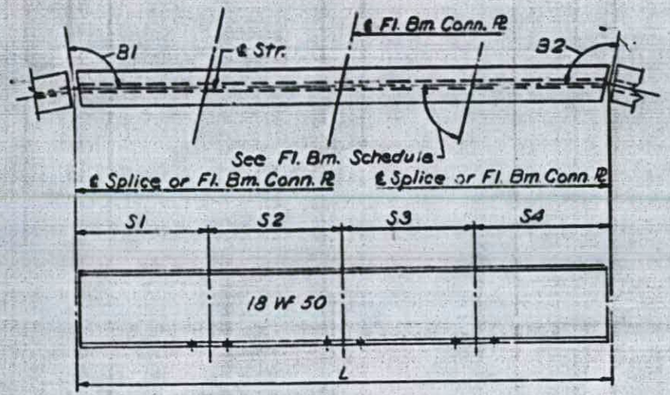


PLAN

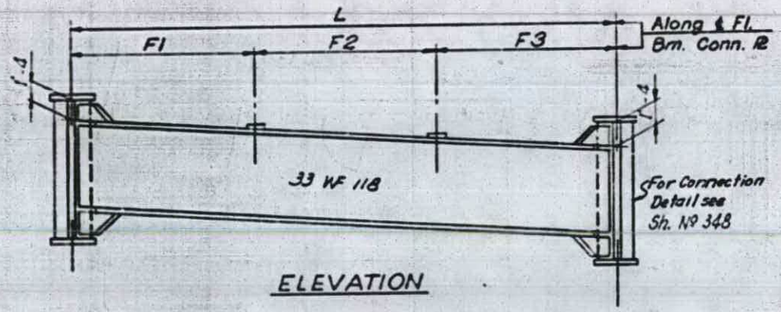


ELEVATION

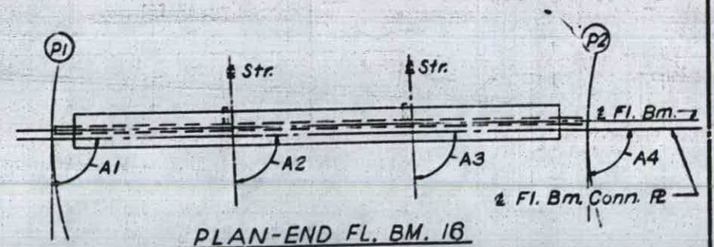
END FLOOR BEAM 16 AND 32



TYPICAL STRINGER



ELEVATION



PLAN-END FL. BM. 16

INTERIOR FLOOR BEAM 17 THRU 31

Note:
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 Detail see Sh. N° 348

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
STRINGER AND FLOOR BEAM SCHEDULE
SPANS P7 THRU P9
POPLAR STREET BRIDGE APPROACHES
RAMP "P"
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF&E-1

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

SHEET 309 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF&E-1	ST. CLAIR	247	180
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FLOOR BEAM 17 THRU 19	T1	T2	T3	T4
STR. 29 THRU 36	15/16	1 9/16	9/16	1 3/16

FLOOR BEAM 20 THRU 22	T1	T2	T3	T4
STR. 37 THRU 40	1	1 3/8	1/2	1 1/8

FLOOR BEAM 23	T1	T2	T3	T4
STR.				
41	1 3/16	1 3/4	3/8	15/16
42	1 1/8	1 11/16	7/16	1

FLOOR BEAM 24	T1	T2	T3	T4
STR.				
43	1 3/16	1 11/16	7/16	15/16
44	1 3/16	1 11/16	7/16	15/16

FLOOR BEAM 25	T1	T2	T3	T4
STR.				
45	1 1/4	1 11/16	7/16	7/8
46	1 3/16	1 5/8	1/2	15/16

FLOOR BEAM 26	T1	T2	T3	T4
STR.				
49	1 5/16	1 11/16	7/16	13/16
50	1 5/16	1 11/16	7/16	13/16

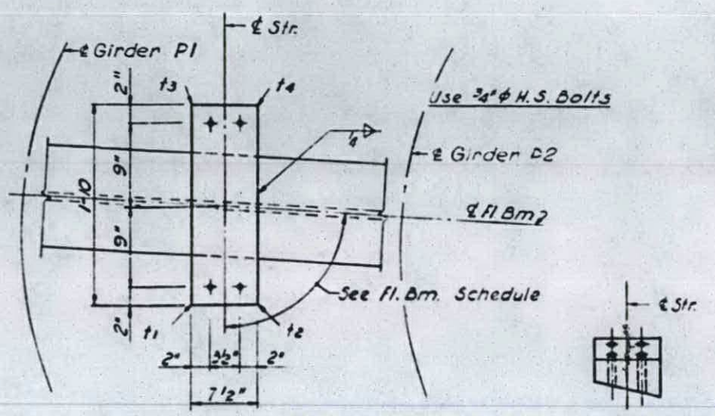
FLOOR BEAM 27	T1	T2	T3	T4
STR.				
49	1 3/8	1 11/16	7/16	3/4
50	1 5/16	1 5/8	1/2	13/16

FLOOR BEAM 28	T1	T2	T3	T4
STR.				
49	1 3/8	1 11/16	7/16	3/4
50	1 3/8	1 5/8	1/2	3/4

FLOOR BEAM 29	T1	T2	T3	T4
STR.				
51	1 7/16	1 11/16	7/16	11/16
52	1 3/8	1 5/8	1/2	3/4

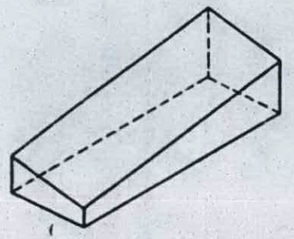
FLOOR BEAM 30	T1	T2	T3	T4
STR.				
51	1 7/16	1 5/8	1/2	11/16
52	1 7/16	1 5/8	1/2	11/16

FLOOR BEAM 31	T1	T2	T3	T4
STR.				
53	1 1/2	1 5/8	1/2	5/8
54	1 7/16	1 9/16	9/16	11/16

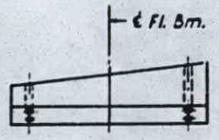


PLAN

END VIEW



ISOMETRIC VIEW



SIDE VIEW

SHIM DETAIL

Shim thickness t1, t2, t3 & t4 shown in the Table are orientated with the Plan View shown above.

DESIGNED BY R.A.R.
DRAWN BY J.C.H.
CHECKED BY A.T.
APPROVED BY K.J.

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

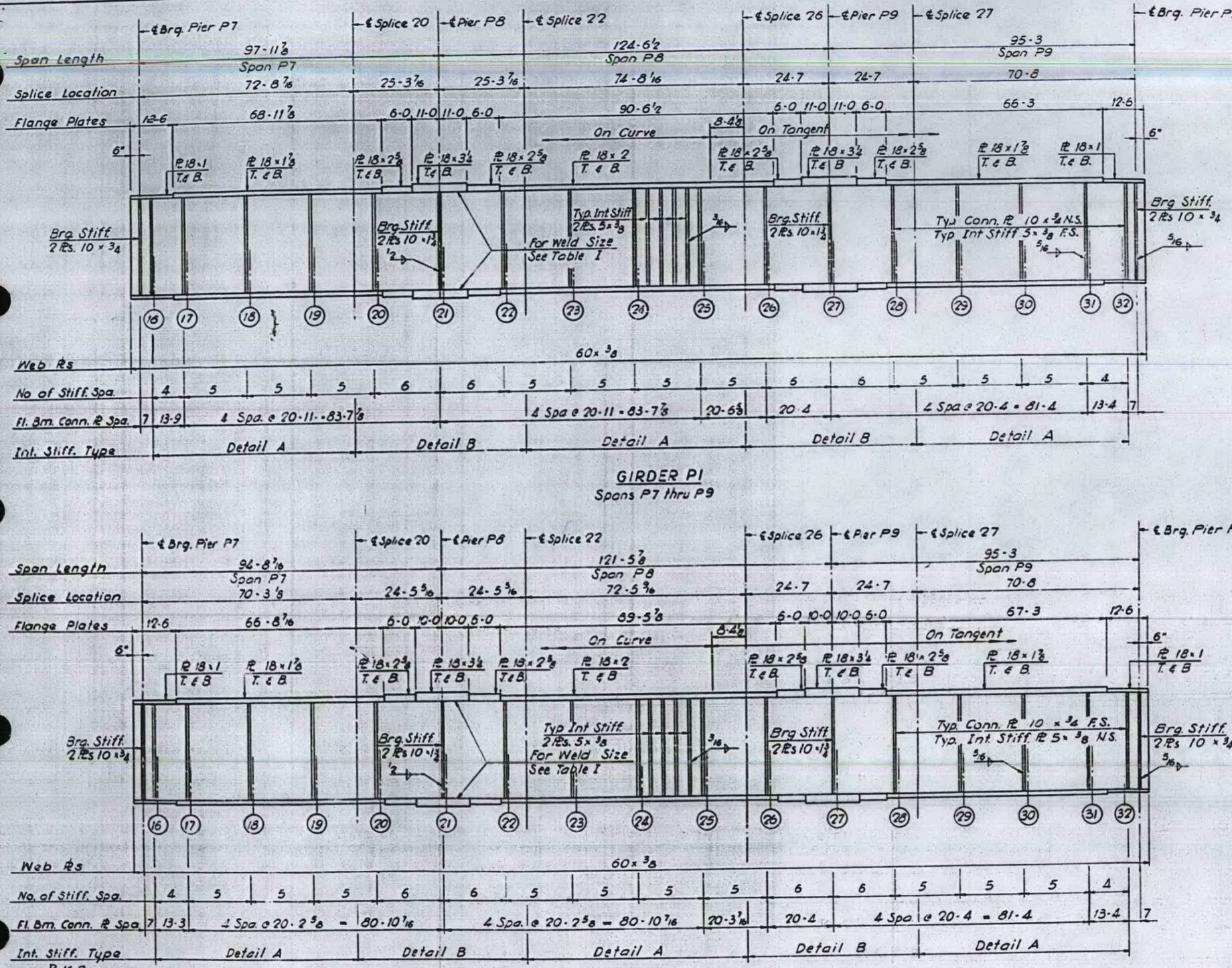
STRINGER SHIMS
SPANS P7 THRU P9
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET
310 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.—70	82-3HVF & E-1	ST. CLAIR	247	181
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



GIRDER P1
Spans P7 thru P9

GIRDER P2
Spans P7 thru P9

Notes:
All Longitudinal Dimensions shown are given along ℄ of Web See Sheet No. 308.
All Bearing Stiffeners and Connection Plates to be vertical.
For Splice, Stiffener, Connection Plate Details and Table I see Sheet No. 348, 349, 350.

DESIGNED BY R.M.E.
DRAWN BY V.R.
CHECKED BY A.T.
APPROVED BY K.A.

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

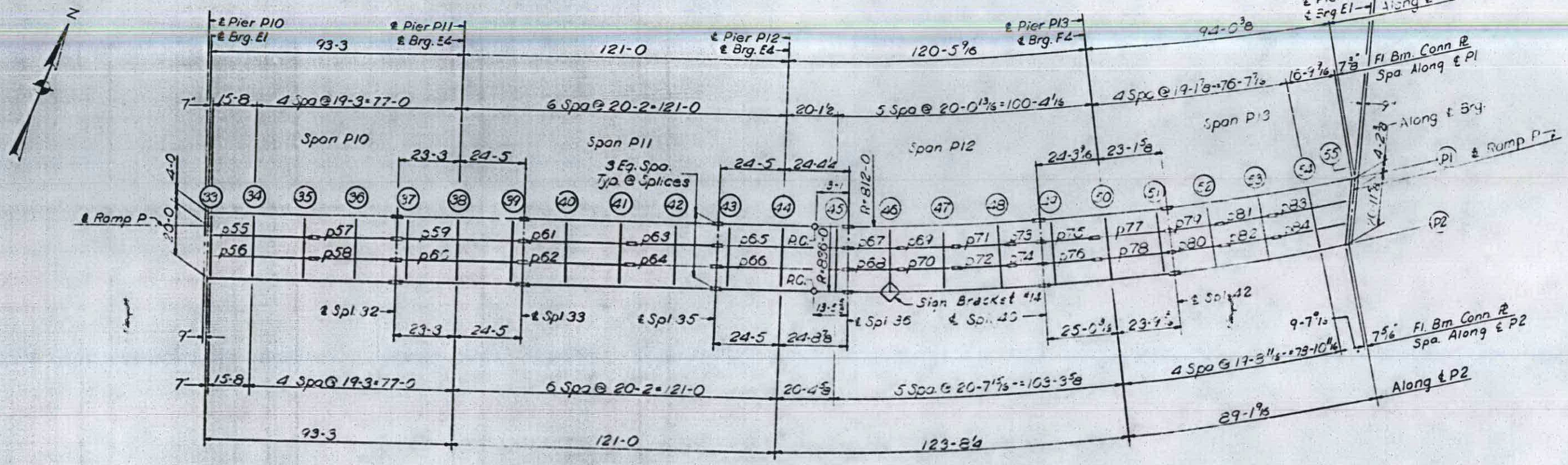
GIRDERS P1 AND P2
SPANS P7 THRU P9
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET 311 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F A I - 70	82-3HVF & E-1	ST CLAIR	247	182
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



PLAN
SPANS P10 THRU P13

ELEVATION TOP OF GIRDER WEB

	GIR. P1	GIR. P2	DIFF.
CL. BRG.	460.106	459.759	.344
FLOOR BEAM 33	460.078	459.737	.340
FLOOR BEAM 34	459.357	459.129	.228
FLOOR BEAM 35	458.471	458.382	.088
FLOOR BEAM 36	457.586	457.635	.049
SPLICE 32	456.884	457.043	.159
FLOOR BEAM 37	456.707	456.895	.188
FLOOR BEAM 38	455.858	456.181	.326
FLOOR BEAM 39	454.961	455.433	.472
SPLICE 33	454.773	455.276	.503
FLOOR BEAM 40	454.172	454.789	.617
FLOOR BEAM 41	453.409	454.172	.763
FLOOR BEAM 42	452.647	453.555	.907
SPLICE 35	452.045	453.067	1.022
FLOOR BEAM 43	451.910	452.967	1.057
FLOOR BEAM 44	451.268	452.490	1.222

	GIR. P1	GIR. P2	DIFF.
FLOOR BEAM 45	450.648	452.007	1.379
SPLICE 36	450.433	451.904	1.411
FLOOR BEAM 46	450.105	451.648	1.543
FLOOR BEAM 47	449.613	451.279	1.666
FLOOR BEAM 48	449.122	450.929	1.807
SPLICE 40	448.704	450.654	1.950
FLOOR BEAM 49	448.683	450.603	1.920
FLOOR BEAM 50	448.443	450.363	1.920
FLOOR BEAM 51	448.213	450.133	1.920
SPLICE 42	448.165	450.085	1.920
FLOOR BEAM 52	448.054	449.973	1.919
FLOOR BEAM 53	447.909	449.830	1.921
FLOOR BEAM 54	447.768	449.687	1.919
FLOOR BEAM 55	447.645	449.618	1.973
CL. BRG.	447.641	449.613	1.972

Note:
Dimensions locating Floor Beams are given to the Floor Beam Conn Plate.
See Sketch Sheet No. 183
For Sign Bracket Detail see Sh No. 360

BILL OF MATERIAL		
*Structural Steel	Lbs.	474,240

*Weight of Bearing Assemblies with Lead Plates and Anchor Bolts are Included as Structural Steel
Est. Wt. 9620

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
FRAMING PLAN
SPANS P10 THRU P13
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

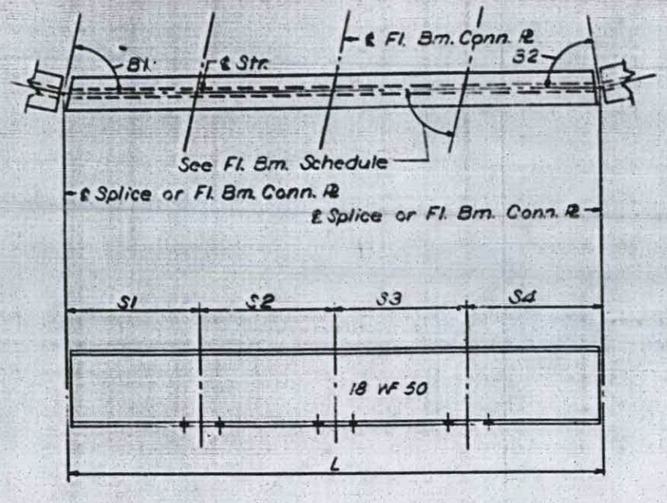
SHEET 312 of 526

DESIGNED BY R.M.R.
DRAWN BY D.G.H.
CHECKED BY A.T.
APPROVED BY K.Q.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVF&E-1	ST. CLAIR	247	33
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

STRINGER DIMENSIONS

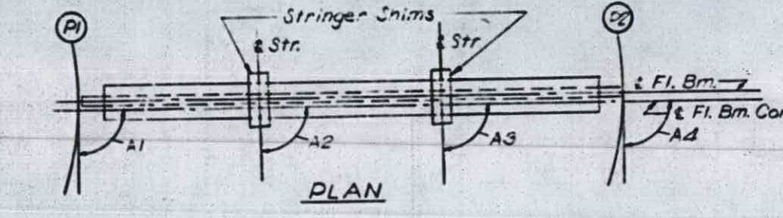
STR #	L	S1	S2	S3	S4	B1	B2
55	38'-11"	15'-8"	○	19'-3"	4'—0"	90.00.00	90.00.00
56	38 11	15 8	↑	19 3	4	90.00.00	90.00.00
57	30 6	15 3	↓	○	15 3	90.00.00	90.00.00
58	30 6	15 3	○	○	15 3	90.00.00	90.00.00
59	47 8	4	19 3	20 2	4 3	90.00.00	90.00.00
60	47 8	4	19 3	20 2	4 3	90.00.00	90.00.00
61	49 4	15 11	20 2	○	4 3	90.00.00	90.00.00
62	40 4	15 11	20 2	↑	4 3	90.00.00	90.00.00
63	31 10	15 11	○	↓	15 11	90.00.00	90.00.00
64	31 10	15 11	○	○	15 11	90.00.00	90.00.00
65	48 10 3/4	4 3	20 2	20 2 1/2	4 3 1/4	89.52.31	89.12.08
66	49 5/16	4 3	20 2	20 3 9/16	4 3 3/4	89.52.28	89.12.09
67	20 3 3/16	15 11 15/16	↑	↑	4 3 1/4	89.17.31	89.17.31
68	20 5 9/16	16 1 13/16	↓	↓	4 3 3/4	89.17.31	89.17.31
69	20 3 3/16	15 11 15/16	↑	↑	4 3 1/4	89.17.31	89.17.31
70	20 5 9/16	16 1 13/16	↓	↓	4 3 3/4	89.17.31	89.17.31
71	20 3 3/16	15 11 15/16	↑	↑	4 3 1/4	89.17.31	89.17.31
72	20 5 9/16	16 1 13/16	↓	↓	4 3 3/4	89.17.31	89.17.31
73	11 8 11/16	○	↓	↓	○	89.35.25	89.35.25
74	11 10 1/16	○	↓	↓	○	89.35.25	89.35.25
75	20 3 3/16	4 3 1/4	↓	↓	15 11 15/16	89.17.31	89.17.31
76	20 5 9/16	4 3 3/4	○	↓	16 1 13/16	89.17.31	89.17.31
77	27 7 5/8	4 3 1/4	19 4 1/8	↓	4 1/4	89.09.04	89.09.04
78	27 10 13/16	4 3 3/4	19 6 3/8	↓	4 11/16	89.09.04	89.09.04
79	19 4 1/8	15 3 7/8	○	↓	4 1/4	89.19.27	89.19.27
80	19 6 3/8	15 5 11/16	↓	↓	4 11/16	89.19.27	89.19.27
81	19 4 1/8	15 3 7/8	↓	↓	4 1/4	89.19.27	89.19.27
82	19 6 3/8	15 5 11/16	↓	↓	4 11/16	89.19.27	89.19.27
83	29 8 3/4	15 3 7/8	↓	↓	14 4 7/8	88.56.47	IC6.31.58
84	27 5 7/8	15 5 11/16	○	○	12 3/16	89.01.58	IC6.26.47



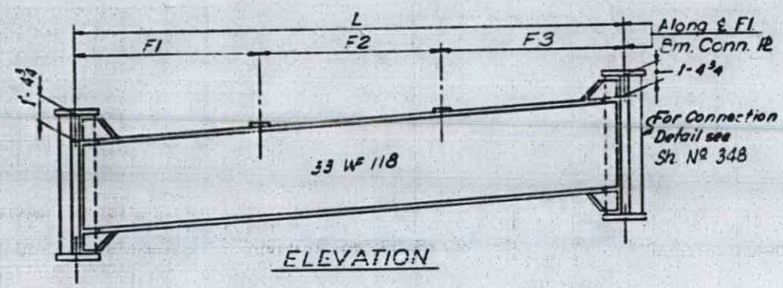
TYPICAL STRINGER

FLOOR BEAM DIMENSIONS

FL BM	L	F1	F2	F3	A1	A2	A3	A4
33	24'—0"	8'—0"	8'—0"	8'—0"	90.00.00	90.00.00	90.00.00	90.00.00
34	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
35	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
36	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
37	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
38	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
39	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
40	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
41	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
42	24	8	8	8	90.00.00	90.00.00	90.00.00	90.00.00
43	24	7 11 7/8	8	8 1/8	90.00.00	89.57.31	89.52.28	90.00.00
44	24	7 11 3/8	8	8 5/8	90.00.00	89.57.31	89.57.28	90.00.00
45	24	7 11 7/16	8	8 9/16	90.00.00	90.00.00	90.02.57	90.00.00
46	24	7 11 1/2	8	8 1/2	90.00.00	90.04.35	90.04.35	90.00.00
47	24	7 11 1/2	8	8 1/2	90.00.00	90.04.35	90.04.35	90.00.00
48	24	7 11 1/2	8	8 1/2	90.00.00	90.04.35	90.04.35	90.00.00
49	24	7 11 1/2	8	8 1/2	90.00.00	89.35.25	89.35.25	90.00.00
50	24	7 11 1/4	8	8 3/4	90.00.00	89.19.59	89.19.58	90.00.00
51	24	7 11 5/16	8	8 11/16	90.00.00	90.41.05	90.41.05	90.00.00
52	24	7 11 9/16	8	8 7/16	90.00.00	90.23.42	90.23.42	90.00.00
53	24	7 11 9/16	8	8 7/16	90.00.00	90.23.42	90.23.42	90.00.00
54	24	7 10 5/16	8 1/4	8 1 3/8	90.00.00	90.01.07	90.06.13	90.00.00
55	25 1 15/16	8 4 5/8	8 4 5/8	8 4 5/8	77.15.53	73.29.01	73.33.13	77.47.24

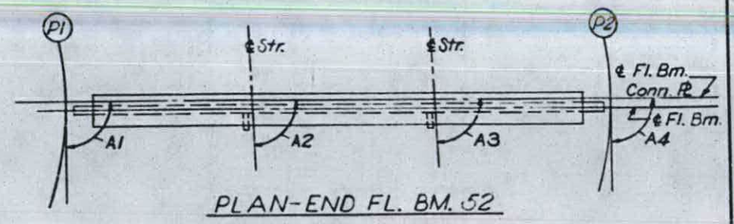


PLAN

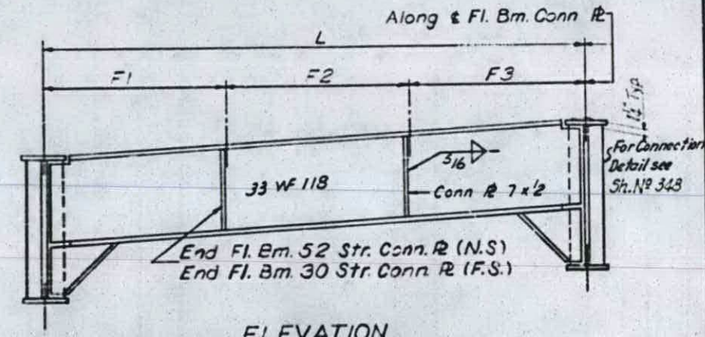


ELEVATION

INTERIOR FLOOR BEAM 31 THRU 51

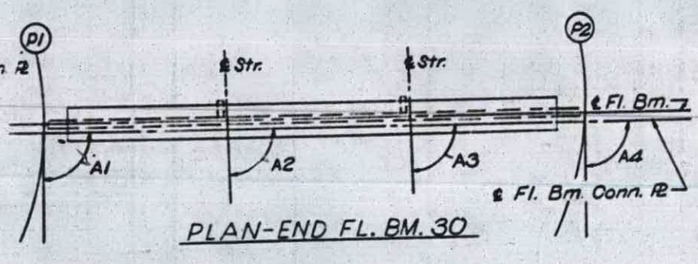


PLAN-END FL. BM. 52



ELEVATION

END FLOOR BEAM 30 AND 52



PLAN-END FL. BM. 30

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 Detail see Sheet No. 348

DESIGNED BY R.M.S.
DRAWN BY D.C.H.
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 P10 THRU P13
POPLAR STREET BRIDGE APPROACHES
RAMP "P"
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF&E-1

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

SHEET 313 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF&E-I	ST. CLAIR	247	184
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

FLOOR BEAM 34	T1	T2	T3	T4
STR.				
55	1 3/8	1 7/16	7/16	1/2
56	1 3/8	1 7/16	7/16	1/2

FLOOR BEAM 35	T1	T2	T3	T4
STR.				
55	1 3/8	1 7/16	7/16	1/2
56	1 3/8	1 3/8	1/2	1/2

FLOOR BEAM 36	T1	T2	T3	T4
STR.				
57	1 7/16	1 7/16	7/16	7/16
58	1 3/8	1 3/8	1/2	1/2

FLOOR BEAM 37	T1	T2	T3	T4
STR.				
59	1 7/16	1 3/8	1/2	7/16
60	1 3/8	1 5/16	9/16	1/2

FLOOR BEAM 38	T1	T2	T3	T4
STR.				
59	1 7/16	1 3/8	1/2	7/16
60	1 7/16	1 5/16	9/16	7/16

FLOOR BEAM 39	T1	T2	T3	T4
STR.				
59	1 1/2	1 5/16	9/16	3/8
60	1 7/16	1 5/16	9/16	7/16

FLOOR BEAM 40	T1	T2	T3	T4
STR.				
61	1 7/16	1 1/4	5/8	7/16
62	1 3/8	1 3/16	11/16	1/2

FLOOR BEAM 41	T1	T2	T3	T4
STR.				
61	1 7/16	1 3/16	11/16	7/16
62	1 7/16	1 3/16	11/16	7/16

FLOOR BEAM 42	T1	T2	T3	T4
STR.				
63	1 7/16	1 3/16	11/16	7/16
64	1 7/16	1 3/16	11/16	7/16

FLOOR BEAM 43	T1	T2	T3	T4
STR.				
65	1 7/16	1 1/16	13/16	7/16
66	1 3/8	1 1/16	13/16	1/2

FLOOR BEAM 44	T1	T2	T3	T4
STR.				
65	1 7/16	1 1/16	13/16	7/16
66	1 7/16	1 1/16	13/16	7/16

FLOOR BEAM 45	T1	T2	T3	T4
STR.				
65	1 1/2	1 1/16	13/16	3/8
66	1 7/16	1	7/8	7/16

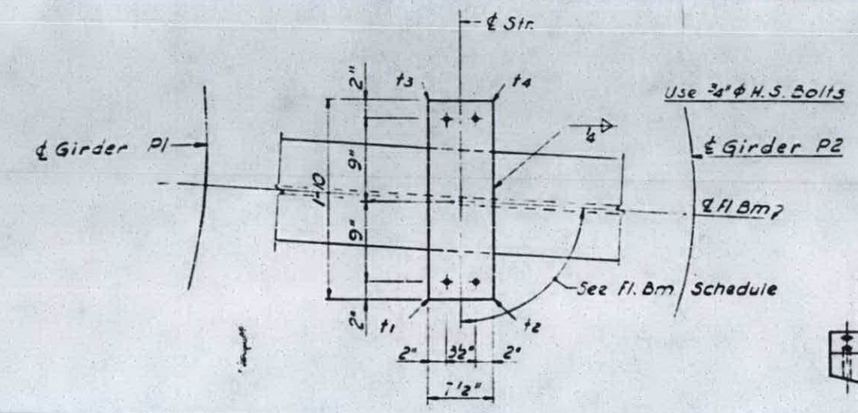
FLOOR BEAM 46	T1	T2	T3	T4
STR.				
67	1 7/16	15/16	15/16	7/16
68	1 3/8	15/16	15/16	1/2

FLOOR BEAM 47	T1	T2	T3	T4
STR.				
69	1 7/16	15/16	15/16	7/16
70	1 7/16	7/8	1	7/16

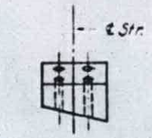
FLOOR BEAM 48	T1	T2	T3	T4
STR.				
71	1 7/16	7/8	1	7/16
72	1 7/16	7/8	1	7/16

FLOOR BEAM 49 THRU 51	T1	T2	T3	T4
STR. 75 THRU 78	1 3/8	3/4	1 1/8	1/2

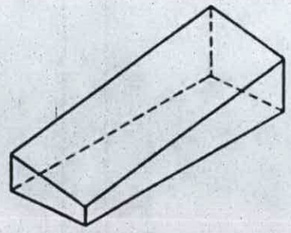
FLOOR BEAM 52 THRU 54	T1	T2	T3	T4
STR. 79 THRU 84	1 5/16	11/16	1 3/16	9/16



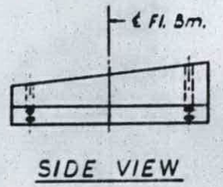
PLAN



END VIEW



ISOMETRIC VIEW



SIDE VIEW

SHIM DETAIL

Shim thickness t1, t2, t3 & t4 shown in the Table are orientated with the Plan View shown above.

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

STRINGER SHIMS
SPANS P10 THRU P13

POPLAR STREET BRIDGE APPROACHES
RAMP "P"

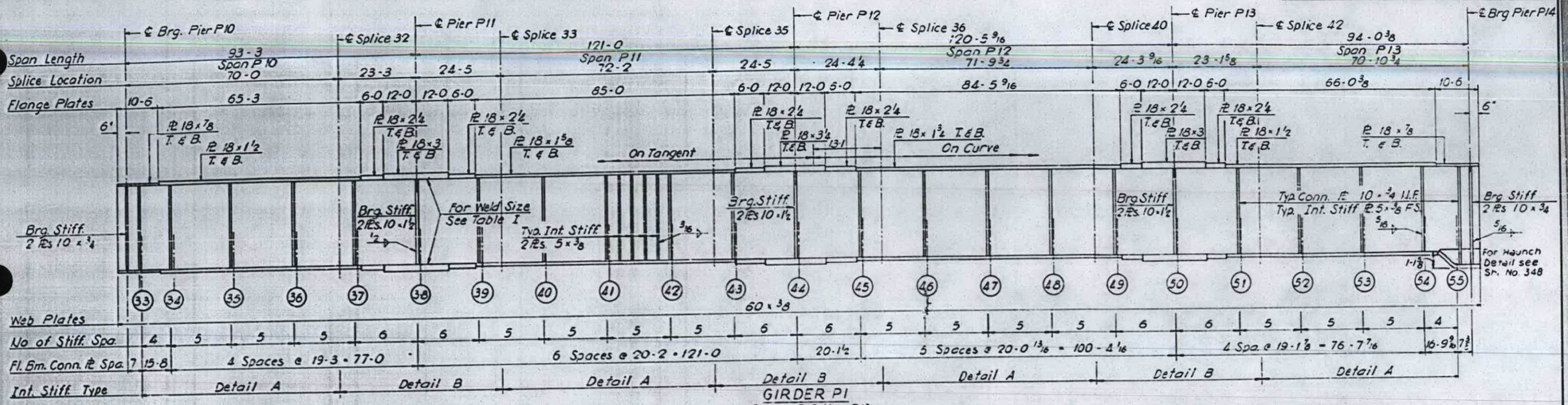
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF & E-1

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

SHEET 314 OF 522

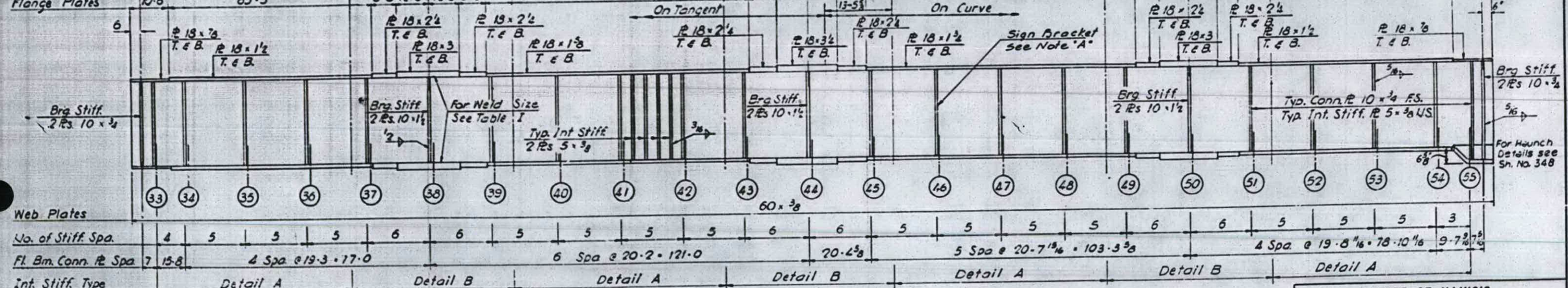
DESIGNED BY R.M.R.
DRAWN BY D.C.H.
CHECKED BY A.T.
APPROVED BY K.G.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF & E-1	ST. CLAIR	247	185
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



GIRDER P1

Spans P10 thru P13



GIRDER P2

Spans P10 thru P13

Note "A"
Intermediate Stiffeners should be moved if necessary to clear sign bracket Connection plates.

Notes:
All Longitudinal Dimensions shown are given along ℄ of Web. See Sheet No. 312.
All Bearing Stiffeners and Connection Plates to be vertical.
For Splice, Stiffener, Connection Plate Detail's and Table I see Sheet No. 348, 349, 350.
For Sign Bracket Detail see Sheet No. 360.

DESIGNED BY R.M.R.
DRAWN BY V.R.
CHECKED BY J.T.
APPROVED BY K.A.

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

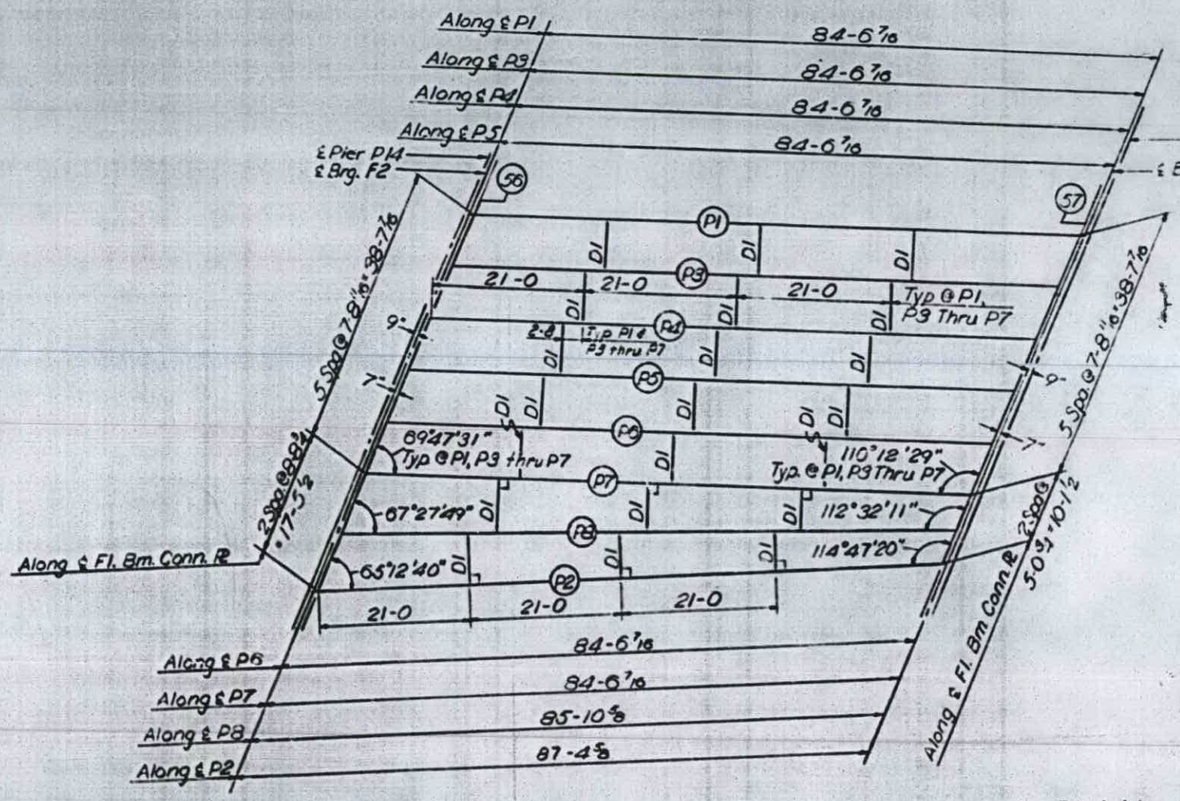
GIRDERS P1 AND P2
SPANS P10 THRU P13
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

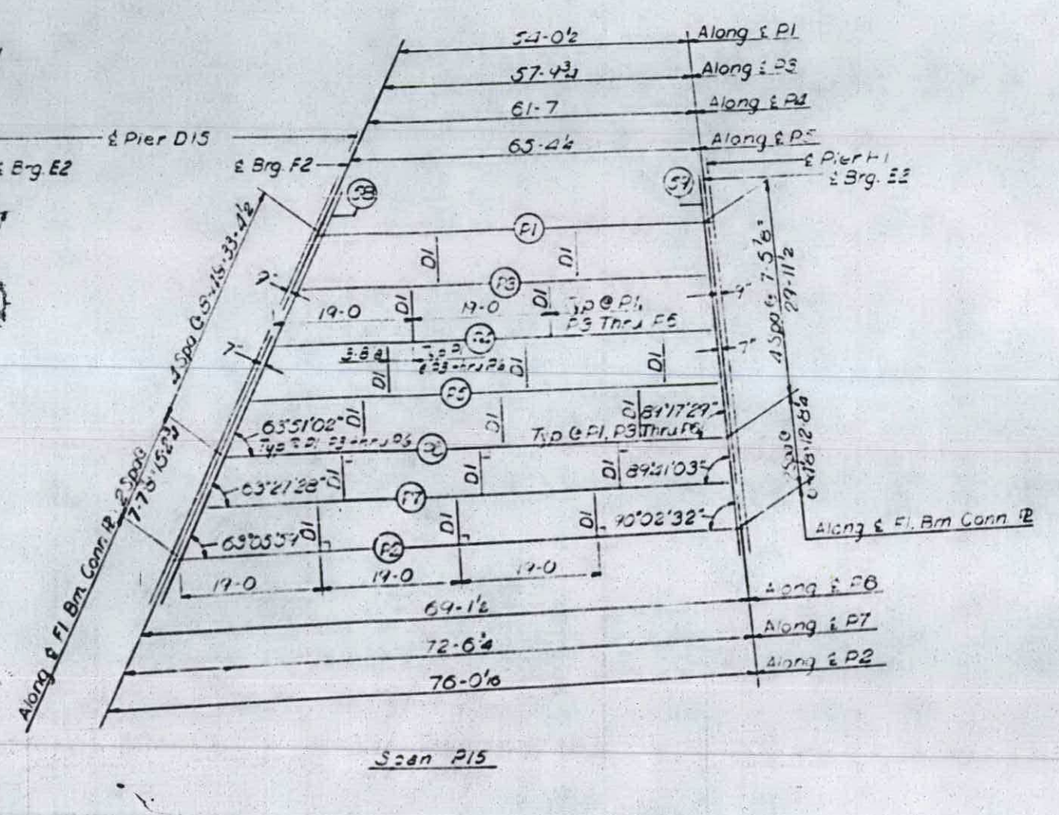
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 315 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F A I - 70	82-3HVF&E-1	ST CLAIR	247	185
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



Span P14



Span P15

PLAN
SPANS P14 AND P15

ELEVATION TOP OF FLANGE

	STR. P1	STR. P2	DIFF.
CL. BRG.	447.835	451.216	3.381
FLOOR BEAM S6	447.831	451.214	3.383
FLOOR BEAM S7	447.319	450.975	3.656
CL. BRG.	447.316	450.973	3.657

ELEVATION TOP OF FLANGE

	STR. P1	STR. P2	DIFF.
CL. BRG.	447.306	450.961	3.655
FLOOR BEAM S8	447.299	450.954	3.655
FLOOR BEAM S9	446.726	450.138	3.412
CL. BRG.	446.719	450.132	3.413

BILL OF MATERIAL		
*Structural Steel	Lbs.	320,925

*Weight of Bearing Assemblies with Lead Plates and Anchor Bolts are Included as Structural Steel Est. Wt. 7020

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BLDGS.
DIVISION OF HIGHWAYS
FRAMING PLAN
SPANS P14 AND P15
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

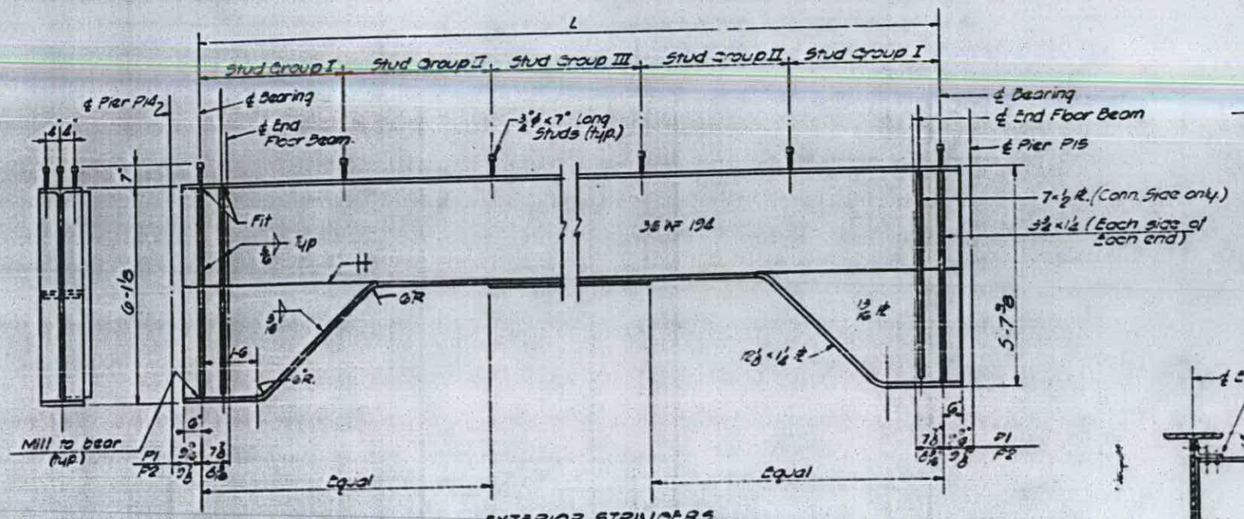
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 316 of 526

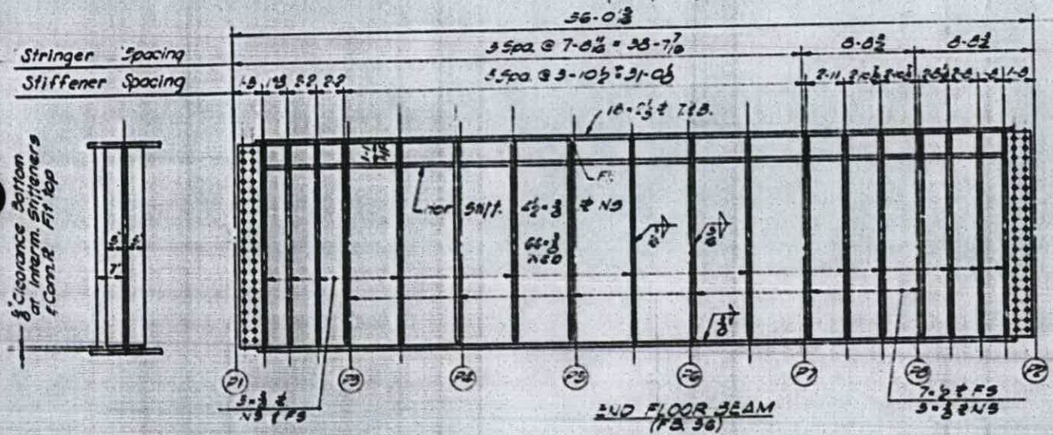
DESIGNED BY R.M.R.
DRAWN BY D.C.H.
CHECKED BY A.T.
APPROVED BY K.A.

Rev. Str. Steel from 326,130# to 320,925#. 6-3-68. N.R.F.

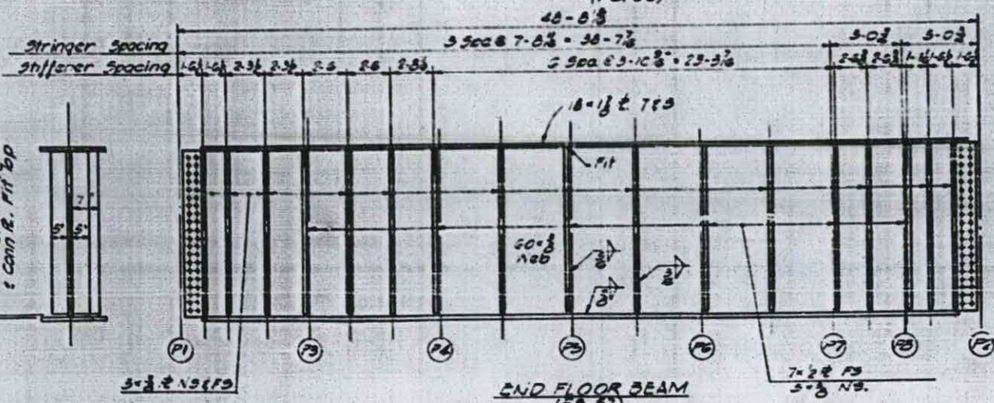
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF & E-1	ST. CLAIR	247	187
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



EXTERIOR STRINGERS
(P1 & P2)

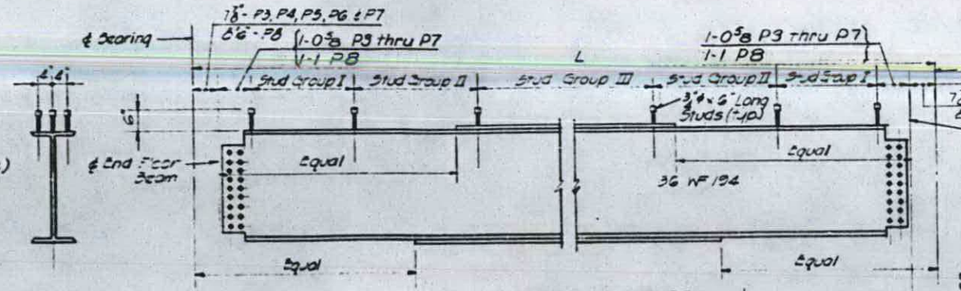


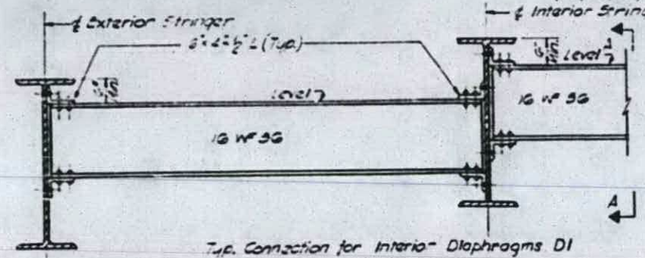
END FLOOR BEAM
(FB 36)



END FLOOR BEAM
(FB 37)

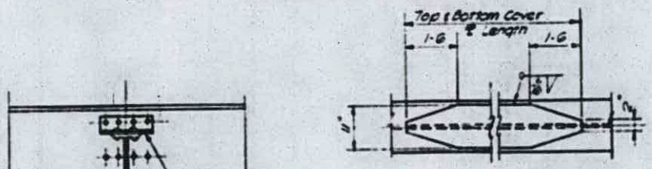
DESIGNED BY H.W.
DRAWN BY
CHECKED BY L.W.L.
APPROVED BY T.A.





Typ. Connection for Interior Diaphragms D1

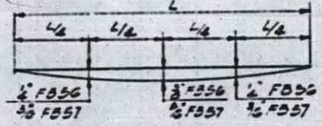
DIAPHRAGM DETAILS



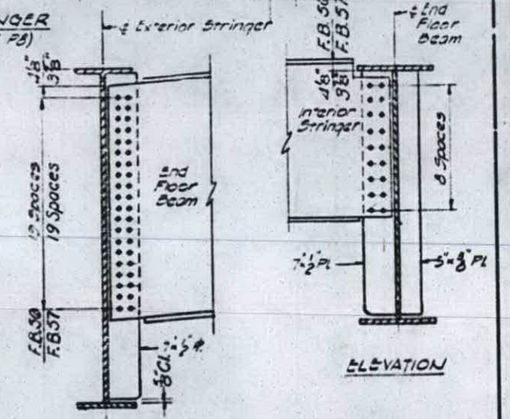
COVER PLATE DETAIL

SECTION A-A

NOTE: Clip all Stiffeners and Connection plates 2"x 2" at corners to clear welding of flange to web and to clear beam fillets.

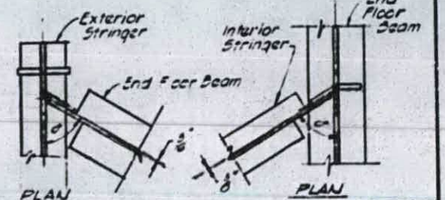


DEAD LOAD DEFLECTION DIAGRAMS FOR END FLOORBEAMS
(Wt of Concrete Only)



ELEVATION

ELEVATION



END FLOOR BEAM TO EXTERIOR STRINGER CONNECTION

INTERIOR STRINGER TO END FLOOR BEAM CONNECTION

NOTE For Angle ∠ See Framing Plan Sheet No. 316

STRINGERS & COVER PLATE LENGTHS - CLEAR CONN. SPACING						
STRINGERS	LENGTH (L)	TOP COVER PL	BOTTOM COVER PL	STUD GROUP I	STUD GROUP II	STUD GROUP III
P1	66-6 5/16	——	1'-11 7/16" x 67-6	3@6 1/2	3@7 1/2	22@10 1/2"
P3	66-6 5/16	——	1'-11 7/16" x 67-6	3@6 1/2	3@7 1/2	15@10 1/2"
P4	66-6 5/16	——	1'-11 7/16" x 67-6	3@6 1/2	3@7 1/2	16@10 1/2"
P5	66-6 5/16	1'-1 1/2" x 67-3	1'-11 7/16" x 67-6	3@6 1/2	3@7 1/2	15@10 1/2"
P6	66-6 5/16	1'-1 1/2" x 67-3	1'-11 7/16" x 67-6	3@6 1/2	3@7 1/2	15@10 1/2"
P7	66-6 5/16	——	1'-11 7/16" x 67-6	3@6 1/2	3@7 1/2	16@10 1/2"
P8	65-10 3/8	——	1'-11 1/2" x 65-3	3@6 1/2	2@6 1/2	19@11 1/2"
P2	67-4 3/8	——	1'-11 1/2" x 65-3	3@6 1/2	2@6 1/2	24@11 1/2"

NOTES

For Framing Plan see Sheet No. 316

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

STEEL DETAILS

SPAN P14

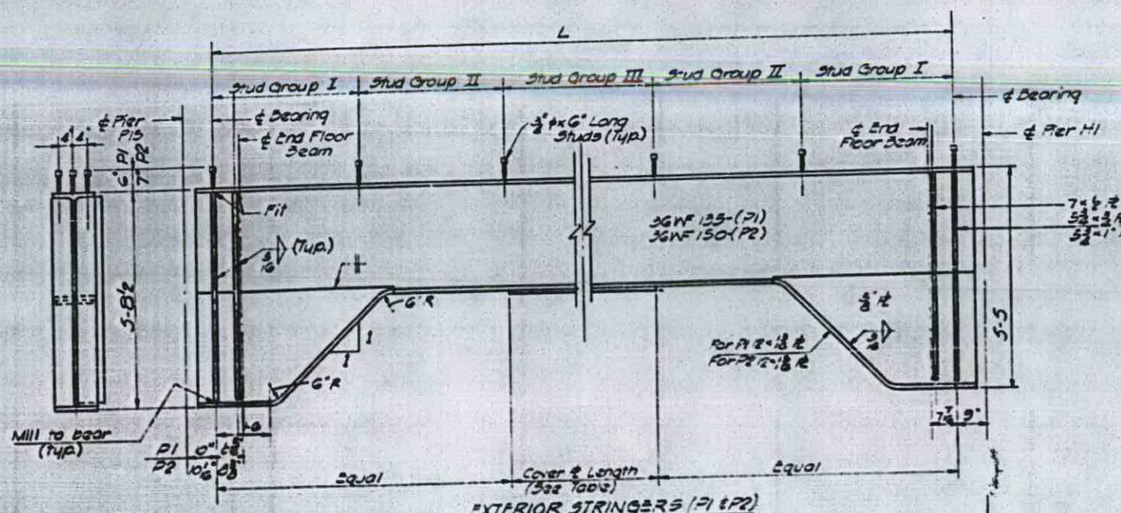
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

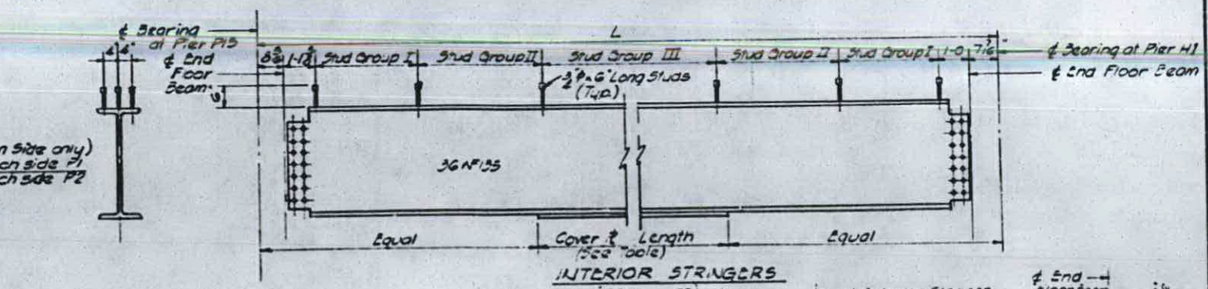
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF&E-1

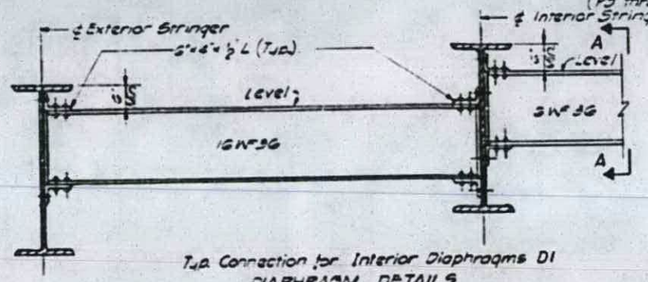
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

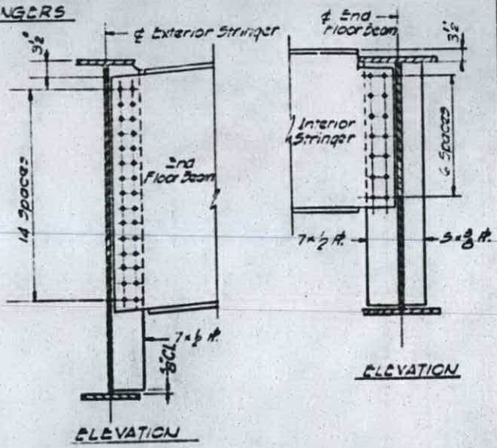
SHEET 317 OF 526

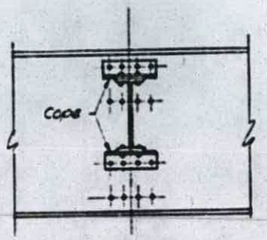
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF & E-1	ST. CLAIR	247	188
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

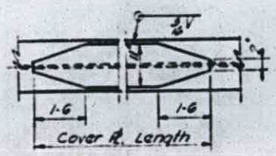




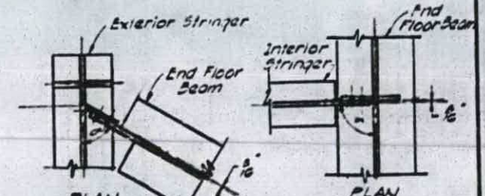








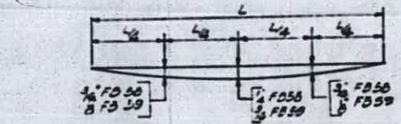
NOTE: Clip all Stiffeners and Connection Plates 3/4 - 1/2 at corners to clear welding of flange to web and to clear beam fillets.



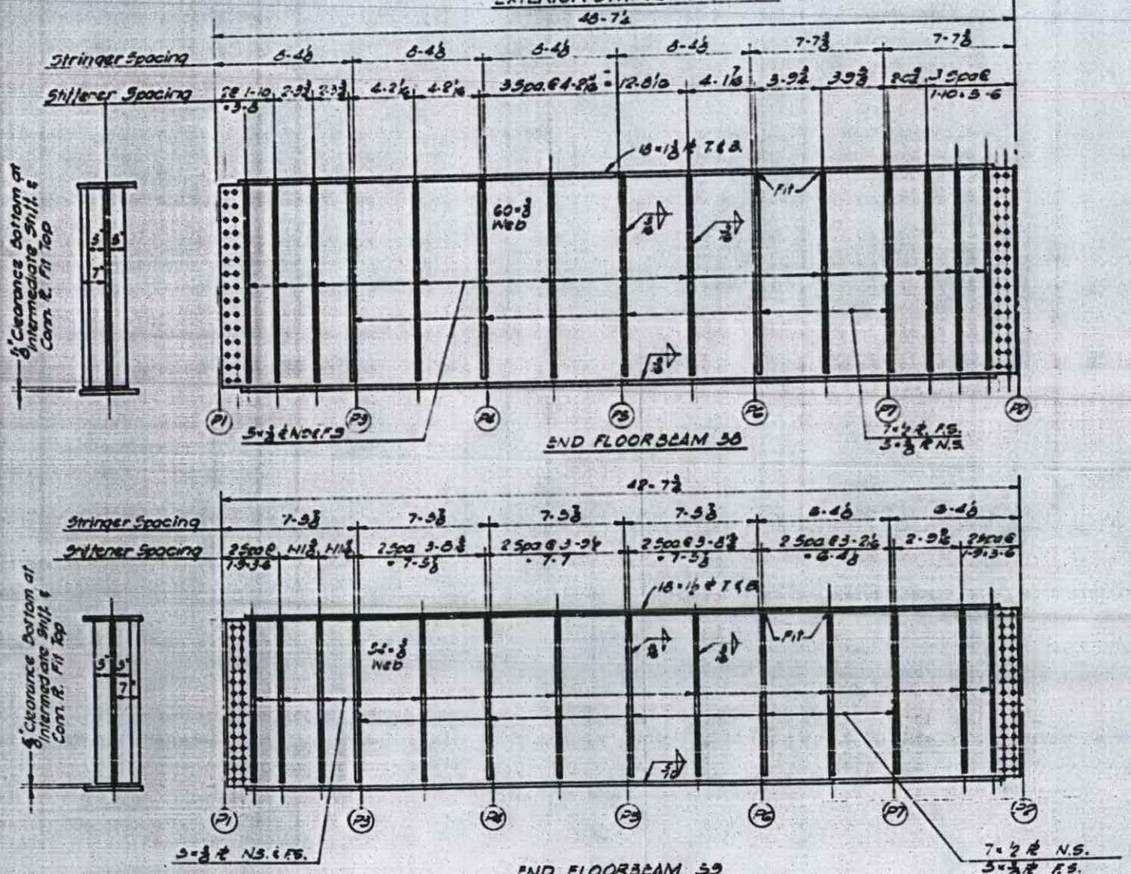
END FLOOR BEAM TO EXTERIOR STRINGER CONNECTION

INTERIOR STRINGER TO END FLOOR BEAM CONNECTION

NOTE: For Angle = See Framing Plan Sheet No. 316



DEAD LOAD DEFLECTION DIAGRAM FOR END FLOOR BEAMS (Wt of Concrete Only)



STRINGERS & COVER ℟ LENGTHS - SHEAR CONNECTOR SPACING					
STRINGER	LENGTH	COVER PLATE	STUD GROUP I	STUD GROUP II	STUD GROUP III
P1	54-0 1/2	11 - 1/2 x 36-6	28 @ 5"	16 @ 7 1/8"	13 @ 10 1/2"
P3	57-9 3/4	11 - 1/2 x 40-0	28 @ 5"	16 @ 7 1/8"	14 @ 10 1/2"
P4	61-7	11 - 5/8 x 45-3	30 @ 5"	18 @ 7 1/8"	13 @ 10 1/2"
P5	65-6 1/4	11 - 1 x 51-0	32 @ 5"	20 @ 7 1/8"	13 @ 10 1/2"
P6	69-1 1/2	11 - 1 1/8 x 53-0	32 @ 5"	22 @ 7 1/8"	14 @ 10 1/2"
P7	72-6 3/4	11 - 1 1/8 x 57-3	32 @ 5 1/2"	23 @ 7 1/2"	11 @ 11 1/2"
P2	76-0 1/16	11 - 1 3/8 x 56-6	32 @ 5 1/2"	25 @ 7 1/2"	16 @ 11 1/2"

NOTE 2:

For Framing Plan See Sheet No. 316

DESIGNED BY H.V.
DRAWN BY
CHECKED BY L.H.
APPROVED BY K.A.

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

STEEL DETAILS

SPAN P15

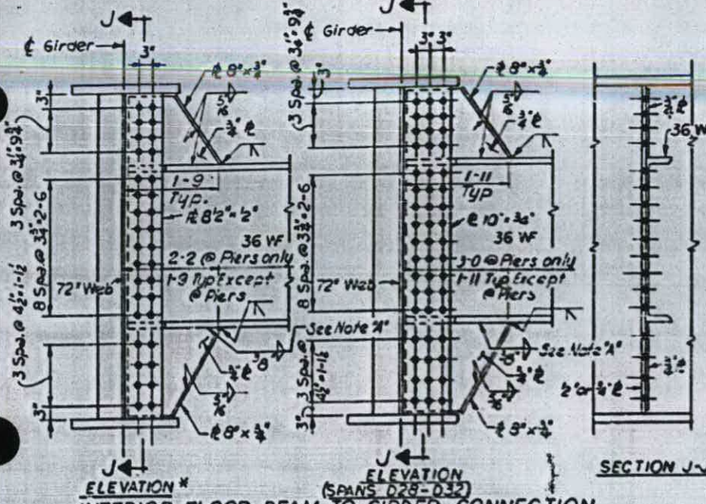
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

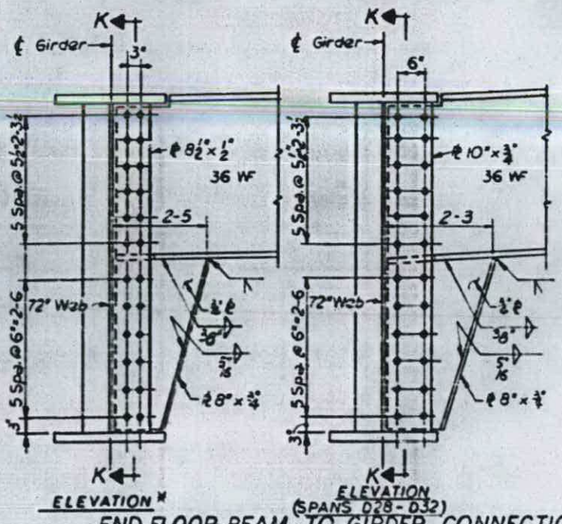
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVFBE-1

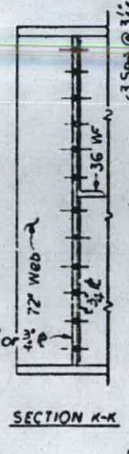
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 318 OF 528

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVFBE-1	ST. CLAIR	247	218
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		





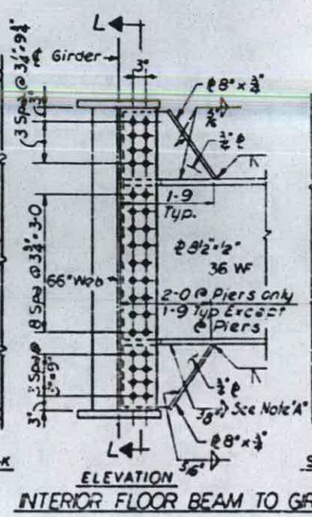


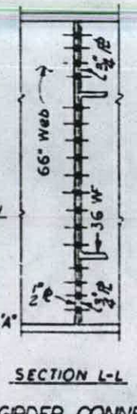
INTERIOR FLOOR BEAM TO GIRDER CONNECTION

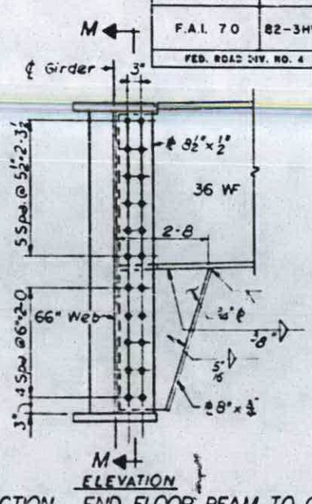
END FLOOR BEAM TO GIRDER CONNECTION

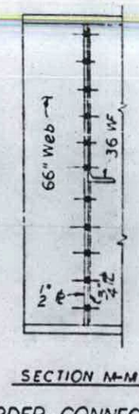
* SPANS A5-A10, A12-A14, D12-D17 AND D26-D27

72" WEB GIRDER







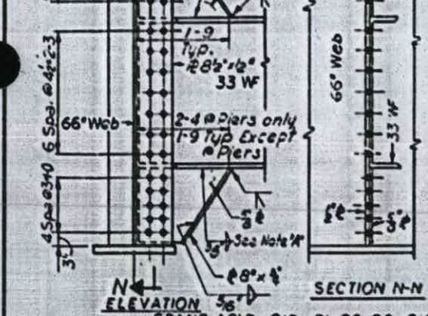


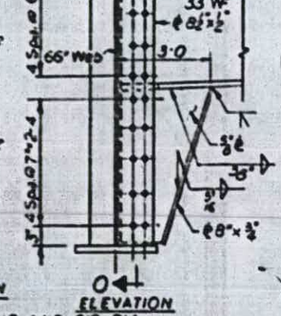
INTERIOR FLOOR BEAM TO GIRDER CONNECTION

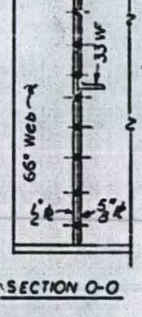
END FLOOR BEAM TO GIRDER CONNECTION

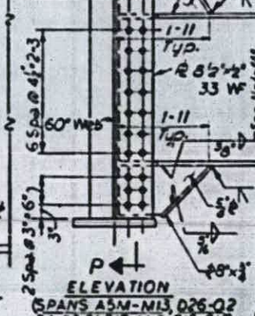
66" WEB GIRDER

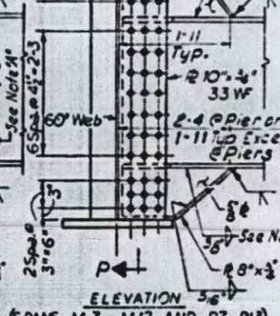
(SPANS A21 - A24)

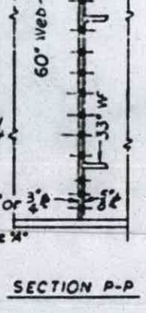






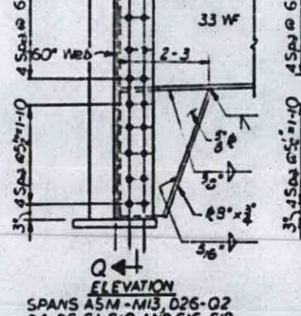


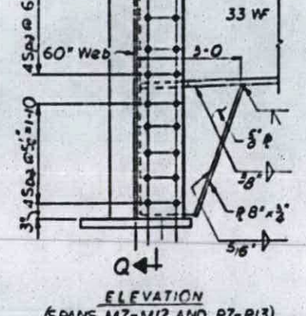


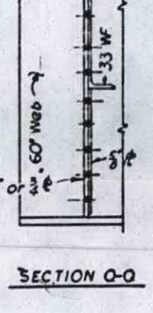


INTERIOR FLOOR BEAM TO GIRDER CONNECTIONS

60" WEB GIRDER

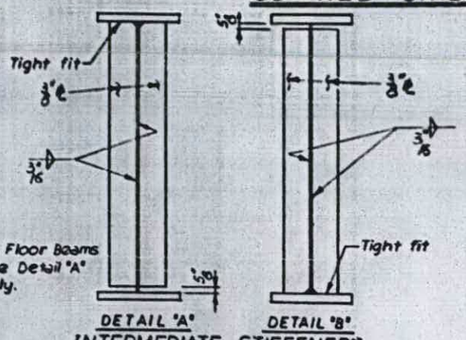




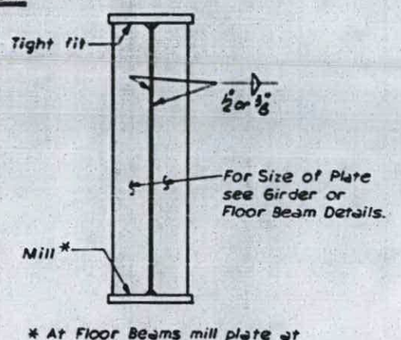


END FLOOR BEAM TO GIRDER CONNECTIONS

66" WEB GIRDER

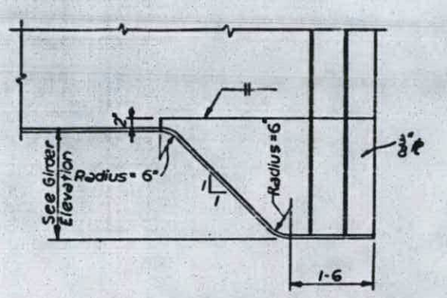


INTERMEDIATE STIFFENERS FOR GIRDERS AND FLOOR BEAMS



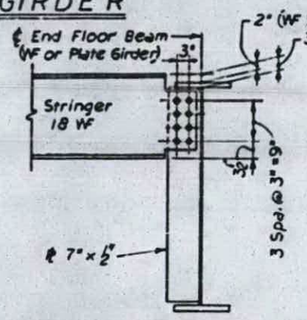
* At Floor Beams mill plate at upper flange and tight fit at lower flange.

BEARING STIFFENERS FOR GIRDERS AND FLOOR BEAMS



HAUNCH DETAIL

For Location see Girder Elevation



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

DESIGNED BY TK
DRAWN BY PAS
CHECKED BY AA
APPROVED BY KA

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 82-3HVFBE-1

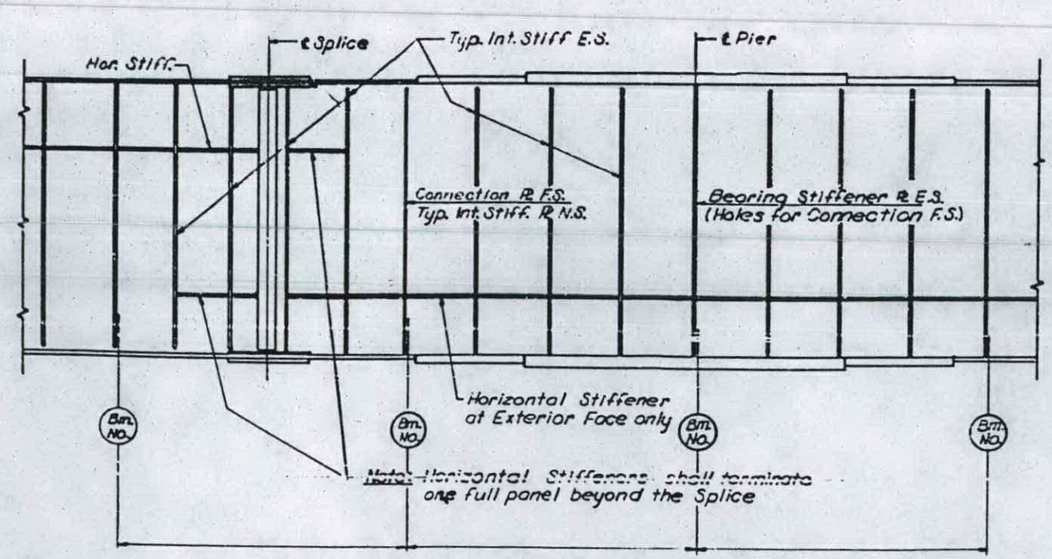
H. W. LOCHNER, INC. ENGINEERS CHICAGO, ILLINOIS

SHEET 348 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVFBE-1	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
Ramp "M"	4,10,13	273	A	3/8 x 60	18 x 1 7/8	—	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 7/8 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 1/4 x 1/16 x 4-6	2-13 x 3/8 x 4-6	17	2-24 x 7/8 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 1/4 x 1/16 x 4-6	2-13 x 3/8 x 4-6	17	2-24 x 7/8 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 1/4 x 1/16 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 7/8	—	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 7/8	—	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 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 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	293	A	3/8 x 66	18 x 1 3/8	—	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
	33	299	A	3/8 x 66	18 x 1 5/8	—	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 5/8	—	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
Ramp "P"	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 7/8	—	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 7/8	—	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

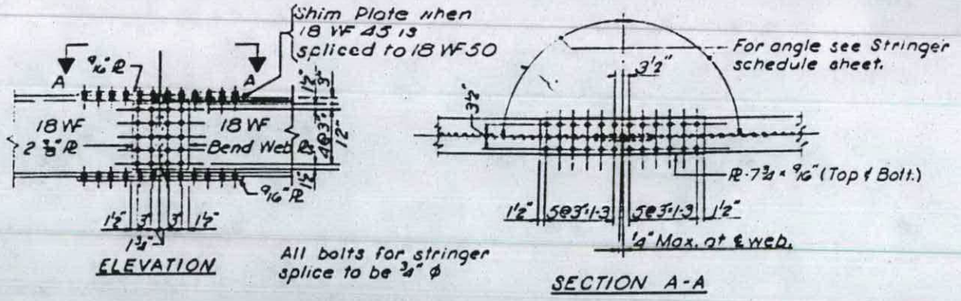
LOCATION	SPLICE NO.	DWG NO.	DETAIL	GIRDER SECTION		WEB SPLICE			FLANGE SPLICE		
				WEB PLATE	FLANGE PLATES	FILL PLATES	SPLICE PLATES	A	OUTSIDE PLATES	INSIDE PLATES	B
Ramp "P" Cont'd	22, 26	311	A	3/8 x 60	18 x 2	—	2-13 x 3/8 x 4-6	17	2-18 x 1 x 7-3	4-8 x 1/4 x 7-3	16
	32, 42	315	A	3/8 x 60	18 x 1/2	—	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 5/8	—	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
	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	9
	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	3 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	3 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 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
	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
	43	346	A	3/8 x 60	18 x 1 5/8	—	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
	46	346	A	3/8 x 60	18 x 1 5/8	—	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
	49	346	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



TYPICAL GIRDER DETAILS

(Exterior Face Shown)

Note: All Bearing Stiff. & Conn. Rs to be Vertical.



STRINGER SPLICE

TABLE I	
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

DESIGNED BY A.A.
DRAWN BY Hamilton
CHECKED BY S.K.
APPROVED BY K.A.

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

GIRDER SPLICES AND DETAILS

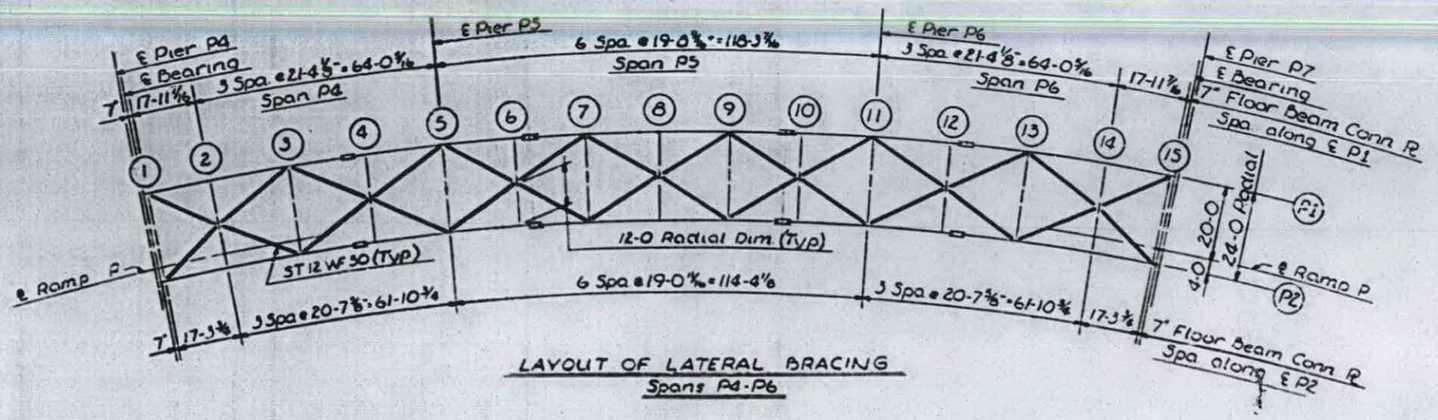
POPLAR STREET BRIDGE APPROACHES

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

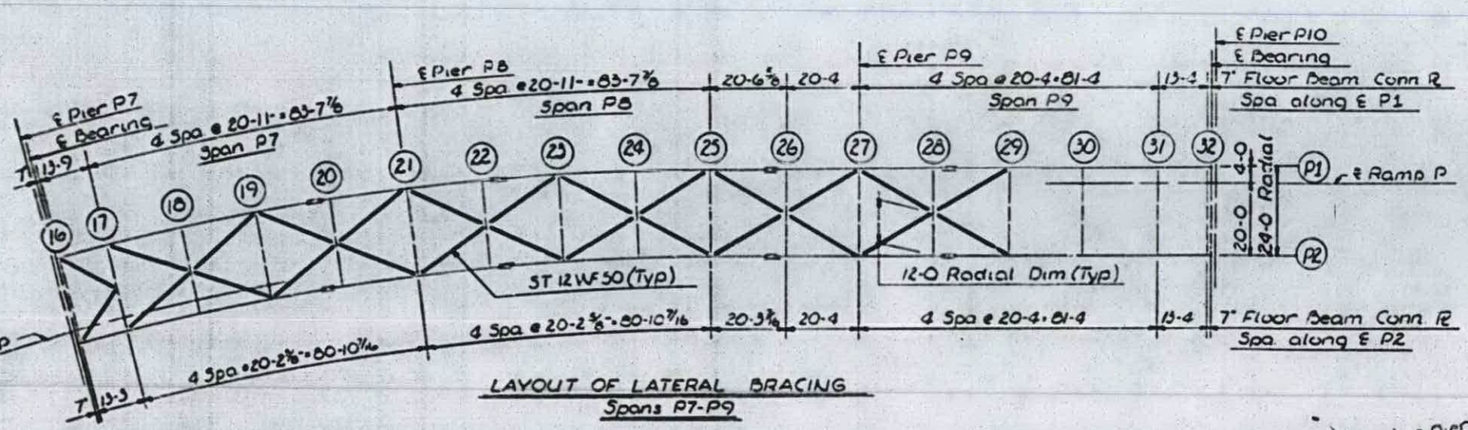
H. W. LOCHNER, INC. ENGINEERS
CHICAGO, ILLINOIS

SHEET 350 OF 526

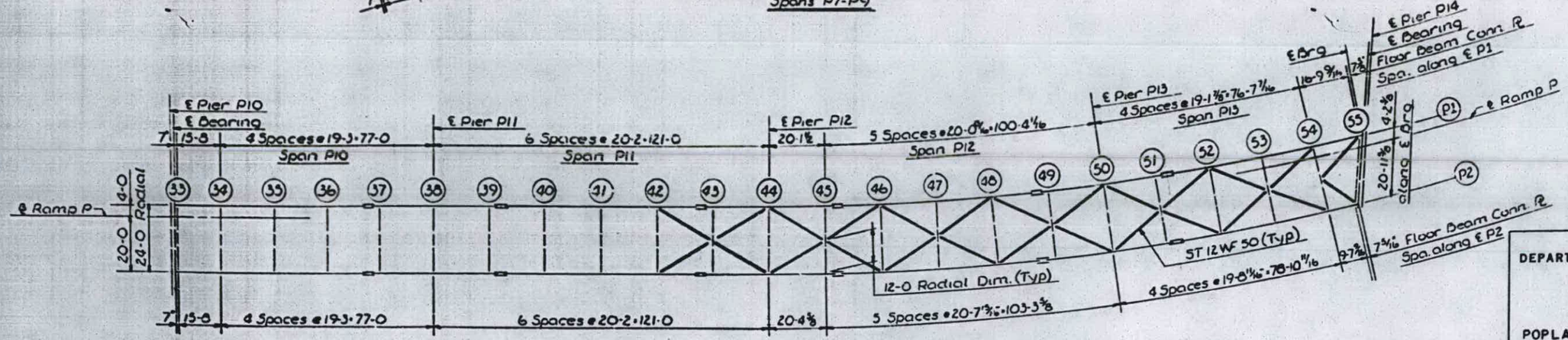
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. — 70	82-3HVF & E-1	ST. CLAIR	247	226
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



LAYOUT OF LATERAL BRACING
Spans P4-P6



LAYOUT OF LATERAL BRACING
Spans P7-P9



LAYOUT OF LATERAL BRACING
Spans P10-P13

DESIGNED BY RMR
DRAWN BY
CHECKED BY RMR
APPROVED BY KA

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

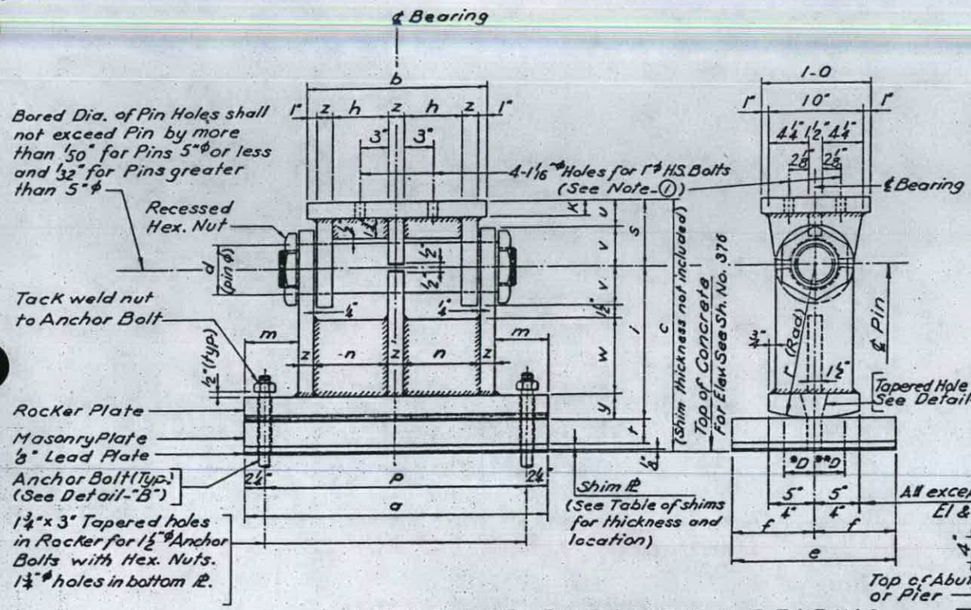
LATERAL BRACING
SPANS P4 THRU P13
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET 356 OF SHTS.

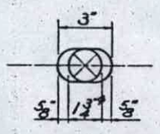
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	182-3HVF & E-4	ST. CLAIR	247	231
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



DETAIL OF EXPANSION BEARING

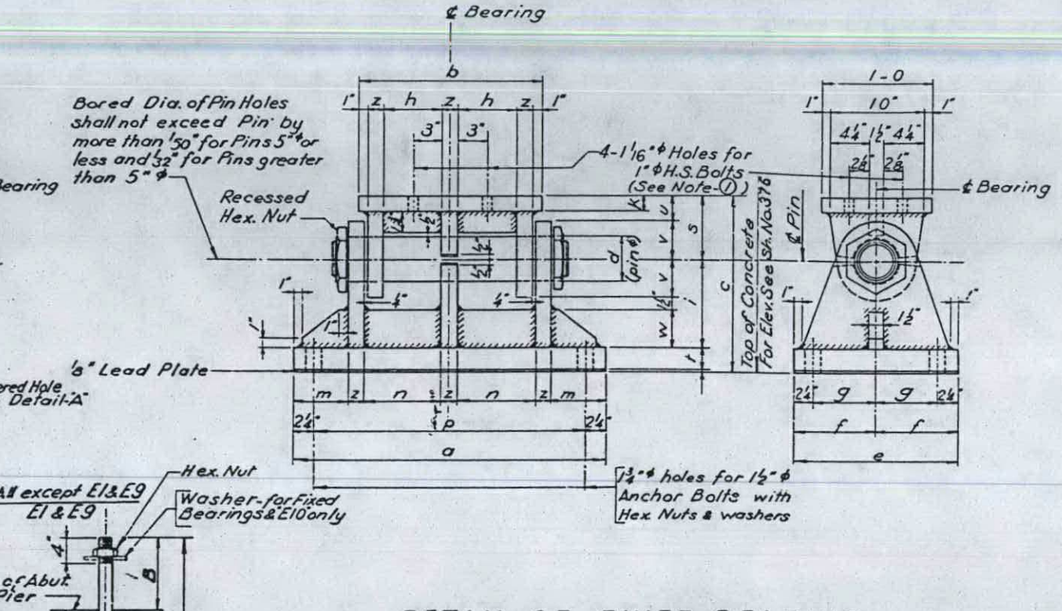
(For Dimensions See Table)

E1 Thru E9



DETAIL-"A"

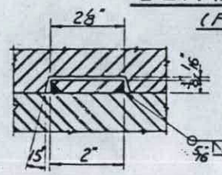
ANCHOR BOLT DIMENSIONS					
Dimension	F1 thru F6	F7 thru F10	E1, E2, E8, E9	E3 thru E6	E7	E10
B	5½	6½	7½	9½	11	6
C	1-8½	1-9½	1-10½	2-0½	2-2	1-9



DETAIL OF FIXED BEARING

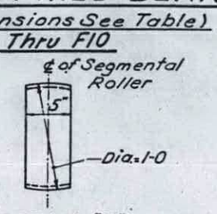
(For Dimensions See Table)

F1 Thru F10

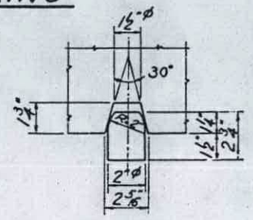


DETAIL-"B"

DETAIL-"C"



DETAIL-"D"

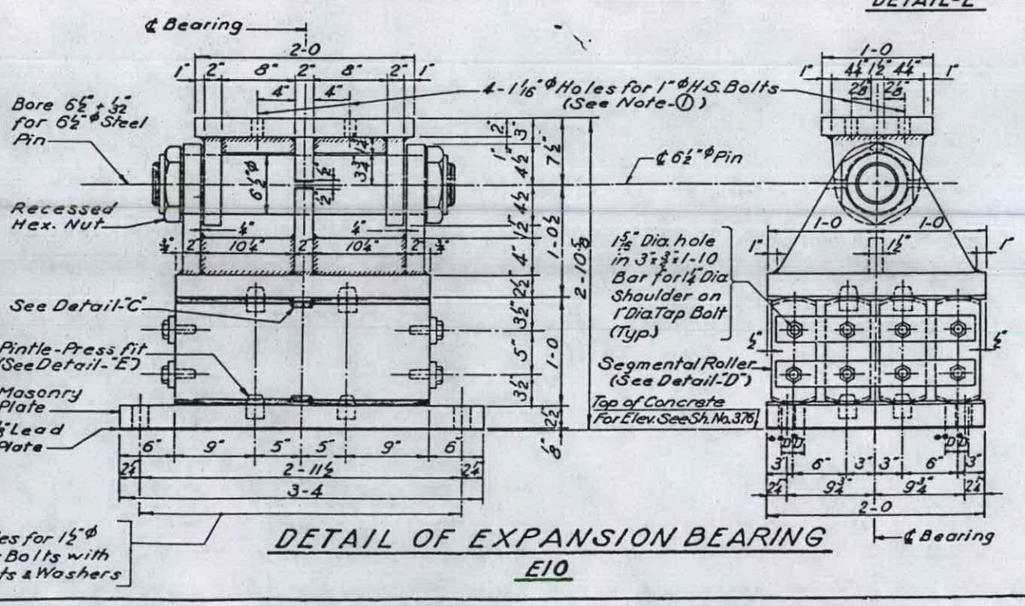


DETAIL-"E"

TYPE OF BEARING ASSEMBLY DIMENSIONS

TYPE OF BEARING	NO. REQ'D.	Dimension 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	1-3⅜	3½	9"	4½	24"	5⅜	7½	1¼	4"	7⅜	1-1½		5½	2"	2½	3"	3¼		1½
F2	20	2-7	1-8	1-5⅜	5"	1-0	6"	3⅜	6⅜	9¼	1⅜	4½	8⅜	2-2½		6½	2"	2⅜	3⅜	4"		1⅜
F3	10	2-8	1-8	1-6⅜	5"	1-2	7"	4⅜	6⅜	9¼	1⅜	5"	8⅜	2-3½		6½	2¼	2⅜	3⅜	4"		1⅜
F4	30	2-10	1-8	1-6⅜	5"	1-4	8"	5⅜	6⅜	9¼	1⅜	6"	8⅜	2-5½		6½	2½	2⅜	3⅜	4"		1⅜
F5	2	2-10	2-0	1-6⅜	5"	1-4	8"	5⅜	8⅜	9¼	1⅜	4"	10⅜	2-5½		6½	2½	2⅜	3⅜	4"		1⅜
F6	16	2-10	1-8	1-6⅜	5½	1-6	9"	6⅜	6⅜	9½	1⅜	6"	8⅜	2-5½		6⅜	2½	2⅜	4"	4"		1⅜
F7	6	3-0	1-8	1-7⅜	6"	1-8	10"	7⅜	6⅜	9½	2"	7"	8⅜	2-7½		7¼	2⅜	3"	4¼	4"		1⅜
F8	2	3-0	2-0	1-7⅜	6"	1-8	10"	7⅜	8⅜	9½	2"	5"	10⅜	2-7½		7¼	2⅜	3"	4¼	4"		1⅜
F9	6	3-2	1-8	1-8⅜	6"	1-10	11"	8⅜	6⅜	9½	2"	8"	8⅜	2-5½		7¼	3¼	3"	4¼	4"		1⅜
F10	2	3-4	2-0	1-8⅜	6½	2-0	1-0	9½	8"	10"	2"	6¼	10⅜	2-11½		7½	3¼	3"	4½	4"		2"
E1	118	2-4	1-6	1-3½	3½	9"	4½		5⅜	7½	1¼	4"	7⅜	1-1½	7½	5½	2"	2½	3"	1½	1¼	1½
E2	42	2-7	1-8	1-7⅜	5"	1-0	6"		6⅜	10"	1⅜	4½	8⅜	2-2¼	10"	6½	2½	2⅜	3⅜	2"	1⅜	1⅜
E3	12	2-8	1-8	1-8⅜	5"	1-2	7"		6⅜	11"	1⅜	5"	8⅜	2-3½	11"	6½	3"	2⅜	3⅜	3¼	2½	1⅜
E4	30	2-10	1-10	1-10⅜	5"	1-4	8"		7⅜	1-0½	1⅜	5"	9⅜	2-5½	1-0½	6½	3¼	2⅜	3⅜	4⅜	2½	1⅜
E5	2	2-10	2-0	1-10⅜	5"	1-4	8"		8⅜	1-0½	1⅜	4"	10⅜	2-5½	1-0½	6½	3¼	2⅜	3⅜	4⅜	2½	1⅜
E6	22	2-10	1-10	2-3⅜	5½	1-6	9"		7⅜	1-5	1⅜	5"	9⅜	2-5½	1-5	6⅜	3½	2⅜	4"	8⅜	2⅜	1⅜
E7	18	3-0	2-0	2-9⅜	6"	1-8	10"		8⅜	1-10	2"	5"	10⅜	2-7½	1-10	7¼	4"	3"	4¼	1-1	3¼	1⅜
E8	4	2-10	2-0	1-7⅜	5"	1-0	6"		8⅜	10"	1⅜	4"	10⅜	2-5½	10"	6½	2½	2⅜	3⅜	2⅜	2"	1⅜
E9	8	2-10	2-0	1-3⅜	3½	9"	4½		8⅜	7½	1¼	4"	10⅜	2-5½	7½	5½	2"	2½	3"	1½		1½
E10	8	(See Detail)																				

DESIGNED BY A.T. & R.M.R.
DRAWN BY S.Q.B.
CHECKED BY R.M.R.
APPROVED BY K.A.



DETAIL OF EXPANSION BEARING

E10

TABLE OF SHIMS

LOCATION PIER	LOCATION SPAN	GIRDER	SHIM THICKNESS
A8	A8	A1 & 2	⅛"
A25	A24	A1 & A2	⅛"
D1	D1	D2	½"
D5	D5	D1 & D2	1/4"
D8	D8	D1 D2	3/16" ½"
D17	D17	D1 & D2	1"
D28	D27	D2	⅛"
G1	G1-R	R1	1"
G2	G2	G1 & G2	½"
G9	G8	G1 & G2	⅛"
G12	G12	G2	¼"
M6	M7	M1 & M2	5/16"
M9	M9	M1 & M2	⅛"
N5	N4	N1 & N2	½"
P4	P4	P1 & P2	1"
P7	P6	P & P2	½"
P10	P9	P1 P2	1/16" ½"
R3	P3	R1 & R2	1" 8
S3	S4	S1 S2	1/8" 15/16"
S7	S8	S1 & S2	½"
S15	S16	S1 & S2	¼"
S18	S18	S1 & S2	1"

Length and Width of Shims to be the same as the corresponding Base Plate.

NOTES:

①-The 1"ϕ H.S. Bolts to be Bearing Type. Threads to be excluded from the contact surfaces.

②-½" Continuous Fillet Welds throughout for all Expansion & Fixed Bearings.

③-Anchor Bolts to be grouted into drilled holes after beams are in place.

*D-1/8"/100 ft. of expansion for every 15° below the normal temperature of 50°F.

**D-1/4" 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

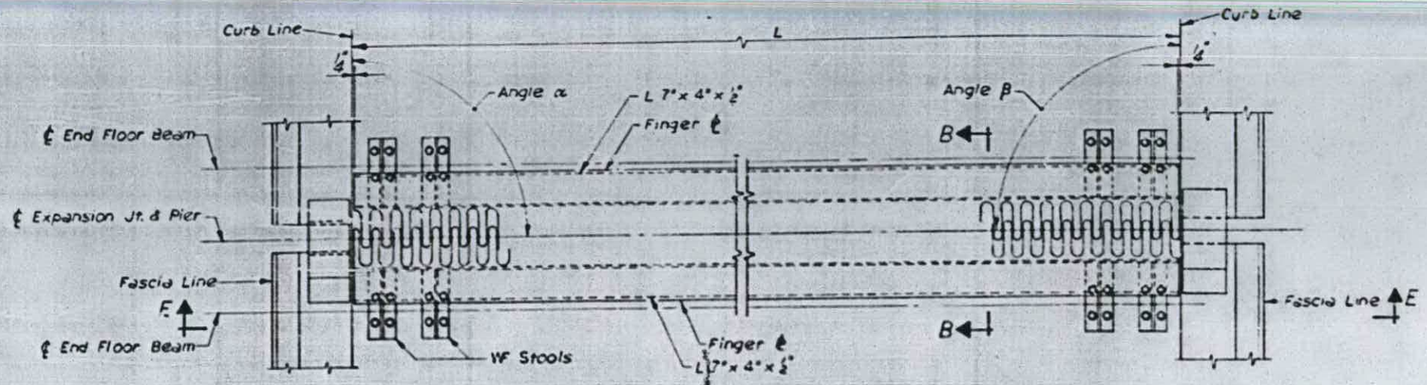
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVF & E-4

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

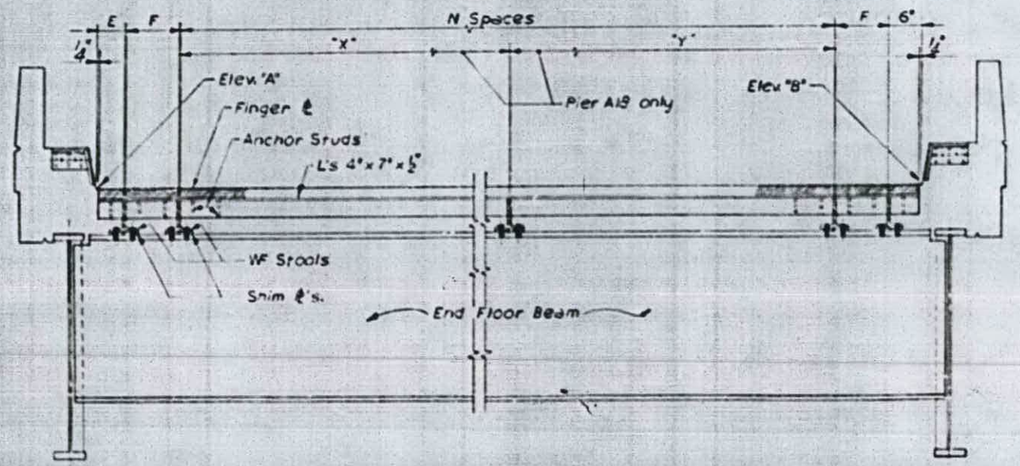
SHEET 351 OF 526

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF & E-1	ST. CLAIR	242	233
	82-3HVD-1			
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

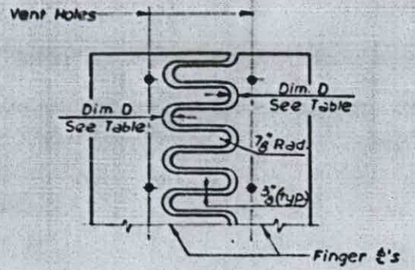
NOTE:
Stool Spacing to be adjusted to miss Stiffener and Connection Plates on Floor Beams.



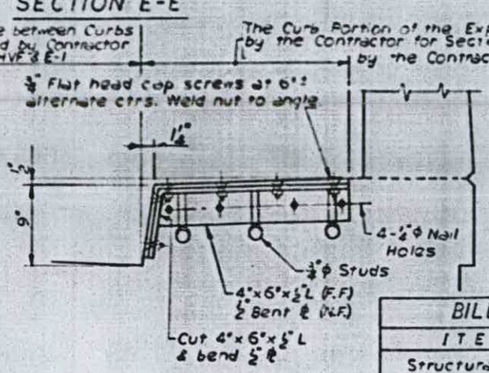
PLAN AT PIERS A8, A15, A18, D8, D15, D22, D28, D33, G5, H2, M12, N5, O3, O14, P4, P10, R3, S7 AND S18
LOOKING TOWARDS INCREASING STA.



SECTION E-E



FINGER ℄ CUTTING DETAIL

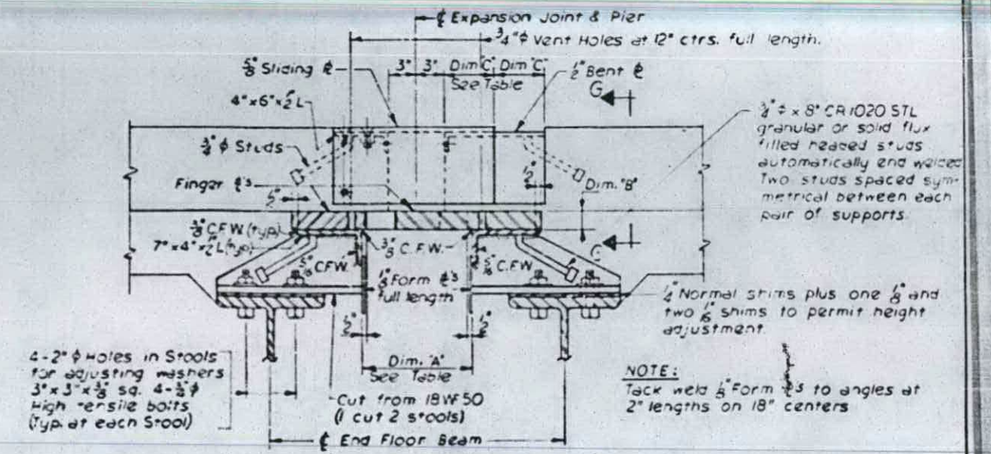


SECTION G-G

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.



SECTION B-B

NOTE:
Tack weld ½"Form ℄'s to angles at 2" lengths on 18" centers

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	7970 lbs
A15	449.64	90°24'23"	35-0⅛	90°00'00"	452.24	7⅛	1-9	15 Spaces @ 2-0"=30-1¼	9250 lbs
A18	450.39	90°36'25"	45-7	90°00'00"	454.03	8"	1-6	See Note "A"	11290 lbs
D8	447.57	90°00'00"	42-1⅞	90°36'23"	447.89	7⅛	1-6	21 Spaces @ 1-9"=33-7½	11440 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	90°14'23"	37-7⅛	90°00'00"	449.0	7⅛	1-9	17 Spaces @ 1-11⅞"=33-5⅝	9990 lbs
D28	451.70	90°00'00"	30-0	90°00'00"	454.10	6"	1-6	13 Spaces @ 2-0"=26-0	8120 lbs
D33	451.98	90°00'00"	30-0	90°00'00"	454.38	6"	1-6	13 Spaces @ 2-0"=26-0	8070 lbs
G5	457.41	89°50'09"	34-7⅝	89°51'18"	460.18	7⅛	1-9	15 Spaces @ 2-0"=30-0	10760 lbs
H2	446.18	89°17'21"	38-4⅛	89°18'10"	449.25	10⅛	1-6	17 Spaces @ 2-0"=34-0	10250 lbs
M12	449.39	90°00'00"	23-0	90°00'00"	448.96	6"	1-6	9 Spaces @ 2-0"=18-0	6000 lbs
N5	449.59	90°00'00"	23-0	90°00'00"	447.92	6"	1-6	9 Spaces @ 2-0"=18-0	5980 lbs
O3	460.18	90°00'00"	23-0	90°00'00"	458.42	6"	1-6	9 Spaces @ 2-0"=18-0	6010 lbs
O14	436.35	90°00'00"	23-0	90°00'00"	436.97	6"	1-6	9 Spaces @ 2-0"=18-0	6000 lbs
P4	471.49	90°00'00"	23-0	90°00'00"	469.73	6"	1-6	9 Spaces @ 2-0"=18-0	5960 lbs
P10	451.04	90°00'00"	23-0	90°00'00"	450.74	6"	1-6	9 Spaces @ 2-0"=18-0	6060 lbs
R3	461.53	90°00'00"	23-0	90°00'00"	463.28	6"	1-6	9 Spaces @ 2-0"=18-0	6060 lbs
S7	472.36	90°00'00"	23-0	90°00'00"	474.12	6"	1-6	9 Spaces @ 2-0"=18-0	5960 lbs
S18	484.02	90°00'00"	23-0	90°00'00"	488.75	6"	1-6	9 Spaces @ 2-0"=18-0	6050 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" ℄ Thickness	Dimen. "C" at 50° F.	Dimen. "D" at 50° F.
A8	11⅞	1⅜	3½	3⅜
A15	12¼	1⅜	4"	3½
A18	9⅝	1⅝	3"	2⅝
D8	11⅞	1⅜	3½	3⅜
D15	11⅞	1⅜	3½	3⅜
D22	12¼	1⅜	4"	3½
D28	13"	1⅜	4"	3⅜
D33	12¼	1⅜	4"	3½
G5	15⅝	2¼	5"	4⅜
H2	9⅝	1⅝	3"	2⅝
M12	12¼	1⅜	4"	3½
N5	14⅜	2¼	4½	4⅜
O3	12¼	1⅜	4"	3½
O14	12¼	1⅜	4"	3½
P4	9¼	1⅜	3"	2⅝
P10	14⅜	2¼	4½	4⅜
R3	13"	1⅜	4"	3⅜
S7	11⅜	1⅜	3½	3⅜
S18	10"	1⅝	3"	2⅝

NOTES: The Portions of the Expansion Devices for Piers A1, D1, A25, M6, S10 & S15 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-G" this Sheet. The Future portions shall be stored by the Contractor for Section 82-3 HVF & E-1 until needed by the Contractors for Sections 82-3 HVB-2 and 82-3 HVB-3.

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

EXPANSION DEVICES
FINGER PLATE

POPLAR STREET BRIDGE APPROACHES

F.A.I. RT. 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 P.A.S.
DRAWN BY P.A.S.
CHECKED BY L.H.W.
APPROVED BY K.A.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVFBE-1	ST. CLAIR	247	244
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

Table of Moments and Reactions
Spans P4 thru P6

Location		Moment .4 Span P4 & Span P6	Moment .5 Span P5	Moment Piers P5 & P6	Reaction Piers P4 & P7	Reaction Piers P5 & P6
Dead	Primary	974	1650	3030	74	306
Load	Secondary	28	48	69	2	2
Live	Primary	743	859	883	48	80
Load	Secondary	22	24	20	1	5
Impact		180	179	199	12	18
Centrifugal Force		95	110	113	6	10
Total		2042	2870	4314	143	421
Section Modulus		1701	2242	3182	—	—
Torque Loading	Dead Load	12.5	18.0	27.2		
	Live Load	9.5	9.4	7.8		
	Impact	2.3	1.9	1.8		
	Total	24.3	29.3	36.8		
	Section Modulus	74.3	101.3	148.5		

Table of Moments and Reactions
Spans P7 thru P9

Location		Moment .4 Span P7	Moment .5 Span P8	Moment .6 Span P9	Moment Pier P8	Moment Pier P9	Reaction Pier P7	Reaction Pier P8	Reaction Pier P9	Reaction Pier P10
Dead	Primary	1638	1666	1540	3600	3482	94	335	329	91
Load	Secondary	46	52	44	97	94	2	2	2	2
Live	Primary	894	918	863	1028	1012	48	85	84	47
Load	Secondary	25	25	25	23	22	2	1	1	1
Impact		199	177	196	212	210	11	18	18	11
Centrifugal Force		114	118	110	132	130	6	11	11	6
Total		2916	2956	2778	5092	4950	163	452	445	158
Section Modulus		2242	2373	2104	3715	3715	—	—	—	—
Torque Loading	Dead Load	20.0	20.0	19.0	36.6	35.6				
	Live Load	11.1	11.2	10.6	10.1	9.8				
	Impact	2.5	2.3	2.4	2.2	2.1				
	Total	33.6	33.5	32.0	48.9	47.5				
	Section Modulus	101.3	108.0	94.5	175.5	175.5				

Table of Moments and Reactions
Spans P10 thru P13

Location		Moment .4 Span P10	Moment .5 Span P11	Moment .5 Span P12	Moment .6 Span P13	Moment Pier P11	Moment Pier P12	Moment Pier P13	Reaction Pier P10	Reaction Pier P11	Reaction Pier P12	Reaction Pier P13	Reaction Pier P14
Dead	Primary	1420	1450	1507	1399	3461	3756	3443	88	322	332	322	88
Load	Secondary	—	36	36	35	69	72	69	—	—	2	2	2
Live	Primary	830	845	861	829	1060	1168	1068	48	85	89	85	48
Load	Secondary	—	21	22	21	21	23	21	—	—	5	5	1
Impact		187	172	171	187	229	236	218	11	18	18	18	11
Centrifugal Force		—	93	95	91	116	128	117	—	—	10	9	5
Total		2437	2617	2692	2562	4956	5383	4936	147	425	456	441	155
Section Modulus		1835	1970	2104	1835	3452	3715	3452	—	—	—	—	—
Torque Loading	Dead Load	—	13.6	14.6	12.3	27.7	29.7	28.7					
	Live Load	—	9.6	9.2	7.3	8.7	9.6	8.7					
	Impact	—	1.7	1.8	1.6	1.9	1.9	1.9					
	Total	—	24.9	25.6	21.2	38.3	41.2	39.3					
	Section Modulus	—	87.8	94.5	81.0	162.0	175.5	162.0					

Table of Moments and Reactions
Spans S1 thru S3

Location		Moment .4 Span S1	Moment .5 Span S2	Moment .6 Span S3	Moment Pier S1	Moment Pier S2	Reaction Pier S2	Reaction Pier S1	Reaction Pier S2	Reaction Pier S3
Dead	Primary	939	881	906	2295	2237	72	263	257	70
Load	Secondary	17	16	17	34	33	1	1	1	1
Live	Primary	668	637	644	725	706	46	72	71	45
Load	Secondary	12	12	12	11	10	1	—	—	1
Impact		169	145	163	174	169	11	17	17	11
Centrifugal Force		56	54	54	61	59	4	6	6	4
Total		1861	1745	1796	3300	3214	135	359	352	132
Section Modulus		1433	1298	1298	2373	2373	—	—	—	—
Torque Loading	Dead Load	6.5	6.1	6.3	13.4	13.0				
	Live Load	4.6	4.3	4.4	3.9	3.9				
	Impact	1.2	1.0	1.2	1.0	0.9				
	Total	12.3	11.4	11.9	18.3	17.7				
	Section Modulus	60.8	54.0	54.0	108.0	108.0				

Table of Moments and Reactions
Spans S4 thru S7

Location		Moment .4 Span S4	Moment .5 Span S5	Moment .5 Span S6	Moment .6 Span S7	Moment Pier S4	Moment Pier S5	Moment Pier S6	Reaction Pier S3	Reaction Pier S4	Reaction Pier S5	Reaction Pier S6	Reaction Pier S7
Dead	Primary	1156	1069	1069	1224	2790	2858	2875	79	289	290	294	81
Load	Secondary	33	—	15	35	32	—	66	2	2	—	2	2
Live	Primary	729	738	738	774	879	947	906	46	78	80	80	48
Load	Secondary	21	—	10	22	10	—	21	1	—	—	—	1
Impact		174	158	158	185	200	203	209	11	18	17	18	11
Centrifugal Force		93	—	47	99	56	—	116	6	5	—	10	6
Total		2206	1965	2037	2339	3967	4008	4193	145	392	387	404	149
Section Modulus		1701	1701	1701	1835	3044	3182	3182	—	—	—	—	—
Torque Loading	Dead Load	11.2	—	5.2	11.9	11.1	—	22.9					
	Live Load	7.1	—	3.6	7.5	3.4	—	7.6					
	Impact	1.7	—	0.8	1.8	0.8	—	1.7					
	Total	20.0	—	9.6	21.2	15.3	—	32.2					
	Section Modulus	74.3	—	74.3	81.0	141.8	—	148.5					

DESIGNED BY E.L.
DRAWN BY I.M.
CHECKED BY E.L.

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

STRESS TABLES

POPLAR STREET BRIDGE APPROACHES

RAMP "P" & "S"

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

N. W. LOCHNER, INC.
ENGINEERS

SHEET
374 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVF 82E-1	ST. CLAIR	247	246
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

ROADWAY A

Pier No.	Girder A1	Girder A2
A1 - Span A1	441.30	442.11
A2	437.51	438.35
A3	435.03	436.06
A4	434.50	436.58
A5 - Span A4	433.94	437.69
A5 Span A5	433.39	437.69
A6	437.02	439.87
A7	437.11	439.67
A8 - Span A7	438.17	440.73
A8 - Span A8	439.17	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	442.64
A12 Span A12	440.09	442.65
A13	440.03	442.65
A14	439.78	442.58
A15 - Span A14	439.97	442.93
A15 - Span A15	439.97	442.93
A16	438.39	442.96
A17	440.79	443.79
A18 - Span A17	440.71	442.52
A18 - Span A18	442.71	442.52
A19	439.43	443.52
A20	441.75	445.69
A21 - Span A20	442.51	447.74
A21 - Span A21	445.51	447.74
A22	441.99	441.45
A23	434.57	433.65
A24	438.39	436.60
A25 - Span A24	442.10	439.54

ROADWAY D

Pier No	Girder D1	Girder D2
D1 - Span D1	442.44	441.90
D2	438.99	438.39
D3	437.00	436.50
D4	436.99	436.40
D5 - Span D4	437.45	436.95
D5 - Span D5	437.45	436.95
D6	437.46	436.91
D7	437.25	435.68
D8 - Span D7	438.07	438.18
D9 - Span D8	438.07	438.18
D9	436.62	435.15
D10	437.63	433.53
D11 - Span D10	435.86	435.85
D11 - Span D11	438.86	441.09
D12 - Span D11	439.99	442.35
D12 - Span D12	437.99	440.35
D13	439.97	442.53
D14	439.73	442.29
D15 - Span D14	441.36	443.52
D15 - Span D15	441.06	443.52
D16	440.27	442.33
D17	435.20	432.76
D18 - Span D17	439.36	441.61
D18 - Span D18	439.86	441.61
D19	438.51	435.85
D20	437.12	434.63
D21 - Span D20	437.63	440.19
D21 - Span D21	437.63	440.19
D22 - Span D21	436.70	439.57
D22 - Span D22	436.93	439.57
D23	438.13	437.66
D24	433.67	437.96
D25	435.28	439.36
D25 - Span D25	437.16	439.79
D26 - Span D26	440.64	435.79
D27	437.71	441.73
D23 - Span D27	443.50	441.65
D23 - Span D28	443.50	441.65
D29	435.31	432.95
D30	438.67	438.11
D31	437.16	438.60
D32	437.88	438.56
D33 - Span D32	439.49	441.84

ROADWAY G

Pier No.	Girder G1	Girder G2
G1 - Span G1	349.15	353.38
G2	348.64	352.61
G3	347.13	350.75
G4	347.39	450.47
G5 - Span G4	448.09	451.01
G5 - Span G5	345.39	351.01
G6	346.60	349.35
G7	346.39	348.70
G8	346.79	348.35
G9 - Span G8	346.26	345.92
G9 - Span G9	346.26	448.82
G10	332.90	337.56
G11	331.72	335.30
G12 - Span G11	339.77	341.43
G12 - Span G12	437.61	441.63
G13	335.53	336.59
G14 (Abutment)	333.63	333.64

ROADWAY H

Pier No.	Girder H1	Girder H2
H1 - Span H1	339.71	343.2
H2 - Span H1	336.51	339.73
H2 - Span H2	336.51	339.73
H3	333.66	336.71
H4	333.83	337.10
H5 (Abutment)	331.50	332.32

RAMP M

Pier No.	Girder M1	Girder M2
M6 - Span M17	470.68	468.56
M17	467.73	465.86
M18	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	461.66	462.14
M12 - Span M13	461.66	462.14
M13	437.70	439.25
M14	436.30	437.92
M15 - Span M14	439.92	437.13

RAMP P

Pier No.	Girder P1	Girder P2
P2 - Span P3	335.76	338.36
P5	861.33	333.56
P6	332.93	333.01
P7 - Span P5	332.59	332.67
P7 - Span P7	332.59	332.67
P8	332.53	332.53
P9	327.37	326.33
P10 - Span P9	453.77	453.63
P10 - Span P10	453.77	453.63
P11	328.75	329.37
P12	333.13	335.36
P13	331.36	333.53
P14 - Span P13	330.76	332.60
P15 - Span P14	333.23	333.53
P15 - Span P14	333.11	333.76
P15 - Span P15	333.11	333.76
H1 - Span P15	339.71	343.12

RAMP R

Pier No.	Girder R1	Girder R2
A21 - Span A21-R	448.51	448.22
R1	339.78	450.60
R2	351.45	453.39
R3 - Span R2	453.75	355.61
R3 - Span R3	453.75	455.61
R4	453.66	455.32
O1	453.41	455.31
O1 - Span O1-R	352.69	353.38

RAMP S

Pier No.	Girder S1	Girder S2
S12 - Span S1	330.61	331.23
S1	331.32	333.34
S2	333.33	336.75
S3 - Span S3	449.55	353.13
S3 - Span S2	328.55	450.14
S4	332.31	453.34
S5	337.31	356.36
S6	342.53	361.10
S7 - Span S7	346.93	345.01
S8 - Span S8	446.93	445.01
S9	369.23	367.51
S9	373.31	371.37
S10 - Span S10	376.32	374.60
S16 - Span S16	389.31	387.09
S16	687.55	335.93
S17	398.70	393.11
S18 - Span S18	391.29	390.68

RAMP N

Pier No	Girder N1	Girder N2
N11 Span N11-N	341.09	443.35
N1 - Span N11-N	442.09	441.13
N1 - Span N1	442.09	441.13
N2	442.37	445.63
N3	441.61	439.69
N4	440.62	438.70
N5 - Span N4	440.66	438.58

RAMP O

Pier No	Girder O1	Girder O2
O1 Span O1	352.87	349.8
O1	352.71	350.73
O2	352.51	450.59
O3 - Span O3	352.51	450.59
O3 - Span O4	352.51	450.59
O4	339.47	438.40
O5	445.43	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	426.13
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	429.52

RAMP Q

Pier No.	Girder Q1	Girder Q2
D25 - Span D26-Q	437.16	440.66
Q1	430.38	432.30
Q2	431.65	443.57
P14 - Span Q2	432.80	445.63

Note: Bearing Elevations are to Top of Concrete Piers or Abutments.

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 82E-1

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

SHEET 276 of 320

DESIGNED BY D.C.
DRAWN BY [illegible]
CHECKED BY [illegible]
APPROVED BY K.A.

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 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 SYSTEM GROUNDING AND ALL APPURTENANT AND COLLATERAL WORK NECESSARY TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS.

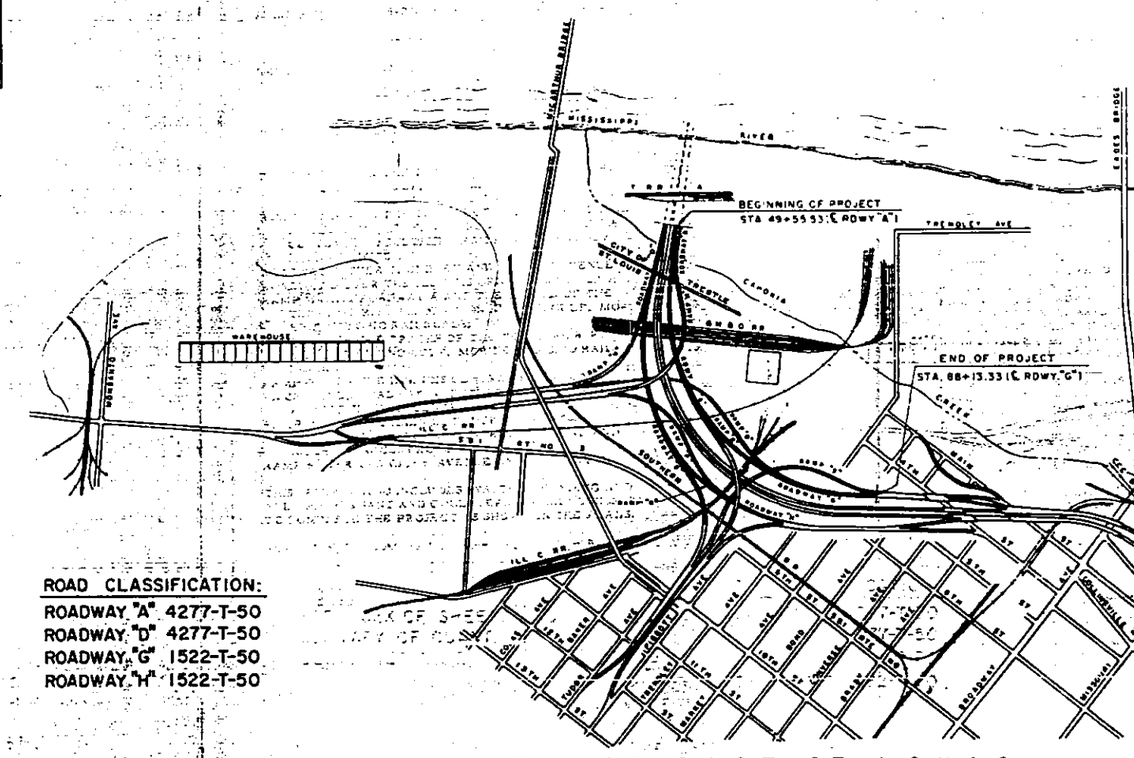
PER 0-17 & 6-2 CONSTRUCTED UNDER SECTION 82-3HVB

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

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

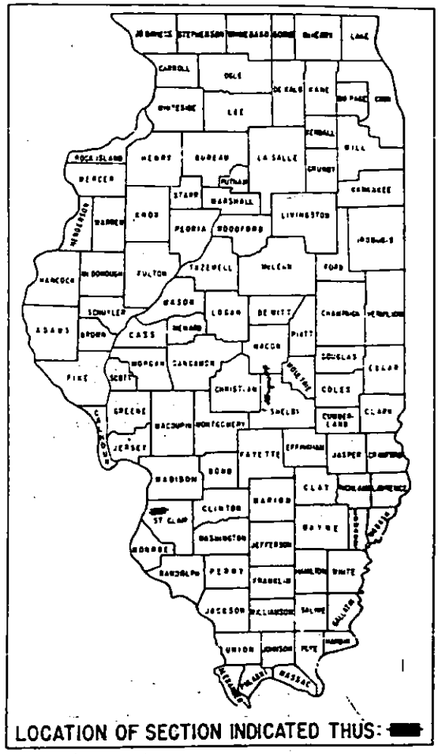
Page 26, 29, 30, 33, 43.



CITY OF EAST ST. LOUIS
LOCATION PLAN

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
3857.30 FT. = 0.730 MILES



LOCATION OF SECTION INDICATED THUS: ■

APPROVED
Carl Thurman
DIRECTOR & STATE HIGHWAY ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
11-30-65
Robert E. Kunnath
January 11-66
A. William Cribbell
January 21-66
January 21-66
January 21-66
Francis A. Lowy

8-54

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DISTRICT ENGINEER DATE

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

2259
Marvin Pitzer
Aug 27, 1965

CONTRACT NO. 24504

ST. CLAIR COUNTY SECTION 82-3HVB-1 F.A.I. ROUTE 70 PROJECT I-IG-70-1(78)0

082-0203

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, 2153-1
206	STANDARD 2113-1, 2114
207	STANDARD 1971-3

SUMMARY OF QUANTITIES
SECTION 82-3HVB-1

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	I 87.9%	I G 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 (5 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	16,821	2,316
052003	CLASS "X" CONCRETE	CU. YD.	17,931.9	15,762.1	2,169.8
059001	REINFORCEMENT BARS	POUND	2,413,060	2,121,080	291,980
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	17922
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

Excavation for portions of structures in the embankments shall not be classified.

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 REFERANCE THERE LOCATION.

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

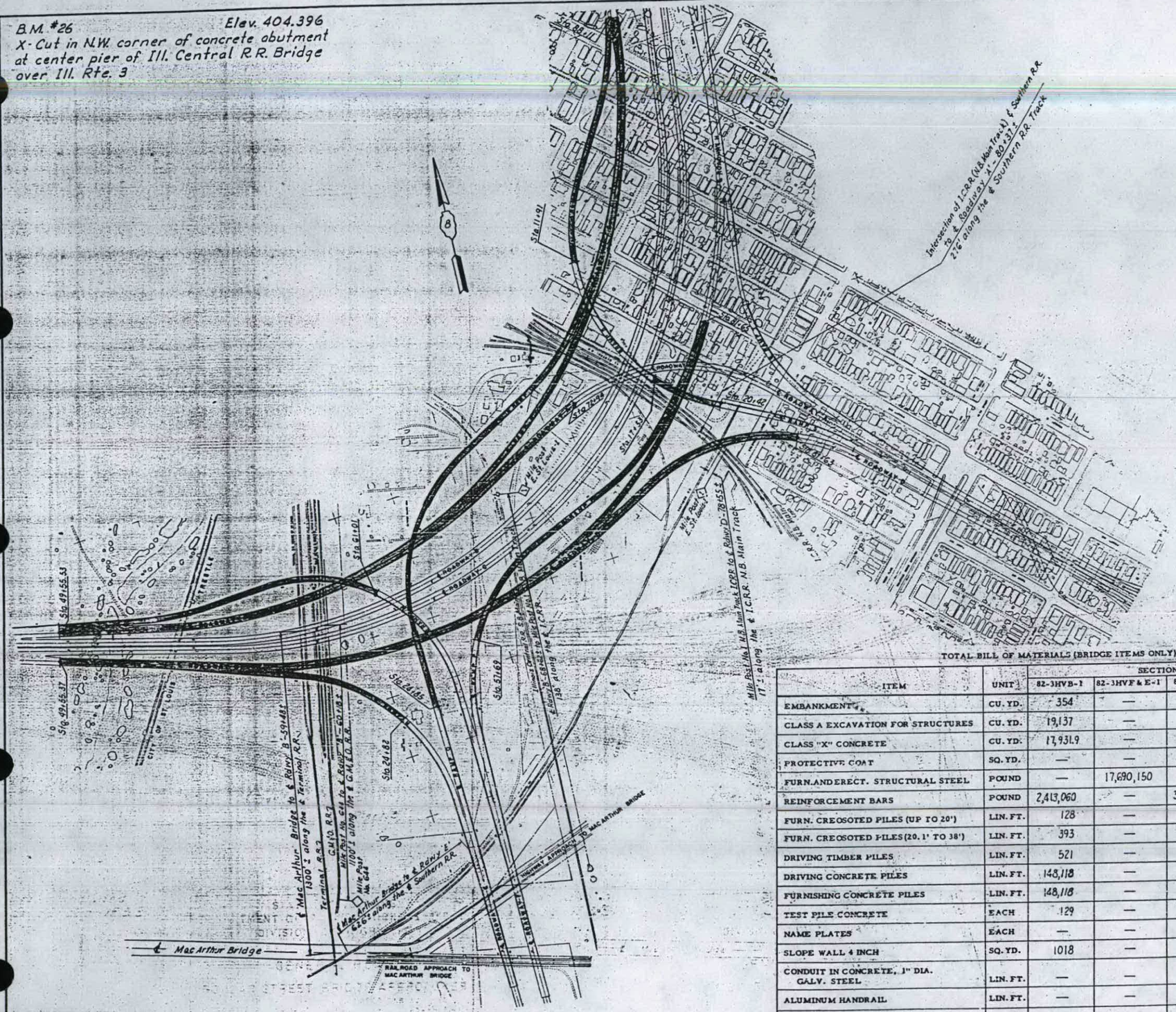
INDEX OF SHEETS
SUMMARY OF QUANTITIES
GENERAL NOTES

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

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

SHEET OF

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



DESIGNED BY RMR
DRAWN BY GWA
CHECK'D BY RMR
APPROVED BY KA

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-1	ST. CLAIR	207	20
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
	82-3HVF & E-1			19
	82-3HVD-1			54

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 PRE CORED 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 FOR MS WILL NOT BE PERMITTED IN FORMING THE CONCRETE FLOOR.

TOTAL BILL OF MATERIALS (BRIDGE ITEMS ONLY)

ITEM	UNIT	SECTION 82-3HVB-1	SECTION 82-3HVF & E-1	SECTION 82-3HVD-1	TOTAL
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.

DESIGN STRESSES

fc = 1400 p.s.i. Super and Sub
fs = 20,000 psi Reinforcement
fs = 20,000 psi Struct. (A-36 Steel)
Vc = 75 p.s.i. 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

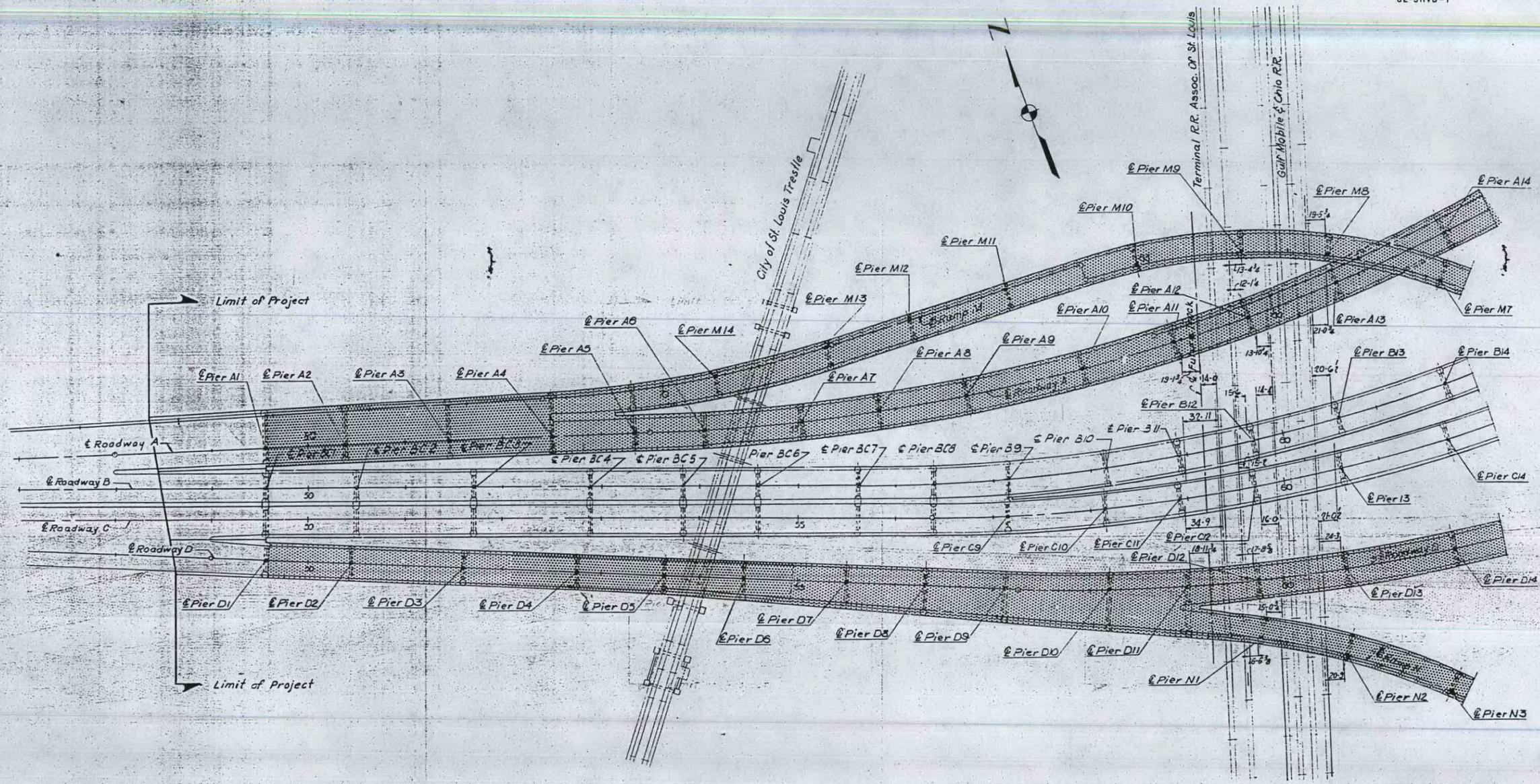
82-3HVB-1
82-3HVF & E-1
F.A.I. RT. 70 ST. CLAIR CO. SECTION 82-3HVD-1

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

SHEET 1 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-1	ST. CLAIR	207	21
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

82-3HVF & E-1 20
82-3HVD-1 55



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

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

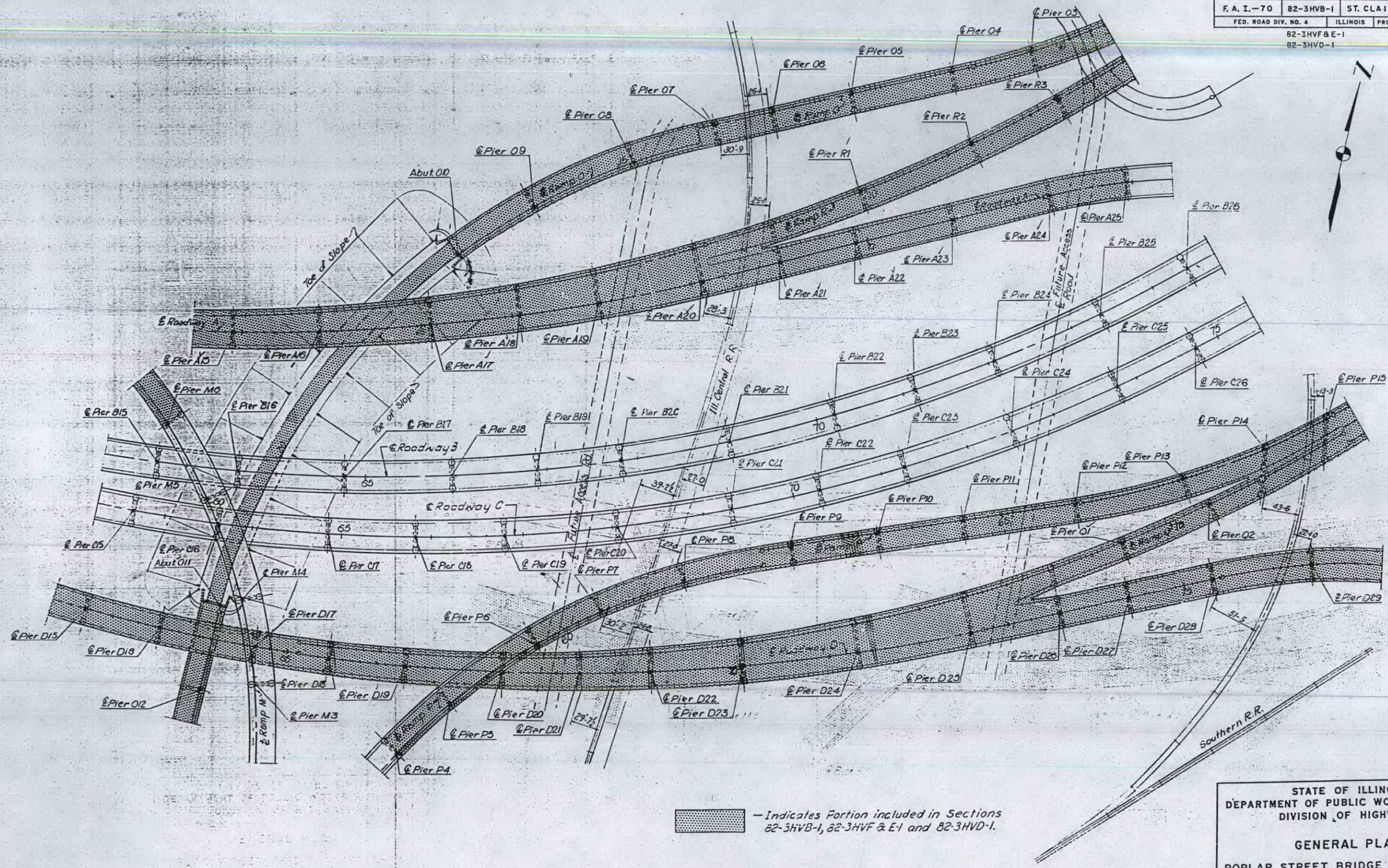
F.A.I. RT. 70 ST. CLAIR CO.

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

SHEET 2 OF 5 Sh.

DESIGNED BY RMR
DRAWN BY JAI
CHECKED BY RMR
APPROVED BY KA

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.—70	82-3HVB-1	ST. CLAIR.	207	22
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
		82-3HVFBE-1		21
		82-3HVD-1		56



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

DESIGNED BY RMR
DRAWN BY MH
CHECKED BY RMR
APPROVED BY KA

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

GENERAL PLAN

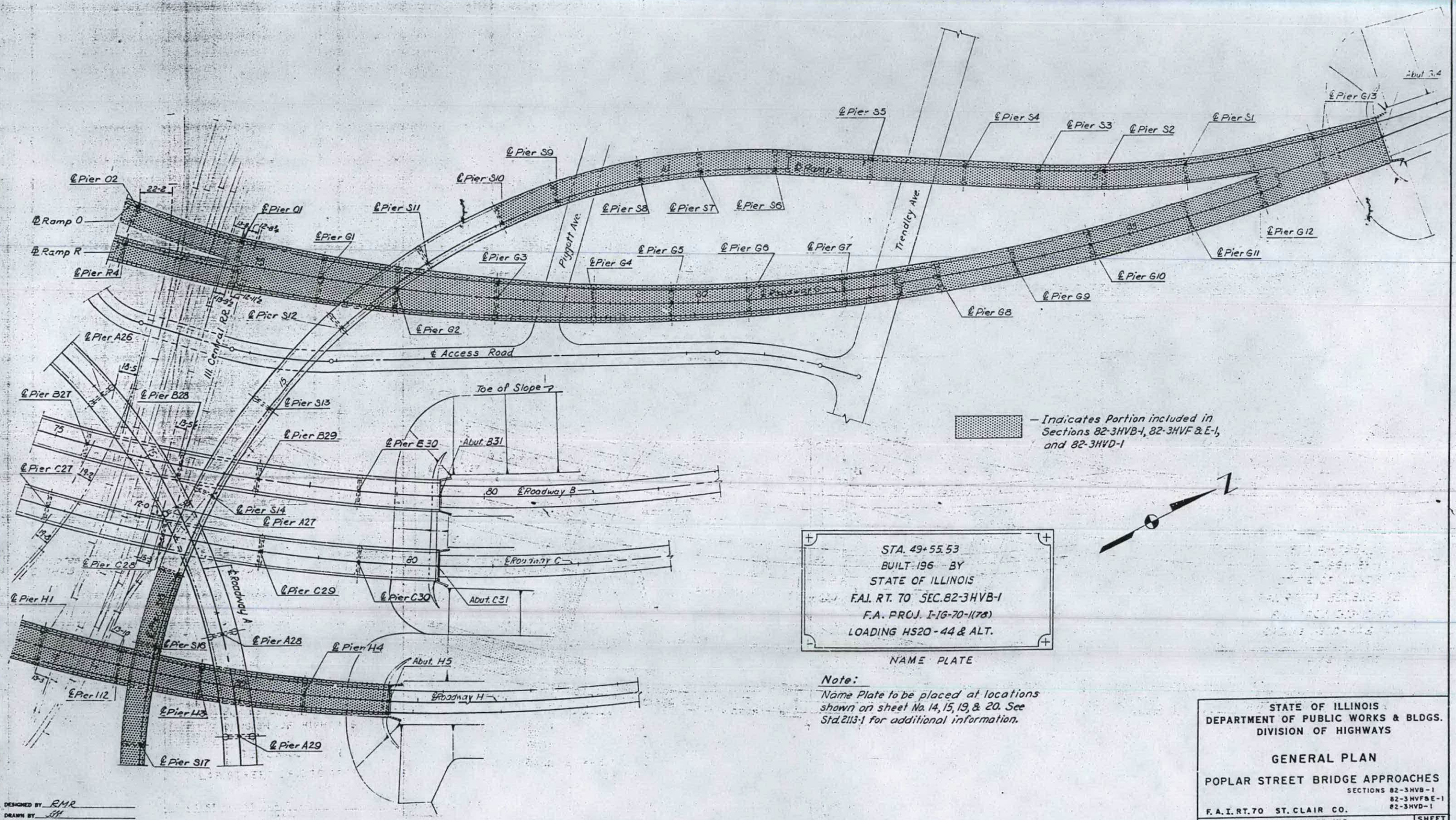
POPLAR STREET BRIDGE APPROACHES

SECTIONS 82-3HVB-1
82-3HVFBE-1
F. A. I. RT. 70 ST. CLAIR CO. 82-3HVD-1

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

SHEET 3 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.—70	82-3HVB-1	ST. CLAIR	207	23
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
		82-3HVF&E-1		22
		82-3HVD-1		57



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

N

STA. 49+55.53
BUILT 196 BY
STATE OF ILLINOIS
F.A.I. RT. 70 SEC. 82-3HVB-1
F.A. PROJ. I-IG-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 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

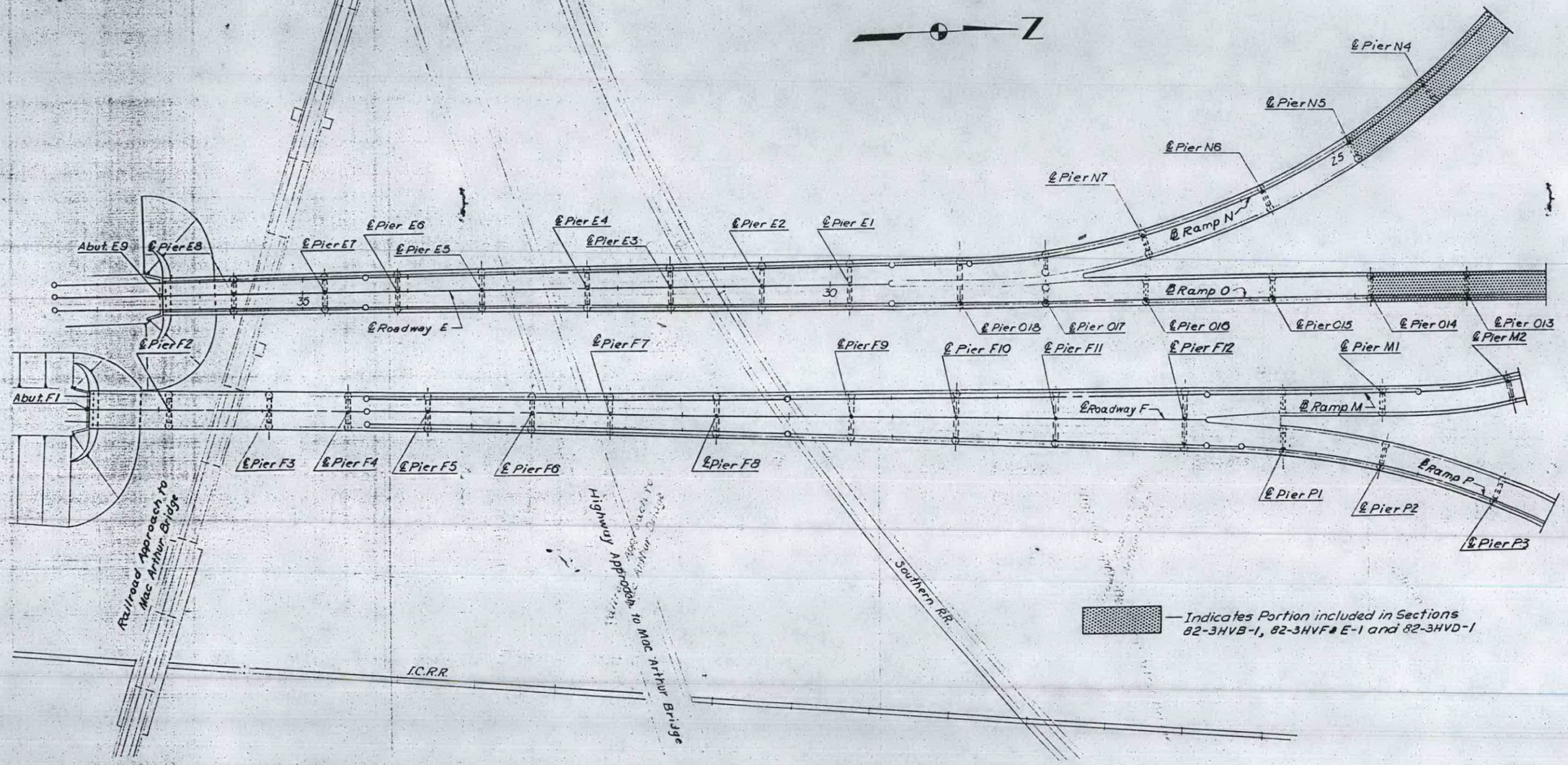
SECTIONS 82-3HVB-1
82-3HVF&E-1
82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

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

SHEET 4 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.—70	82-3HVB-1	ST. CLAIR	207	24
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
	82-3HVF & E-1			23
	82-3HVD-1			58



DESIGNED BY RMR
DRAWN BY SS
CHECKED BY RMR
APPROVED BY KA

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

GENERAL PLAN

POPLAR STREET BRIDGE APPROACHES

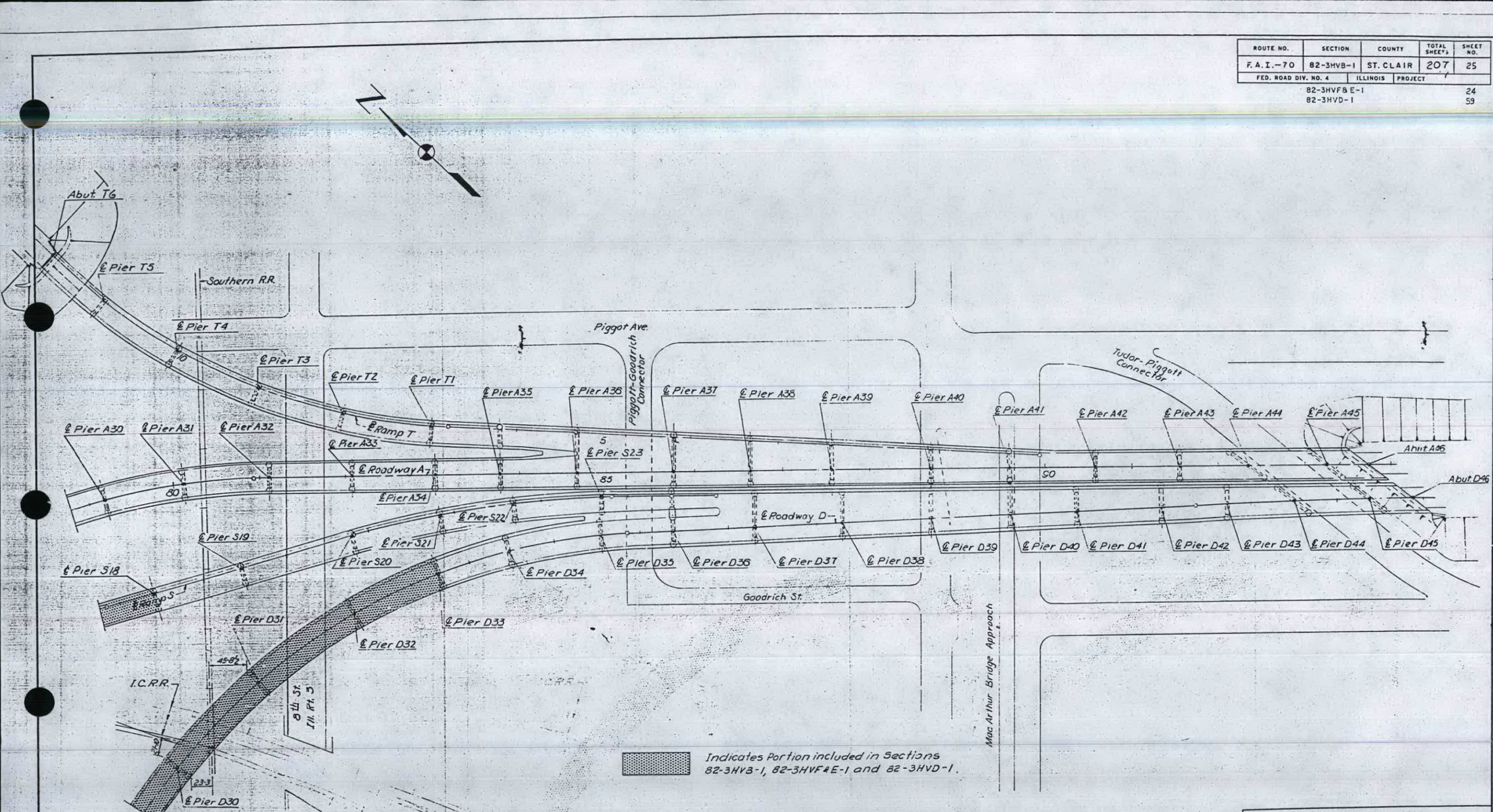
SECTIONS 82-3HVB-1
82-3HVF&E-1
82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

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

SHEET 5 OF 52

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.–70	82-3HV8-1	ST. CLAIR	207	25
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
	82-3HVF&E-1			24
	82-3HVD-1			59



DESIGNED BY R.H.R
DRAWN BY A.F.
CHECKED BY R.M.R
APPROVED BY K.A.

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

GENERAL PLAN

POPLAR STREET BRIDGE APPROACHES

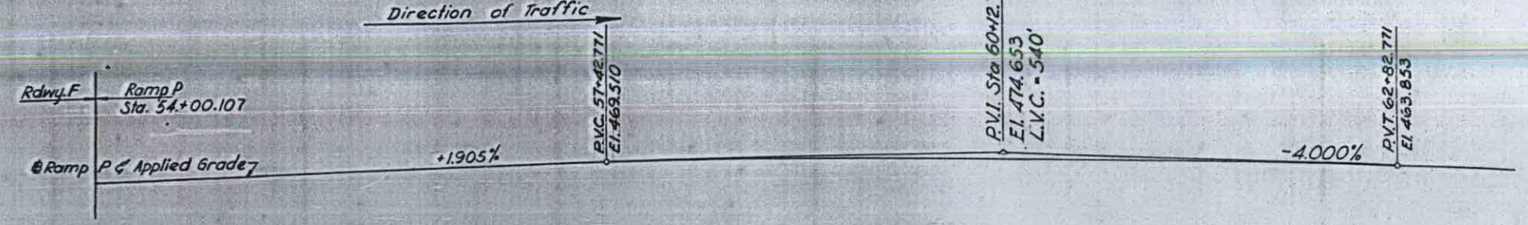
SECTIONS 82-3HV8-1
82-3HVF&E-1
82-3HVD-1

F. A. I. RT. 70 ST. CLAIR CO.

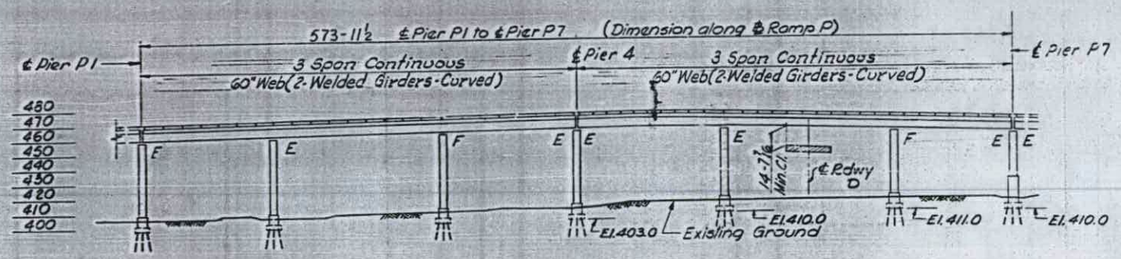
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 6 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.70	82-3HVB-1	ST. CLAIR	207	40
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
	82-3HVFBE-1			39
	82-3HVD-1			74



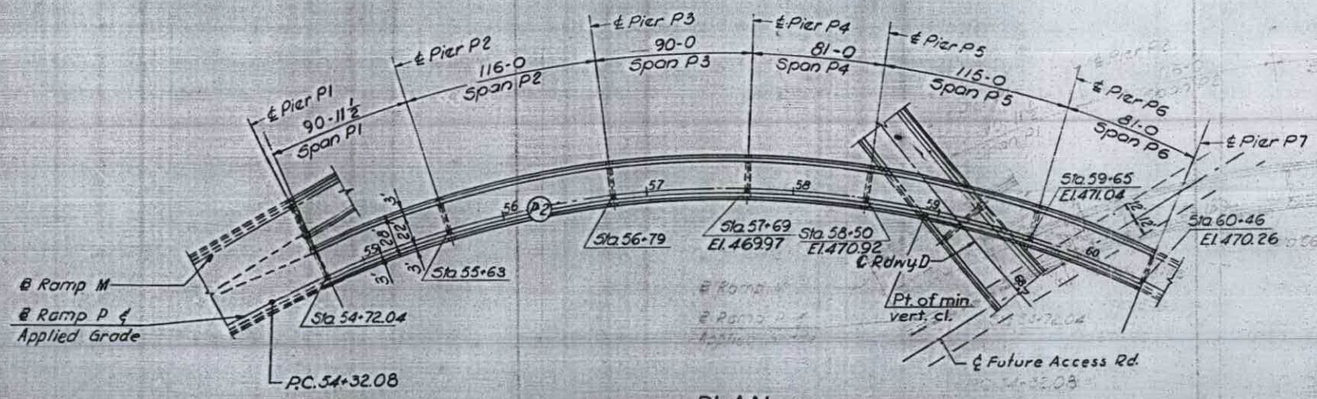
PROFILE RAMP P



N

ELEVATION

Developed Length along ℄ Ramp P



PLAN

THIS SECTION INCLUDES SPANS P4 THRU P6 ONLY. OTHER DATA SHOWN ON THIS SHEET IS FOR REFERENCE ONLY.

DESIGNED BY J.J.N.
DRAWN BY I.A.M.
CHECKED BY B.H.
APPROVED BY K.A.

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

PLAN AND ELEVATION

SPANS P1 THRU P6

POPLAR STREET BRIDGE APPROACHES
RAMP "P"

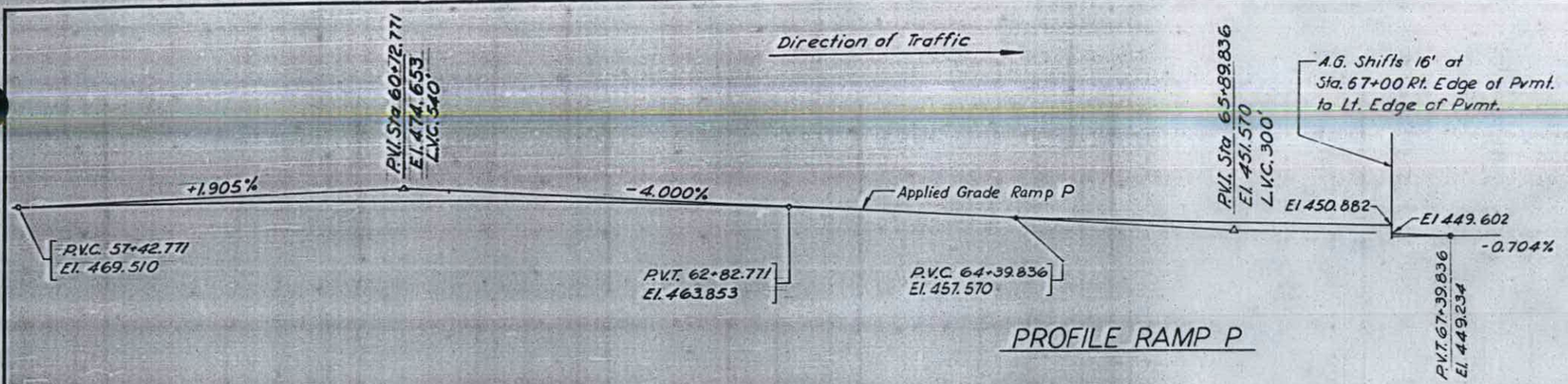
SECTIONS 82-3HVB-1
82-3HVFBE-1
82-3HVD-1

F.A.I. RT. 70 ST. CLAIR CO.

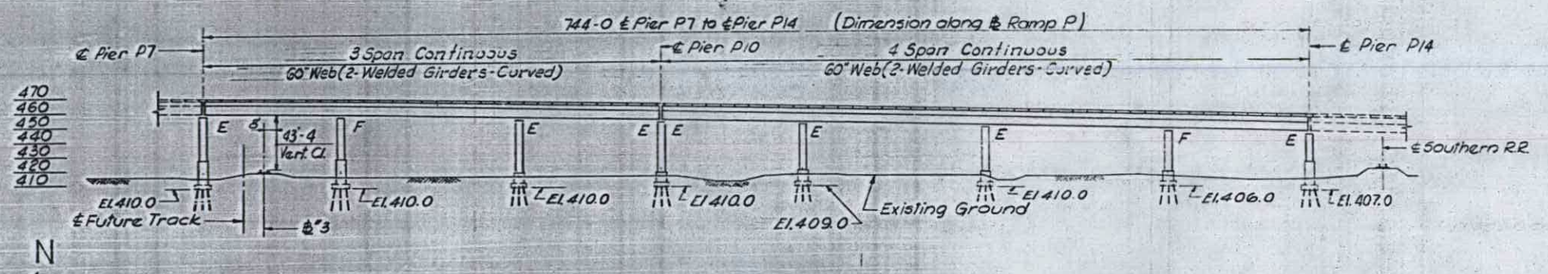
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 21 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	41
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
	82-3HVF&E-1			40
	82-3HVD-1			75

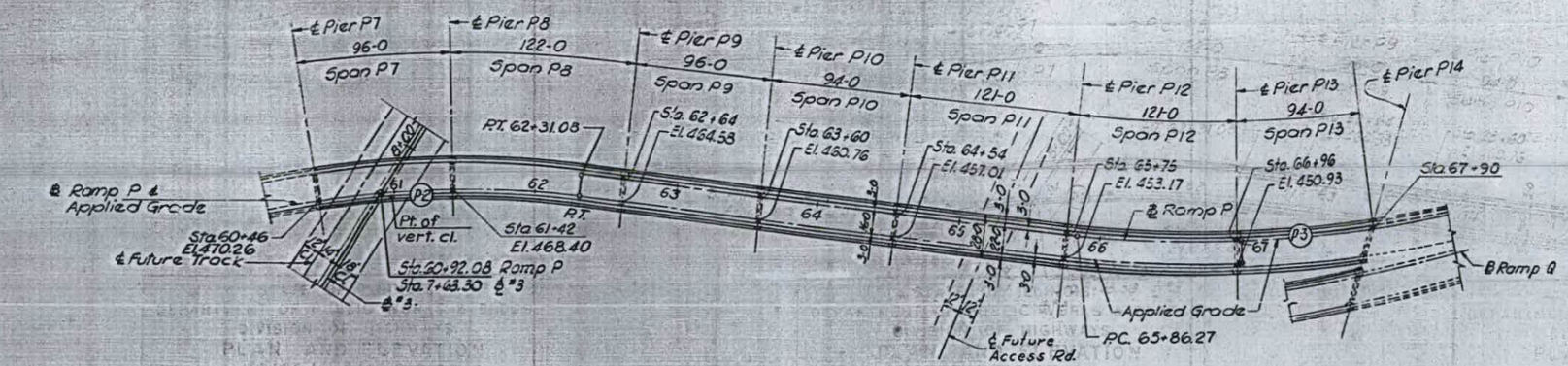


PROFILE RAMP P



ELEVATION

Developed Length along ℄ Ramp P



PLAN

DESIGNED BY J.J.N.
DRAWN BY I.A.M.
CHECKED BY B.H.
APPROVED BY K.A.

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

PLAN AND ELEVATION

SPANS P7 THRU P13

POPLAR STREET BRIDGE APPROACHES RAMP "P"

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 22 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I.70	82-3HVB-1	ST.CLAIR	207	50
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		
	82-3HVF&E-1			49
	82-3HVD-1			84

Curve P2

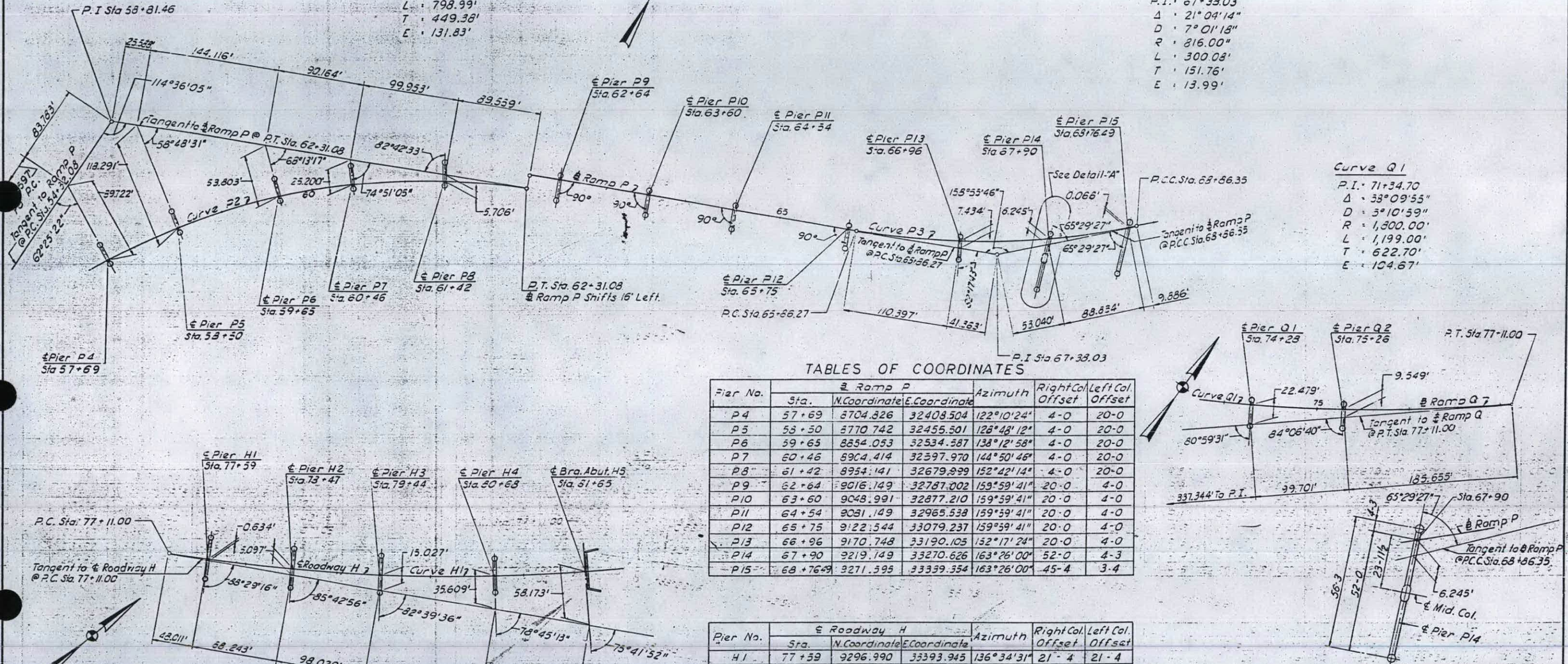
P.I. : 58+81.46
Δ : 65°23'55"
D : 8°11'06"
R : 700.00'
L : 798.99'
T : 449.38'
E : 131.83'

Curve P3

P.I. : 67+33.03
Δ : 21°04'14"
D : 7°01'18"
R : 816.00'
L : 300.08'
T : 151.76'
E : 13.99'

Curve Q1

P.I. : 71+34.70
Δ : 33°09'55"
D : 5°10'59"
R : 1,300.00'
L : 1,199.00'
T : 622.70'
E : 104.67'



TABLES OF COORDINATES

Pier No.	℄ Ramp P Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
P4	57+69	8704.826	32408.504	122°10'24"	4-0	20-0
P5	58+30	8770.742	32455.501	128°48'12"	4-0	20-0
P6	59+65	8854.053	32534.587	138°12'58"	4-0	20-0
P7	60+46	8904.414	32597.970	144°50'46"	4-0	20-0
P8	61+42	8954.141	32679.939	152°42'14"	4-0	20-0
P9	62+64	9016.149	32787.002	159°59'41"	20-0	4-0
P10	63+60	9048.991	32877.210	159°59'41"	20-0	4-0
P11	64+54	9081.149	32965.538	159°59'41"	20-0	4-0
P12	65+75	9122.544	33079.237	159°59'41"	20-0	4-0
P13	66+96	9170.748	33190.105	152°17'24"	20-0	4-0
P14	67+90	9219.149	33270.626	163°26'00"	52-0	4-3
P15	68+76.49	9271.595	33339.354	163°26'00"	45-4	3-4

Pier No.	℄ Roadway H Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
H1	77+39	9296.990	33393.945	136°34'31"	21-4	21-4
H2	78+47	9359.004	33456.369	133°48'11"	20-2	20-2
H3	79+44	9430.767	33521.613	130°44'51"	19-0½	19-0½
H4	80+68	9527.394	33599.287	126°50'28"	17-10½	17-10½
℄Brg Abut. H5	81+65	9606.537	33655.351	123°47'07"	17-1 15/16	17-2

Pier No.	℄ Ramp Q Sta.	N. Coordinate	E. Coordinate	Azimuth	Right Col. Offset	Left Col. Offset
Q1	74+28	9038.251	33133.097	147°05'44"	20-0	4-0
Q2	75+26	9143.701	33218.596	143°58'35"	20-0	4-0

Curve H1

P.I. : 83+18.82
Δ : 36°57'31"
D : 3°09'01"
R : 1,818.76'
L : 1,173.19'
T : 607.82'
E : 98.88'

DETAIL - "A"

DESIGNED BY P.M.D.
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 P4 THRU P15, Q1& Q2, H1 THRU H5
POPLAR STREET BRIDGE APPROACHES
RAMPS P&Q AND ROADWAY "H"
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 31 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	54
	82-3HVF BE-1			246
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

ROADWAY A

Pier No.	Girder A1	Girder A2
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	446.51	447.74
A21-Span A21	446.51	447.74
A22	451.09	451.40
A23	454.57	453.85
A24	458.39	456.60
A25-Span A24	462.10	459.54

RAMP M

Pier No.	Girder M1	Girder M2
M6 - Span M7	470.68	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
A 5-Span A5M	433.94	437.39

RAMP R

Pier No.	Girder R1	Girder R2
A21-Span A21-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

ROADWAY D

Pier No.	Girder D1	Girder 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	434.48	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

RAMP N

Pier No.	Girder N1	Girder 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	440.66	438.54

RAMP Q

Pier No.	Girder Q1	Girder 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

ROADWAY G

Pier No.	Girder G1	Girder 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

RAMP S

Pier No.	Girder S1	Girder S2
G12 Span S1	437.61	441.43
S1	441.42	443.34
S2	445.03	446.95
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	474.20
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 O

Pier No.	Girder O1	Girder 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

ROADWAY H

Pier No.	Girder H1	Girder 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	Girder 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

Note: Bearing Elevations are to Top of Concrete Piers or Abutments.

DESIGNED BY D.C.
DRAWN BY G.G.
CHECKED BY A.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 376 OF 526

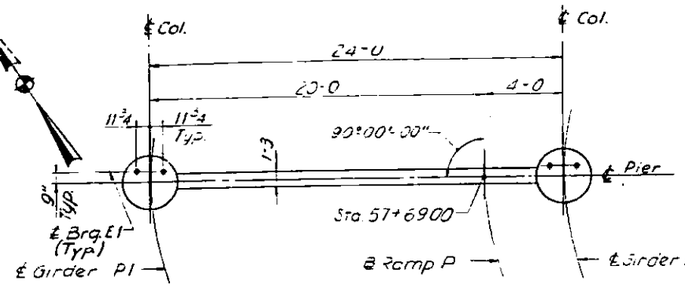
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. – 70	82-3HVB-1	ST. CLAIR	207	122
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BILL OF MATERIAL

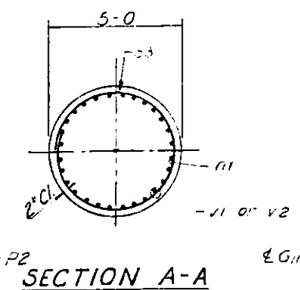
*Mark	No. Reqd. Pier P4	Pier P5	Size	Length	Shape
444 h1	10	–	# 10	26-4	
444 h2	–	2	# 5	22 6	
444 h3	10	12	# 10	25-0	
444 h4	8	8	# 5	25-0	
444 h5	–	12	# 11	26-4	
222 n1	56	48	# 10	12-2	
444 n2	14	14	# 6	7-5	
444 s1	20	20	# 4	8-0	
444 s2	40	–	# 6	13-10	
444 s3	112	–	# 4	15-11	
444 s4	–	100	# 4	14 4	
444 s5	–	40	# 6	13 4	
444 t1	30	–	# 10	14 2	
444 t2	–	57	# 9	30-8	
444 u1	12	–	# 5	11-0	
444 u2	–	12	# 5	10-2	
444 v1	28	–	# 10	53-1	
444 v2	28	–	# 10	51-2	
444 v3	–	24	# 10	46-3	
444 v4	–	24	# 10	44-4	
444 w1	14	14	# 6	32-8	
444 w2	3	3	# 4	32-8	

*Sec Note "X" Sh. No. 55

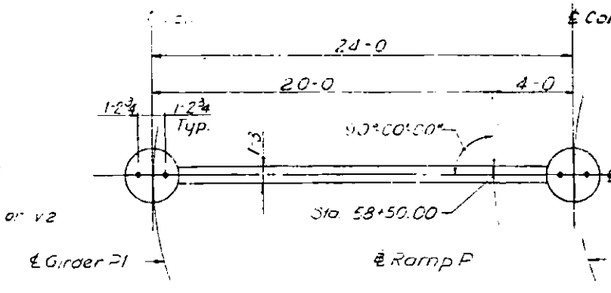
Item	Unit	Total Pier P4	Total Pier P5
Class 'X' Concrete	C.Y.	159.9	135.5
Reinforcement Bars	Lbs.	24,190	20,650
Concrete Piles	L.F.	1222 *	1392 *
Test Piles (concrete)	Ea.	1	1



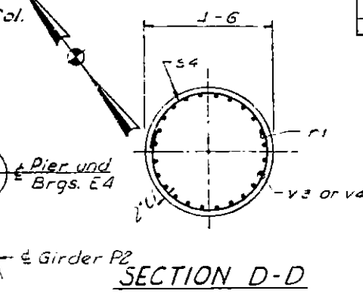
TOP PLAN - PIER P4



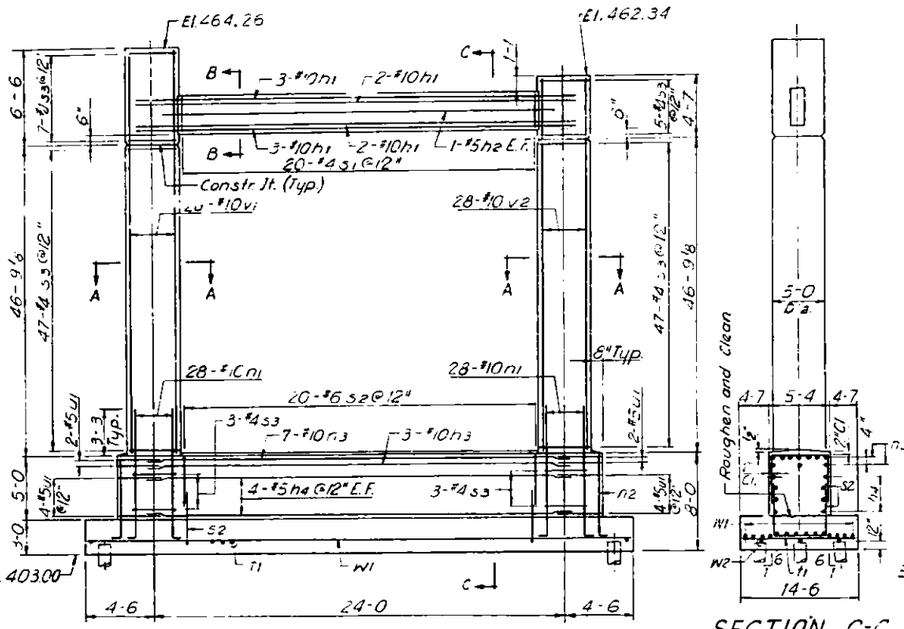
SECTION A-A



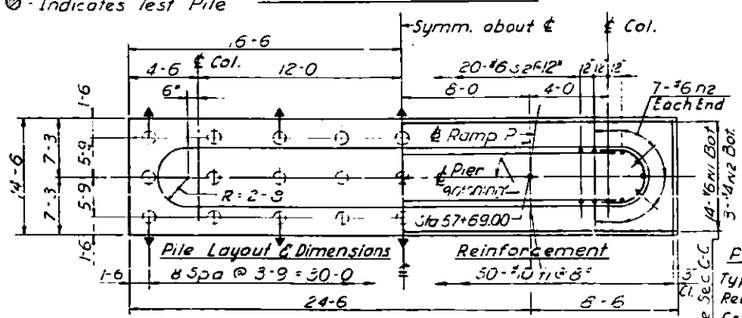
TOP PLAN - PIER P5

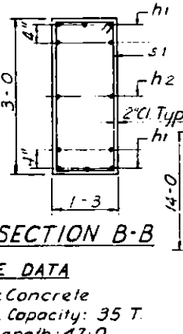


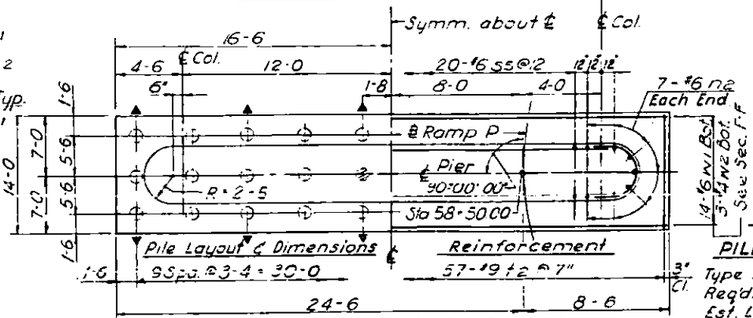
SECTION D-D

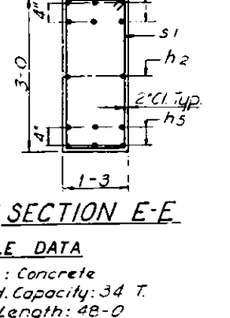


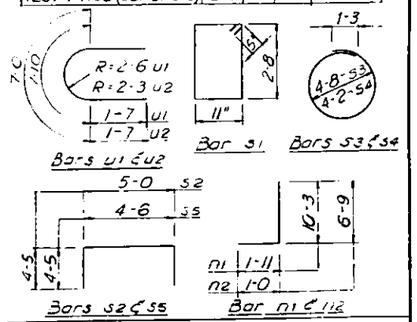
① - Indicates Bottered Pile
⊘ - Indicates Test Pile











DESIGNED BY S.A.
DRAWN BY F.M.
CHECKED BY A.T.
APPROVED BY K.A.

PILE DATA
Type: Concrete
Req'd. Capacity: 35 T.
Est. Length: 47-0
No. Req'd: 26 *
Test Pile 1
* Does not include Test Pile

PILE DATA
Type: Concrete
Req'd. Capacity: 34 T.
Est. Length: 48-0
No. Req'd.: 29 *
Test Pile: 1
* Does not include Test Pile

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

PIERS P4 AND P5

POPLAR STREET BRIDGE APPROACHES RAMP "P"

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

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

SHEET 44 of 526

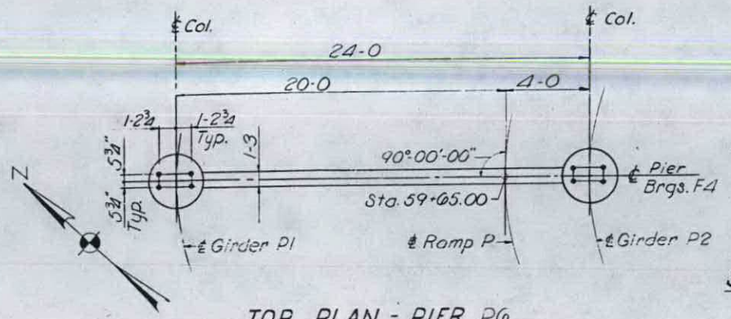
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I—70	82—3HVB—1	ST.CLAIR	207	123
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BILL OF MATERIAL

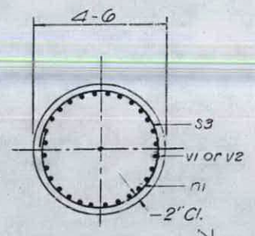
Mark	No. Reqd. Pier P6	No. Reqd. Pier P9	Size	Length	Shape
445 h1	12	—	#11	26-4	—
445 h2	2	2	#5	22-6	—
445 h3	12	—	#10	25-0	—
445 h4	8	6	#5	25-0	—
445 h5	—	12	#10	26-4	—
445 h6	—	12	#11	25-0	—
445 n1	56	—	#10	12-2	L
445 n2	18	—	#7	8-0	L
445 n3	—	36	#11	11-4	L
445 n4	—	14	#6	6-9	L
445 s1	20	21	#4	8-0	□
445 s2	32	—	#7	13-8	□
445 s3	98	—	#4	14-4	○
445 s4	—	85	#4	12-9	○
445 s5	—	42	#6	11-8	□
445 t1	65	—	#11	17-8	—
445 t2	—	57	#9	13-2	—
445 u1	12	—	#5	10-2	U
445 u2	—	10	#5	9-5	U
445 v1	28	—	#10	45-9	—
445 v2	28	—	#10	43-10	—
445 v3	—	18	#11	40-2	—
445 v4	—	18	#11	39-2	—
445 w1	16	—	#7	32-5	—
445 w2	4	—	#4	32-5	—
445 w3	—	13	#6	32-8	—
445 w4	—	3	#4	32-8	—

*See Note "X" Sh. No. 35

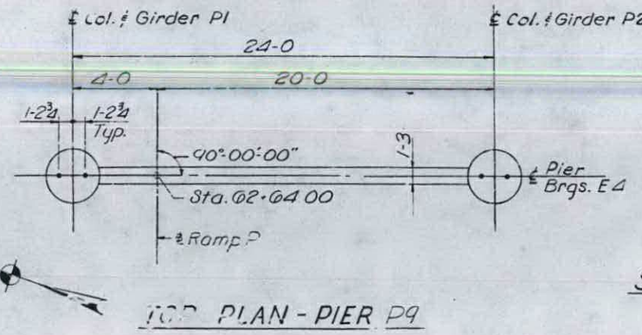
Item	Unit	Total Pier P6	Total Pier P9
Class "X" Concrete	C.Y.	146.0	106.8
Reinforcement Bars	Lbs.	27,120	18,060
Concrete Piles	L.F.	1457*	962*
Test Piles (concrete)	Ea.	1	1



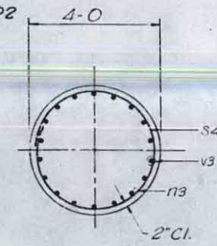
TOP PLAN - PIER P6



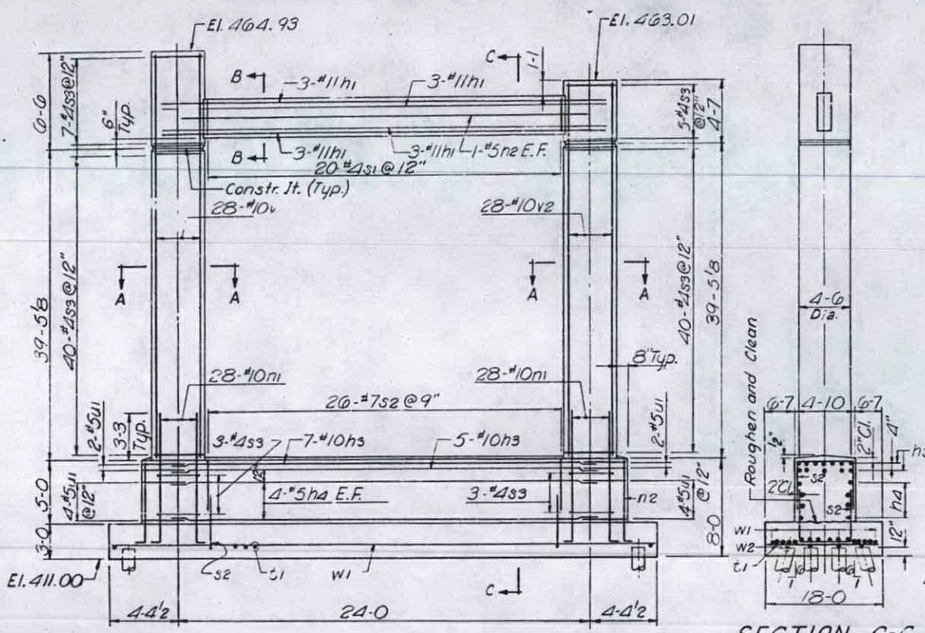
SECTION A-A



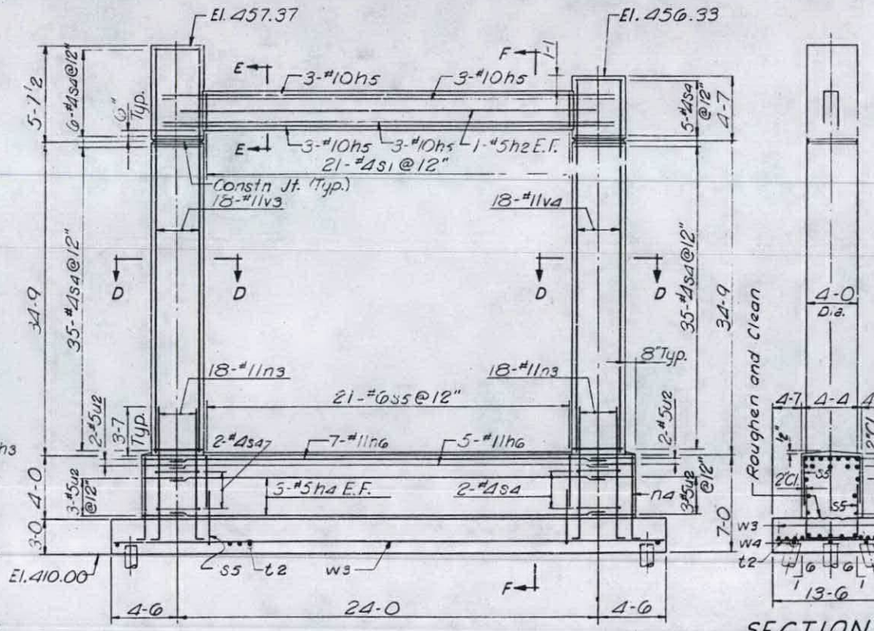
TOP PLAN - PIER P9



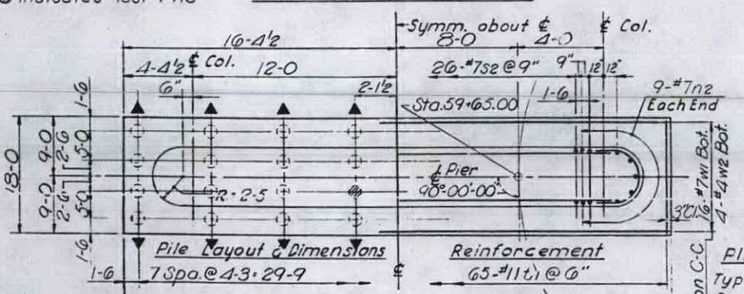
SECTION D-D



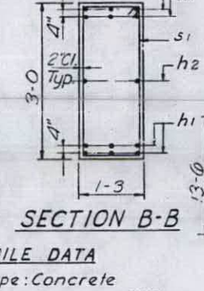
ELEVATION - PIER P6



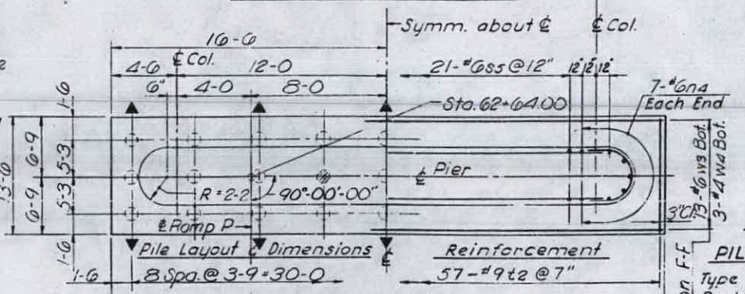
ELEVATION - PIER P9



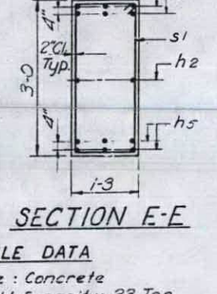
FOOTING PLAN - PIER P6



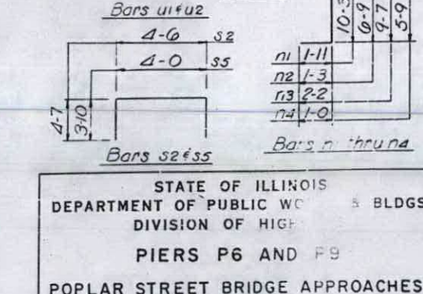
SECTION B-B



FOOTING PLAN - PIER P9



SECTION E-E



○ indicates Battered Pile
◍ indicates Test Pile

ELEVATION - PIER P6

ELEVATION - PIER P9

PILE DATA
Type: Concrete
Req'd. Capacity: 35 Ton
Est. Length: 47-0
No. Req'd: 31 *
Test Pile: 1
* Does not include Test Pile

See Section C-C

PILE DATA
Type: Concrete
Reqd. Capacity: 33 Ton
Est. Length: 37-0
No. Reqd.: 26*
Test Pile: 1
* Does not include Test Pile

See Section F-F

DESIGNED BY S.A. & E.W.
DRAWN BY Hamilton
CHECKED BY E.W.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WO[illegible] BLDGS.
DIVISION OF HIG[illegible]

PIERS P6 AND P9

POPLAR STREET BRIDGE APPROACHES RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82—3HVB—1

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

SHEET 445 of 526

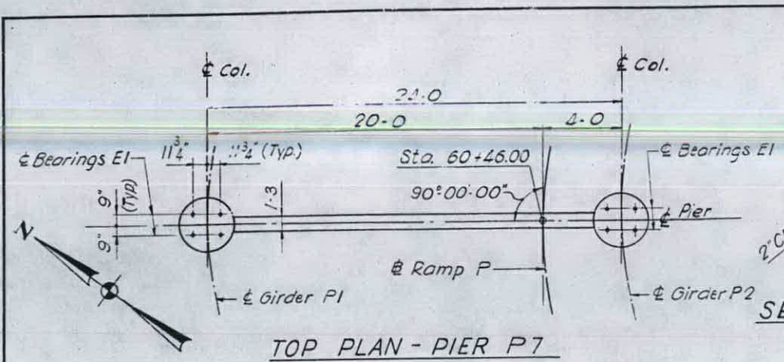
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I – 70	82–3HVB–1	ST. CLAIR	207	124
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BILL OF MATERIAL

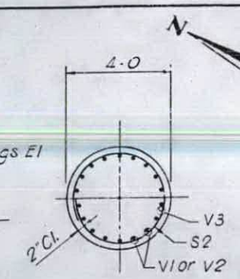
*Mark	No. Reqd. Pier P7	No. Reqd. Pier P8	Size	Length	Shape
446 h1	12	—	#3	16-4	
446 h2	2	2	#5	22-6	
446 h3	6	—	#8	25-0	
446 h4	24	24	#5	25-0	
446 h5	—	12	#10	26-4	
446 n6	-	7	#10	25-0	
446 n1	22	—	#6	4-11	
446 n2	—	26	#8	6-2	
446 t1	50	—	#10	13-8	
446 t2	—	66	#9	14-8	
446 S1	21	20	#4	8-0	
446 S2	78	—	#4	12-9	
446 S3	21	—	#6	6-0	
446 S4	21	—	#6	11-10	
446 S5	—	74	#4	14-1	
446 S6	—	20	#6	5'-3"	
446 S7	—	41	#8	14-0	
446 V1	18	—	#11	38-10	
446 V2	18	—	#11	36-11	
446 V3	35	—	#11	8-4	
446 V4	64	—	#6	12-5	
446 V5	—	24	#11	36-6	
446 V6	—	24	#11	34-7	
446 V7	—	48	#11	9-2	
446 V8	—	108	#8	12-2	
446 W1	13	—	#6	32-5	
446 W2	3	—	#4	32-5	
446 W3	—	14	#7	32-8	
446 W4	—	4	#4	32-8	
446 U1	26	—	#5	9-5	U
446 U2	—	26	#6	10-2	U

*See Note "X" Sh. No. 35

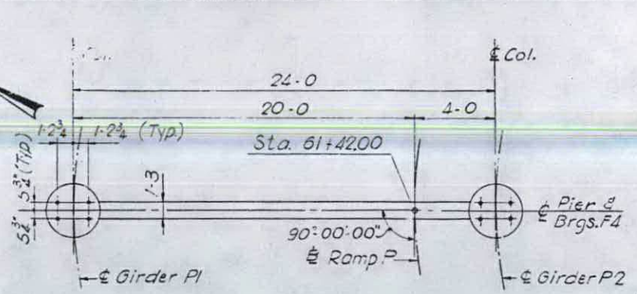
Item	Unit	Total Pier P7	Total Pier P8
Class "X" Concrete	C.Y.	145.9	166.8
Reinforcement Bars	Lbs.	17,580	25,260
Concrete Piles	L.F.	943*	1225*
Test Piles (Concrete)	Ea.	1	1



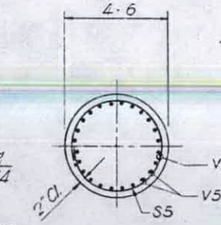
TOP PLAN - PIER P7



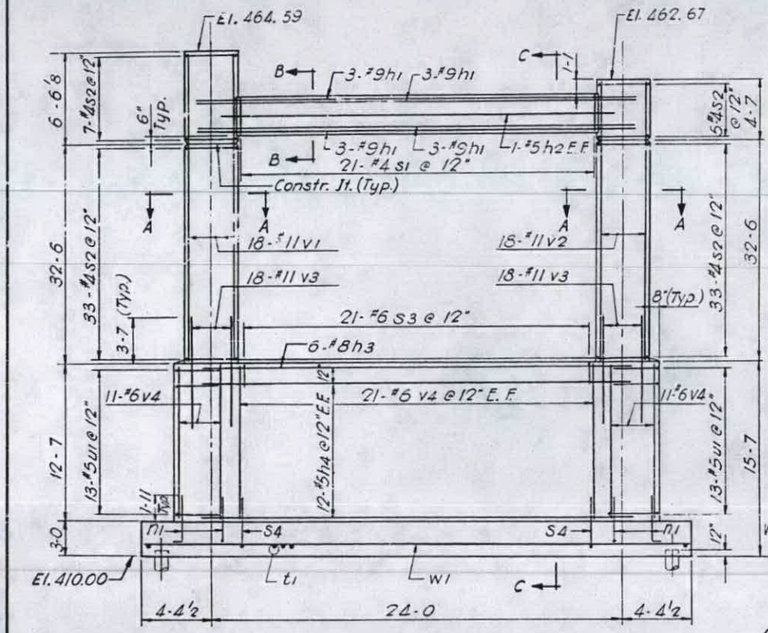
SECTION A-A



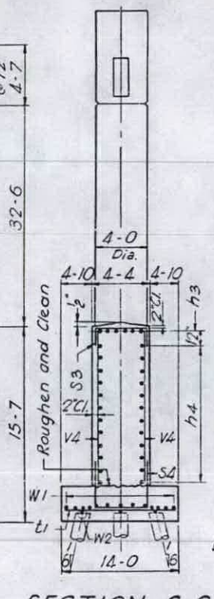
TOP PLAN - PIER P8



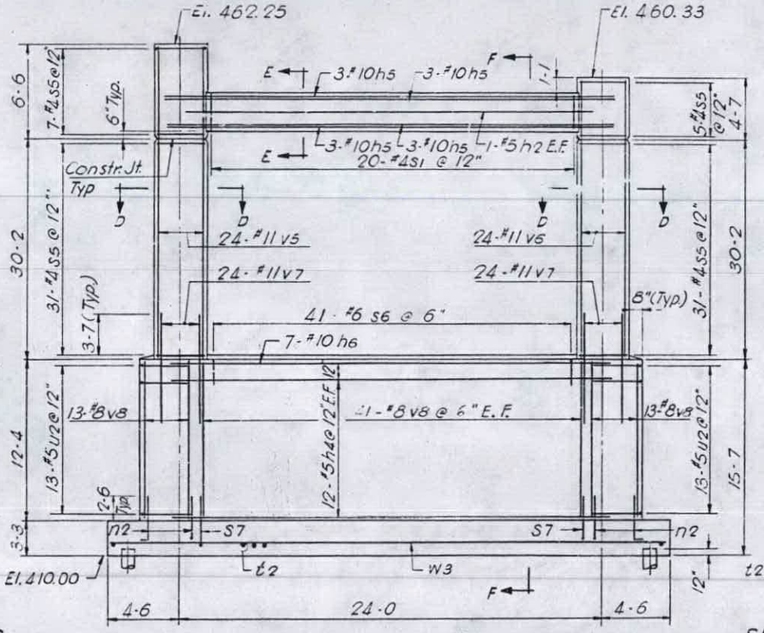
SECTION D-D



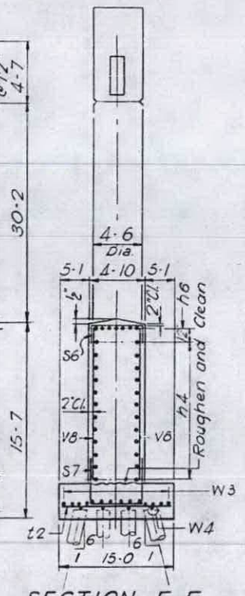
ELEVATION - PIER P7



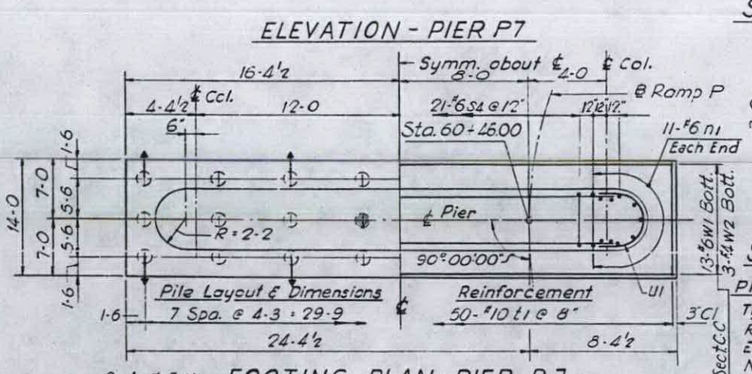
SECTION C-C



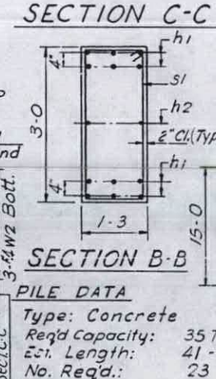
ELEVATION - PIER P8



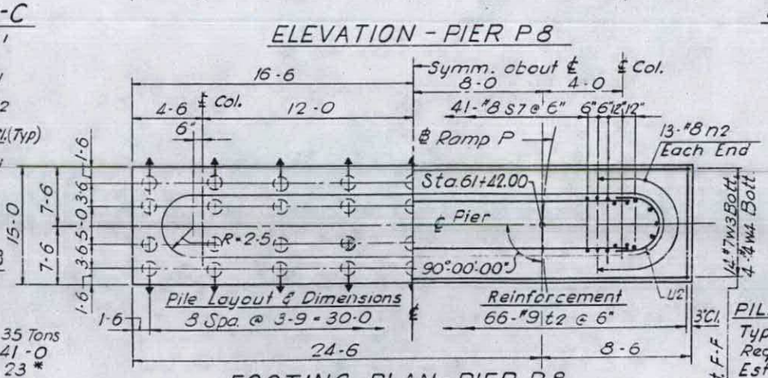
SECTION F-F



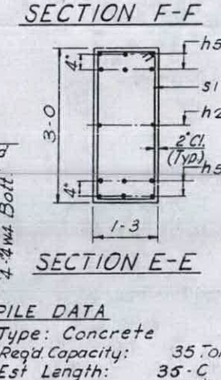
FOOTING PLAN - PIER P7



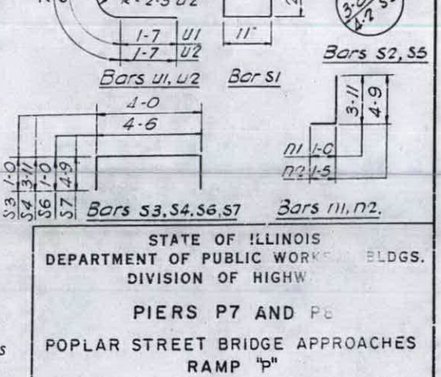
SECTION B-B



FOOTING PLAN - PIER P8



SECTION E-E



PILE DATA

Type:	Concrete
Reqd Capacity:	35 Tons
Est. Length:	41-0
No. Reqd.:	23 *
Test Pile:	1

*Does not include Test Pile.

See Sect. C-C

PILE DATA

Type:	Concrete
Reqd Capacity:	35 Tons
Est Length:	35-0
No. Reqd.:	35 *
Test Pile:	1

*Does not include Test Pile.

See Sect. F-F

Indicates Battered Pile

Indicates Test Pile

DESIGNED BY S. A. & E. W.
DRAWN BY V. Z.
CHECKED BY S. A.
APPROVED BY K. A.

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

PIERS P7 AND P8

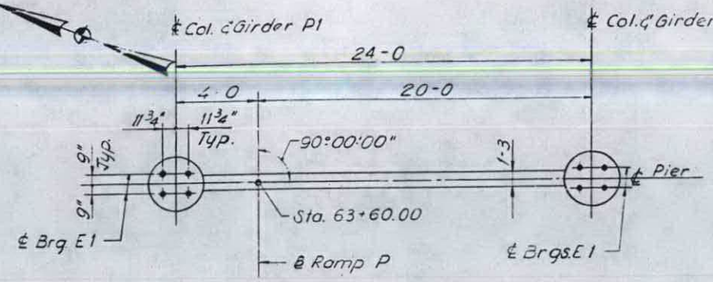
POPLAR STREET BRIDGE APPROACHES RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82–3HVB 1

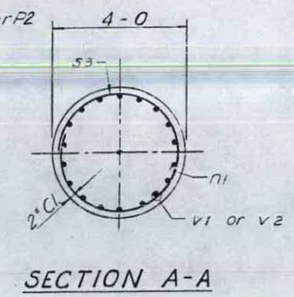
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 446 OF 526

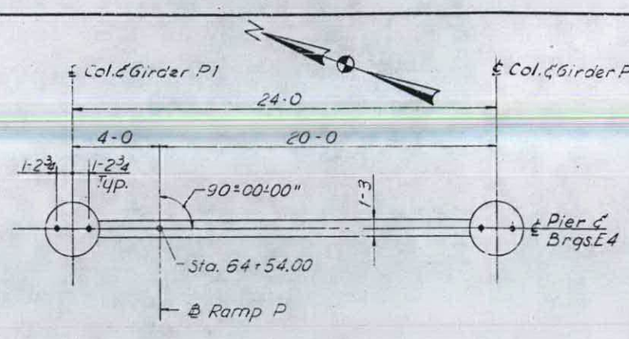
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I – 70	82-3HVB-1	ST. CLAIR	207	125
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



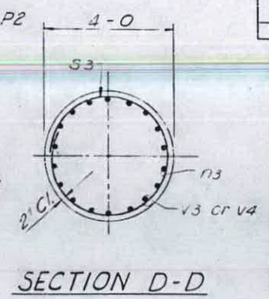
TOP PLAN - PIER P10



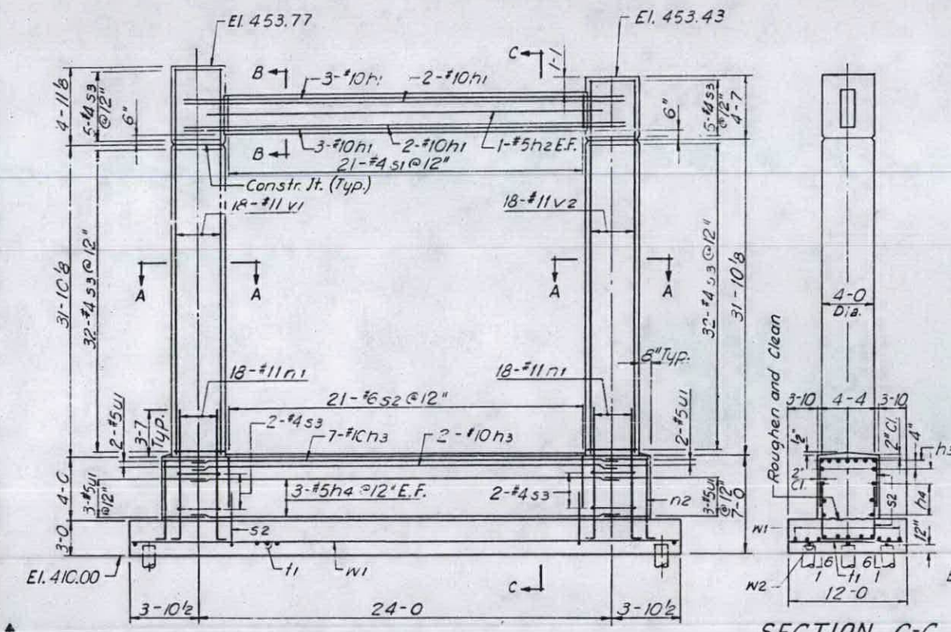
SECTION A-A



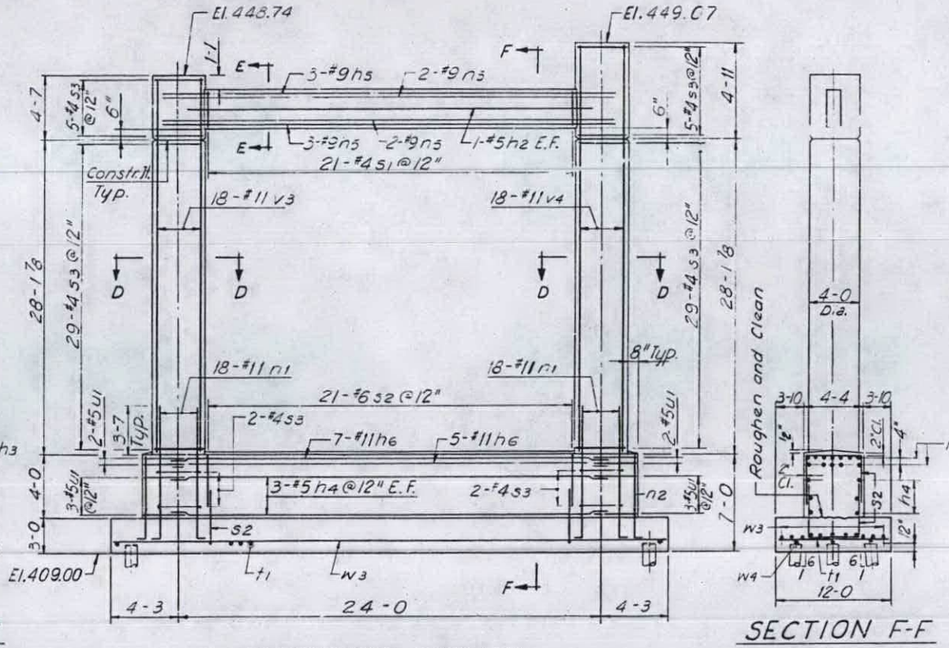
TOP PLAN - PIER P11



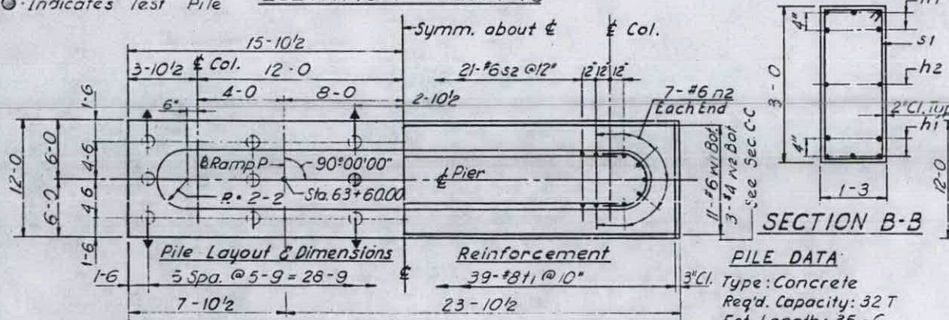
SECTION D-D



SECTION C-C



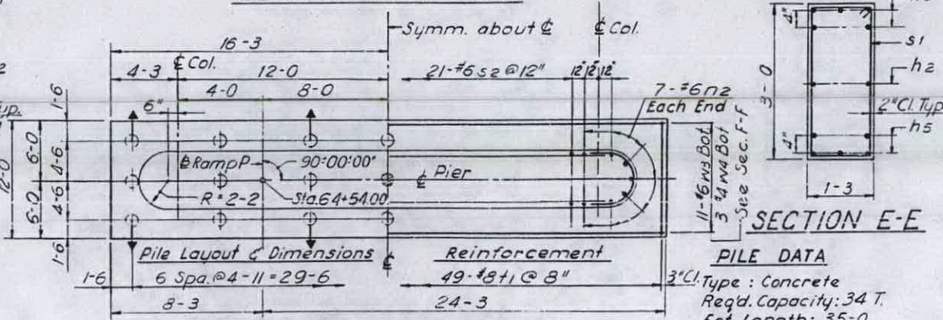
SECTION F-F



ELEVATION - PIER P10

FOOTING PLAN - PIER P10

SECTION B-B



ELEVATION - PIER P11

FOOTING PLAN - PIER P11

SECTION E-E

·Indicates Battered Pile
·Indicates Test Pile

PILE DATA
Type: Concrete
Req'd. Capacity: 32 T
Est. Length: 35 - 0
No. Req'd: 17 *
Test Pile 1
* Does not include Test Pile

PILE DATA
Type: Concrete
Req'd. Capacity: 34 T.
Est. Length: 35-0
No. Req'd.: 20 *
Test Pile: 1
* Does not include Test Pile

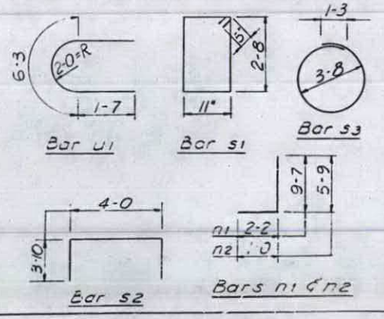
DESIGNED BY S.A.
DRAWN BY I.M.
CHECKED BY E.H.
APPROVED BY K.A.

BILL OF MATERIAL

Mark	No. Reqd. Pier P10	No. Reqd. Pier P11	Size	Length	Shape
447 n1	2	–	# 10	26-4	
447 n2	2	2	# 5	22-6	
447 n3	9	–	# 10	25-0	
447 n4	6	6	# 5	25-0	
447 n5	–	10	# 9	28-4	
447 n6	–	12	# 11	25-0	
447 n1	36	36	# 11	11-9	L
447 n2	14	14	# 6	6-9	I
447 s1	21	21	# 4	8-0	
447 s2	42	42	# 6	11-8	
447 s3	78	72	# 4	12-9	O
447 t1	39	49	# 8	11-3	
447 u1	10	10	# 5	9-5	U
447 v1	18	–	# 11	36-7	
447 v2	18	–	# 11	36-3	
447 v3	–	18	# 11	32-7	
447 v4	–	18	# 11	32-11	
447 w1	11	–	# 6	31-5	
447 w2	3	–	# 4	31-5	
447 w3	–	11	# 6	32-2	
447 w4	–	3	# 4	32-2	

*See Note "X" Sh. No. 35

Item	Unit	Total Pier P10	Total Pier P11
Class 'X' Concrete	C.Y.	96.9	94.3
Reinforcement Bars	Lbs.	15,070	15,030
Concrete Piles	L.F.	595*	700*
Test Piles (concrete)	Ea.	1	1



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

PIERS P10 AND P11

POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

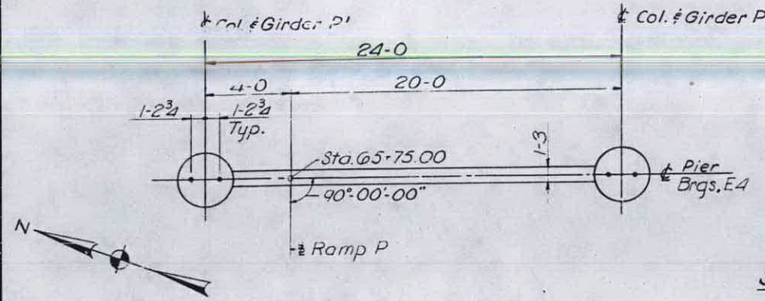
SHEET 147 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. – 70	82–3HVB–1	ST. CLAIR	207	126
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

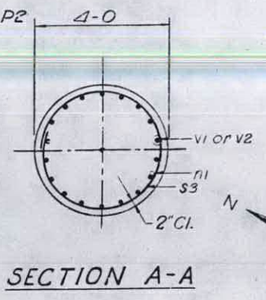
BILL OF MATERIAL

Mark	No. Reqd. Pier P12	No. Reqd. Pier P13	Size	Length	Shape
448 h1	10	—	#10	26-4	—
448 h2	2	2	#5	22-6	—
448 h3	10	10	#11	25-0	—
448 h4	6	6	#5	25-0	—
448 h5	—	12	#9	26-4	—
448 n1	36	—	#10	11-5	L
448 n2	14	—	#6	7-0	L
448 n3	—	36	#11	11-9	L
448 n4	—	12	#8	7-2	L
448 s1	21	20	#4	8-0	[]
448 s2	21	—	#6	11-8	[]
448 s3	61	—	#4	12-9	[]
448 s4	—	64	#4	14-4	[]
448 s5	—	27	#8	12-2	[]
448 s6	—	27	#8	13-9	[]
448 s7	21	—	#6	15-4	[]
448 t1	40	—	#7	9-8	—
448 t2	—	65	#10	16-2	—
448 u1	10	—	#5	9-5	U
448 u2	—	10	#5	10-2	U
448 v1	18	—	#10	26-8	—
448 v2	18	—	#10	27-11	—
448 v3	—	28	#11	28-6	—
448 v4	—	28	#11	30-5	—
448 w1	11	—	#6	32-5	—
448 w2	3	4	#4	32-5	—
448 w3	—	15	#7	32-5	—
*See Note "X" Sh. No. 35					

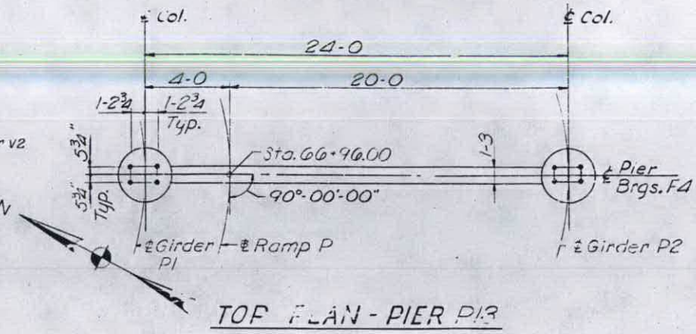
Item	Unit	Total Pier P12	Total Pier P13
Class 'X' Concrete	C.Y.	85.3	117.3
Reinforcement Bars	Lbs.	11,690	23,490
Concrete Piles	L.F.	1012 *	1364 *
Test Piles (concrete)	Ea.	1	1



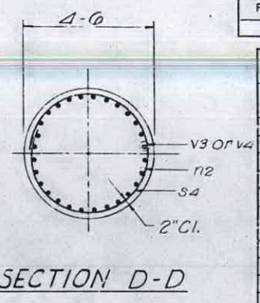
TOP PLAN - PIER P12



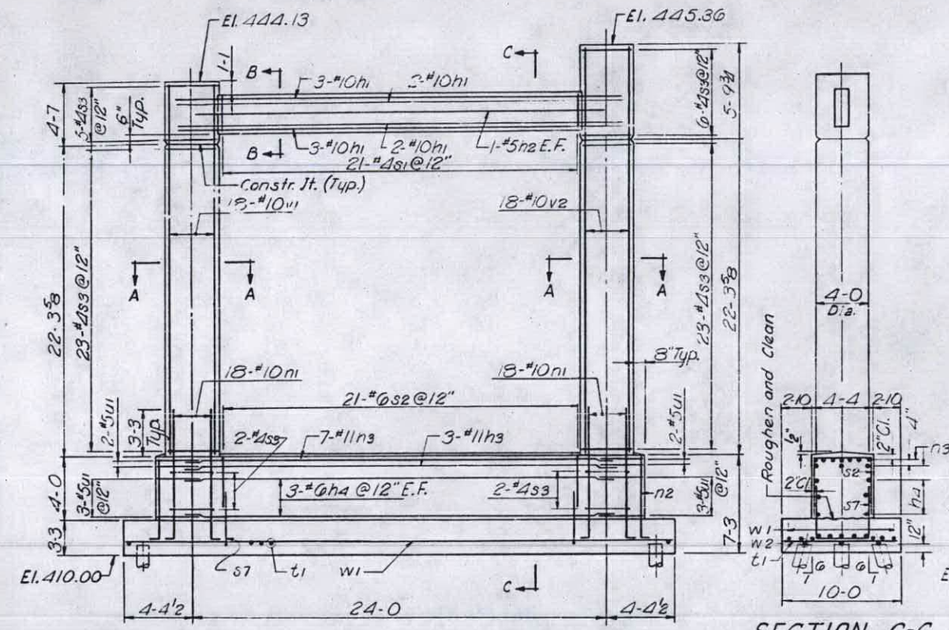
SECTION A-A



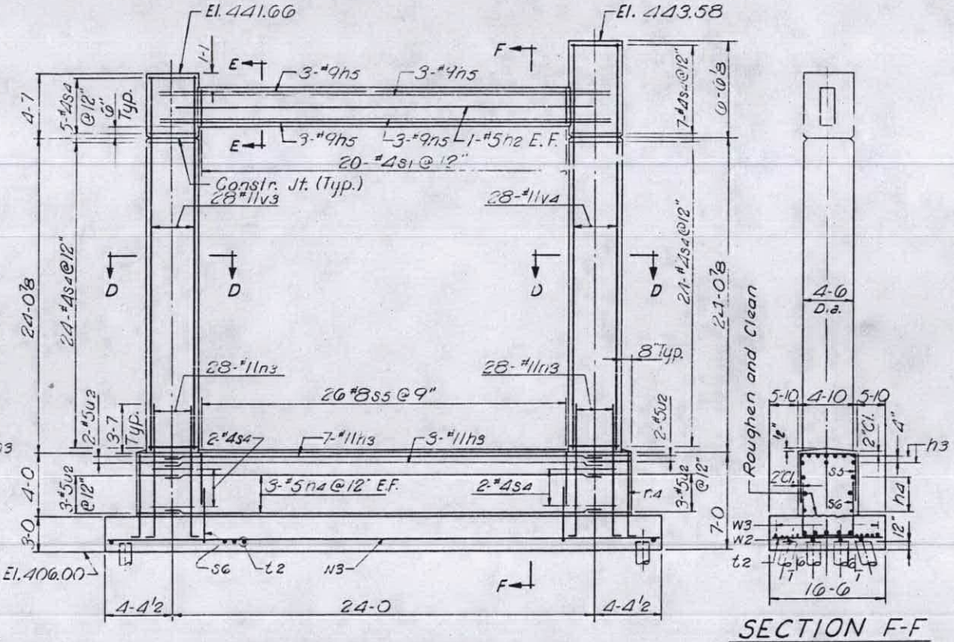
TOP PLAN - PIER P13



SECTION D-D



SECTION C-C



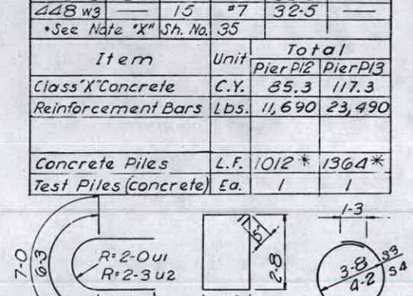
SECTION F-F

FOOTING PLAN - PIER P12

SECTION B-B

FOOTING PLAN - PIER P13

SECTION E-E



PILE DATA
Type: Concrete
Req'd. Capacity: 35 Ton
Est. Length: 44-0
No. Req'd: 23 *
Test Pile 1
* Does not include Test Pile

See Section C-C

PILE DATA
Type : Concrete
Req'd. Capacity: 35 Ton
Est. Length: 44-0
No. Req'd.: 31 *
Test Pile: 1
* Does not include Test Pile

See Section F-F

DESIGNED BY S. A.
DRAWN BY Hamilton
CHECKED BY E. W.
APPROVED BY K. A.

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

PIERS P12 AND P13

POPLAR STREET BRIDGE APPROACHES RAMP "P"

F.A.I. RT. 70 ST. CLAIR CO. SECTION 82–3HVB–1

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

SHEET 448 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I-70	82-3HVB-1	ST. CLAIR	207	127
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BILL OF MATERIAL

• Mark	No Reqd	Size	Length	Shape
449h1	20	#9	27-10	
449h2	4	#5	24-10	
449h3	7	#11	40-3	
449h4	7	#11	20-8	
449h5	60	#5	29-5	
449M1	22	#7	5-4	
449S1	14	#4	8-0	
449S2	36	#4	12-9	
449S3	44	#5	6-0	
449S4	53	#7	12-4	
449S5	18	#4	23-7	
449t1	87	#8	11-0	
449U1	32	#5	9-5	
449V1	18	#10	14-4	
449V2	26	#10	16-10	
449V3	18	#10	17-8	
449V4	62	#10	7-6	
449V5	128	#7	15-7	
449W1	22	#7	33-3	
449W2	6	#4	32-9	

• See Note "X" Sh. No. 35

Item	Unit	Total
Class "X" Concrete	C.Y.	277.5
Reinforcement Bars	Lbs.	23,830
Concrete Piles	L.F.	1640*
Test Piles (Concrete)	Ea.	1

TOP PLAN

ELEVATION

FOOTING PLAN

SECTION B-B

SECTION C-C

SECTION D-D

Bar M1

Bar U1

Bar S5

Bar S1

Bar S2

Bars S3 and S4

SECTION A-A

DETAIL A
Showing location of anchor bolts.

See detail A for location of anchor bolts.

Pile layout and dimensions

Reinforcement

PILE DATA:

Type: Concrete.
Reqd. Capacity: 34T
Est. Length: 40-0
No. Reqd: 41*
Test Piles: 1

*Does not include test pile.

Indicates battered pile.

Indicates test pile.

DESIGNED BY E.W.
DRAWN BY S.A.
CHECKED BY S.K.
APPROVED BY K.A.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WOR BLDGS.
DIVISION OF HIGH

PIER P14

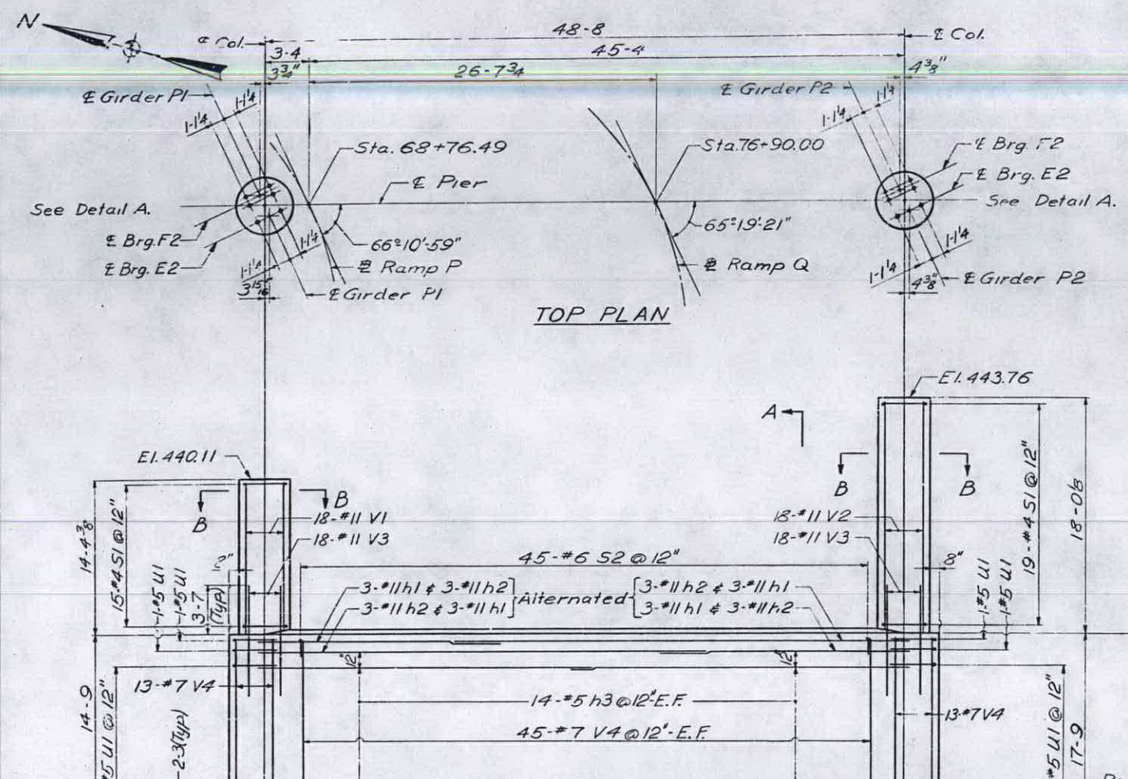
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

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

SHEET 449 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I-70	82-3HVB-1	ST. CLAIR	207	128
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

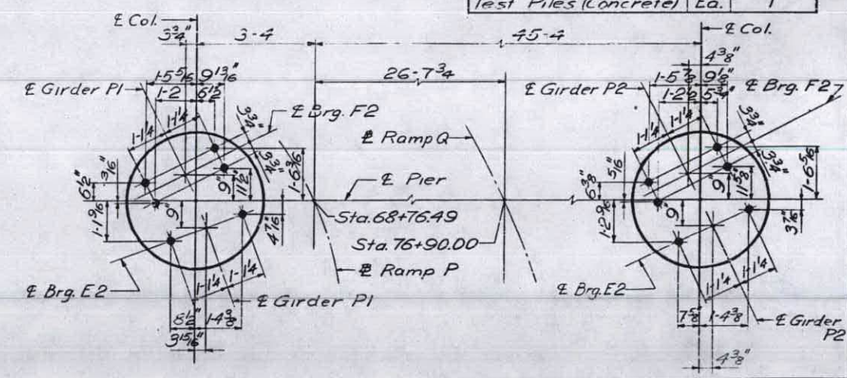


BILL OF MATERIAL

Mark	No. Reqd.	Size	Length	Shape
450h1	12	#11	34-6	—
450h2	12	#11	18-9	—
450h3	56	#5	25-8	—
450M1	26	#7	5-6	⌐
450S1	34	#4	14-4	○
450S2	45	#6	6-6	▭
450S3	45	#7	13-0	▭
450t1	64	#8	10-8	— —
450U1	32	#5	10-2	⊂
450V1	18	#11	14-2	—
450V2	18	#11	17-10	—
450V3	36	#11	8-4	—
450V4	116	#7	14-7	—
450W1	22	#6	29-9	—
450W2	6	#4	29-5	—

• See Note "X" Sh. No. 35

Item	Unit	Total
Class "X" Concrete	C.Y.	230.1
Reinforcement Bars	Lbs.	18,510
Concrete Piles	L.F.	1440 *
Test Piles (Concrete)	Ea.	1



DETAIL A
Showing location of anchor bolts.

PILE DATA:
Type: Concrete.
Reqd. Cap: 36ᵀ
Est. Length: 45-0
No. Reqd: 32*
Test Piles: 1

* Does not include test pile.

DESIGNED BY S.A.
DRAWN BY S.A.
CHECKED BY E.W.
APPROVED BY

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC W... & BLDGS.
DIVISION OF HIGH...

PIER P15

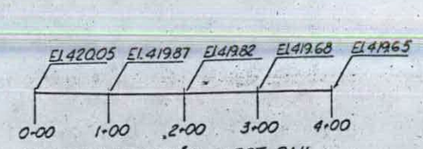
POPLAR STREET BRIDGE APPROACHES
RAMP "P"

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

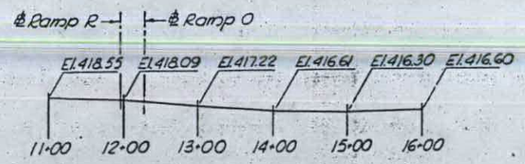
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 450 OF 526

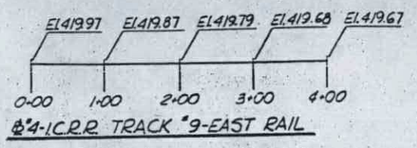
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I.-70	82-3HVB-1	ST. CLAIR	207	138
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



℄"4-I.C.R.R. TRACK "9 - WEST RAIL



℄"4-I.C.R.R. TRACK "1D - WEST RAIL



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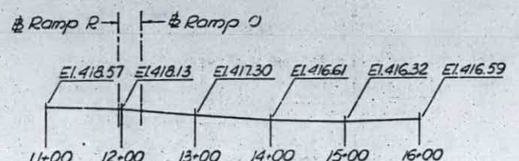

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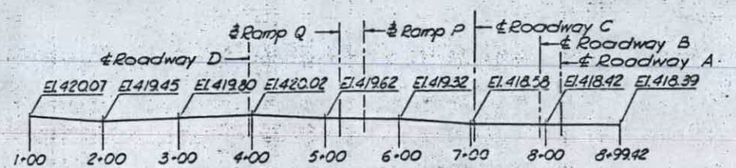
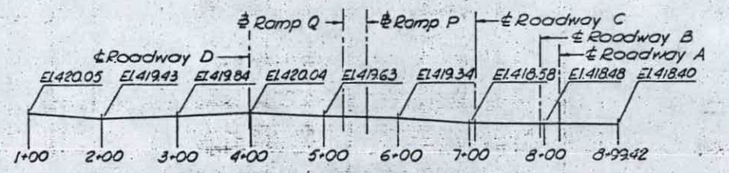
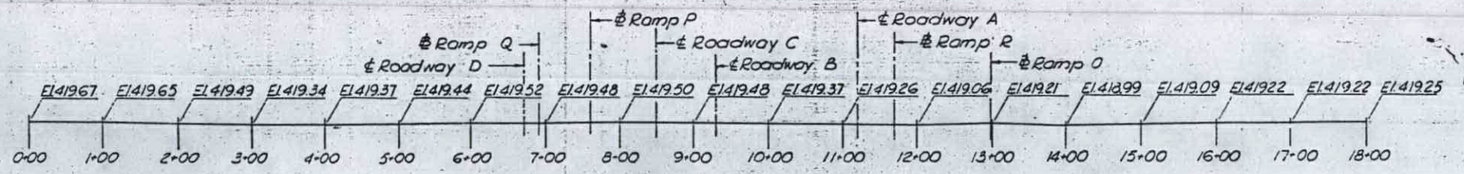


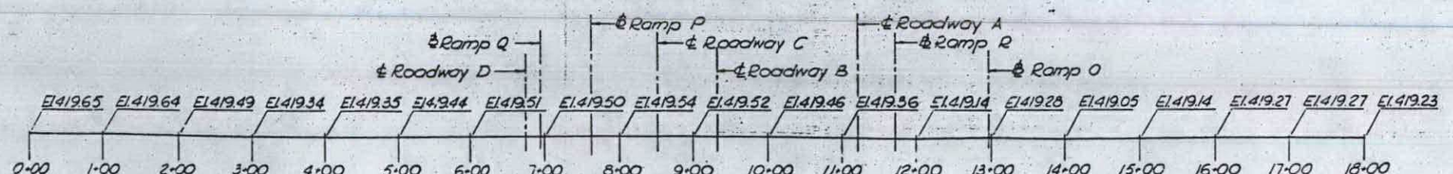
℄"4A I.C.R.R. TRACK, WEST RAIL



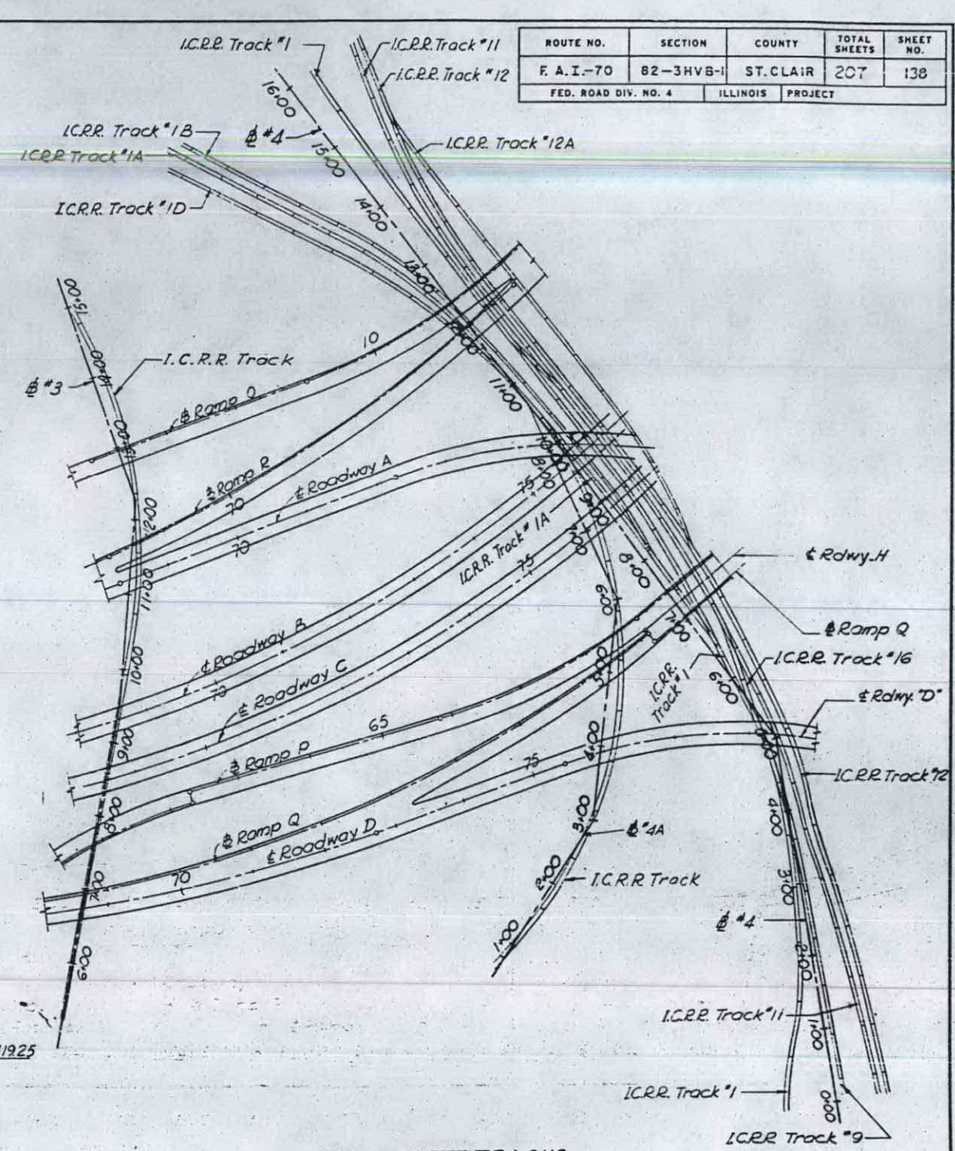
℄"4A ICRR TRACK, EAST RAIL



℄"3 - I.C.R.R TRACK, WEST RAIL



℄"3 - I.C.R.R TRACK, EAST RAIL



PLAN - I.C.R.R. TRACKS

Scale: 1" = 100'

For Track "1, "11, "12, "1A, "1B & "12A
Profiles see Sheet No. 178

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

ILLINOIS CENTRAL RAILROAD

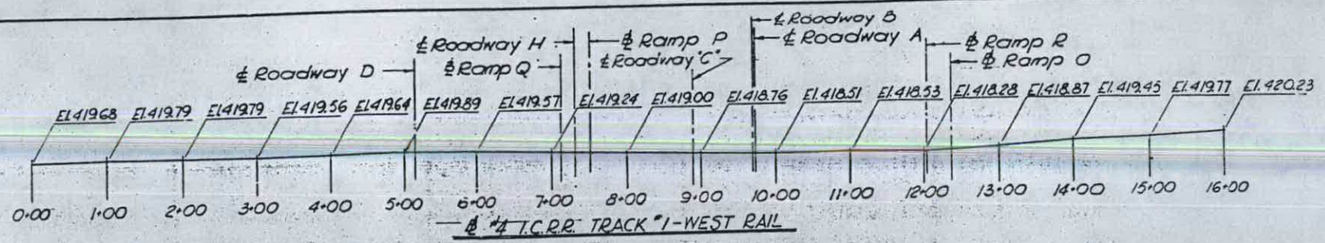
PROFILES

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

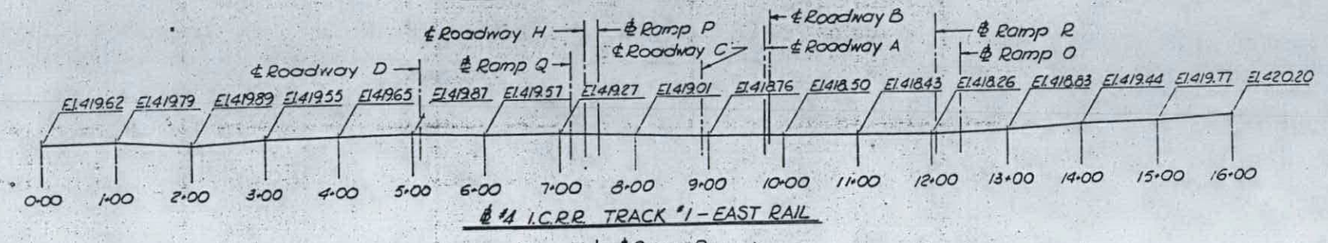
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 460 OF 525

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-70	82-3HVB-1	ST. CLAIR	207	139
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



℄ #4 I.C.R.R. TRACK "1-WEST RAIL



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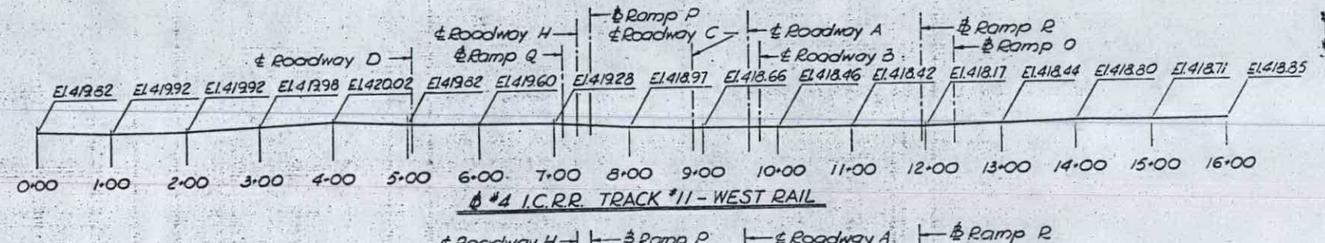

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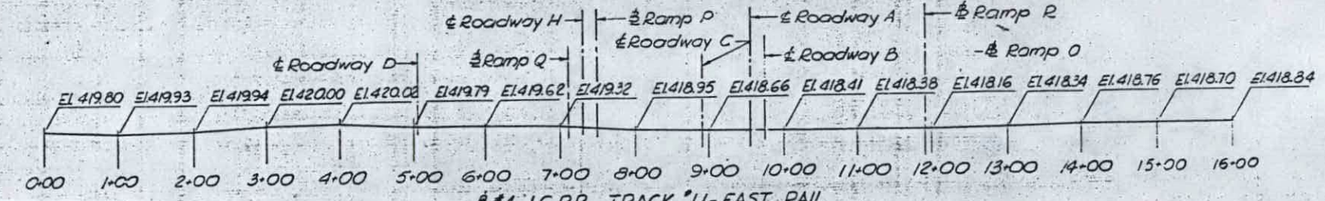

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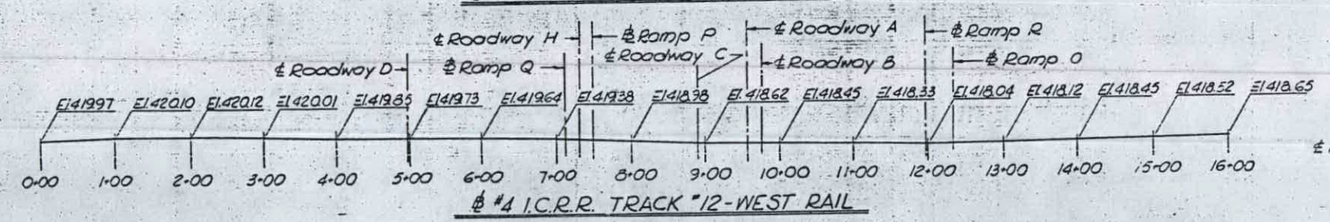

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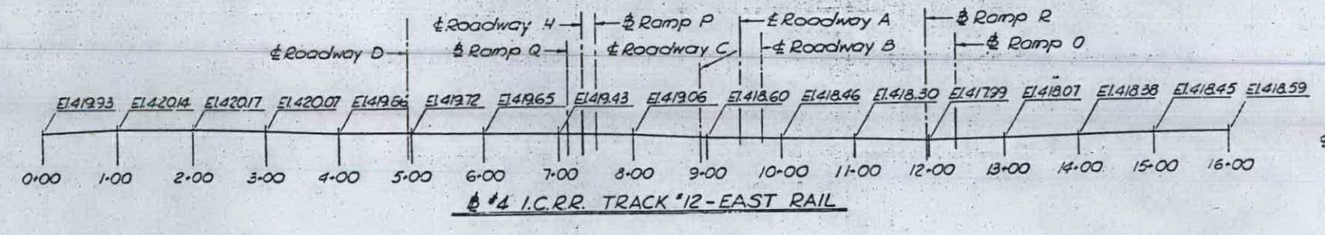

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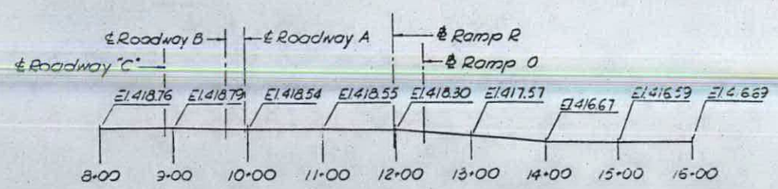

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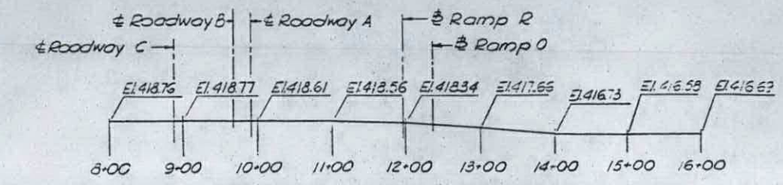

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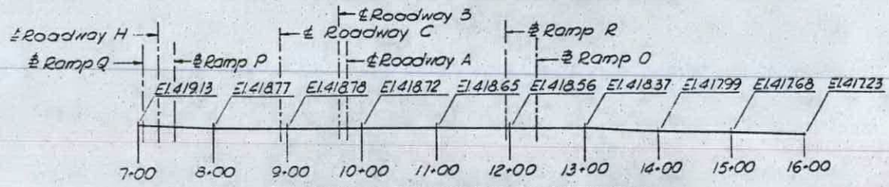

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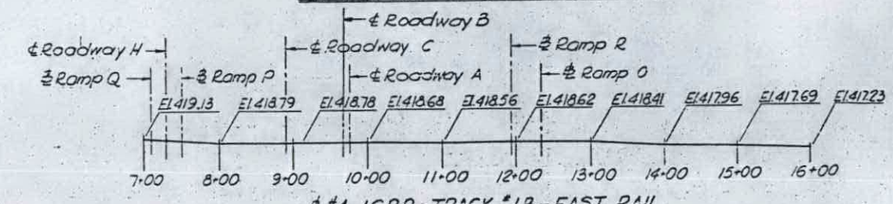

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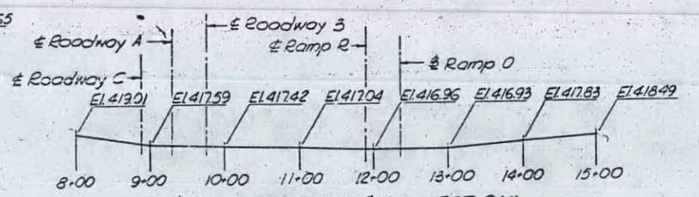

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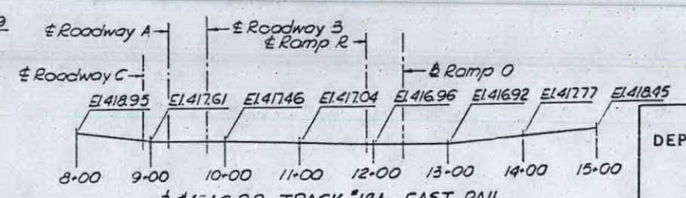


℄ #4 I.C.R.R. TRACK "12A-EAST RAIL

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

ILLINOIS CENTRAL RAILROAD

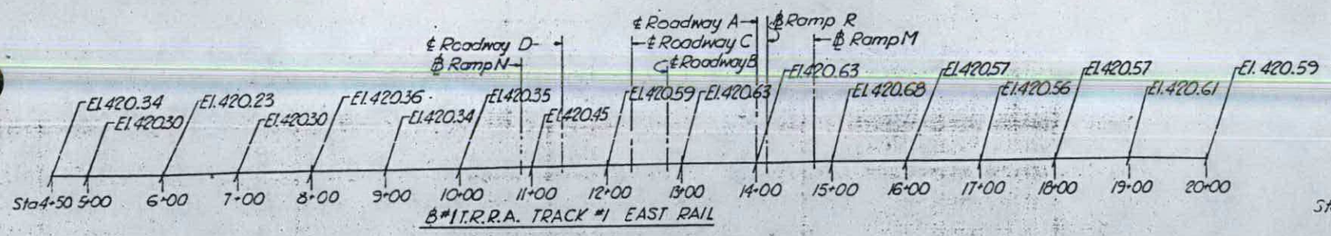
PROFILES

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

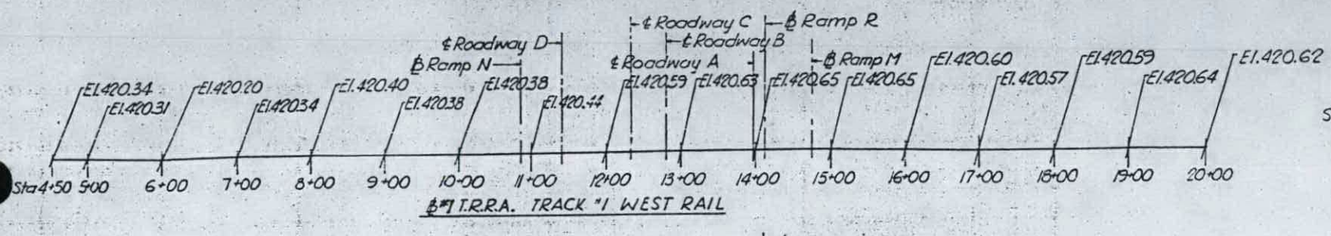
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
461 of 536

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 70	82-3HVB-1.	ST. CLAIR	207	140
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



℄#1 I.T.R.R.A. TRACK #1 EAST RAIL



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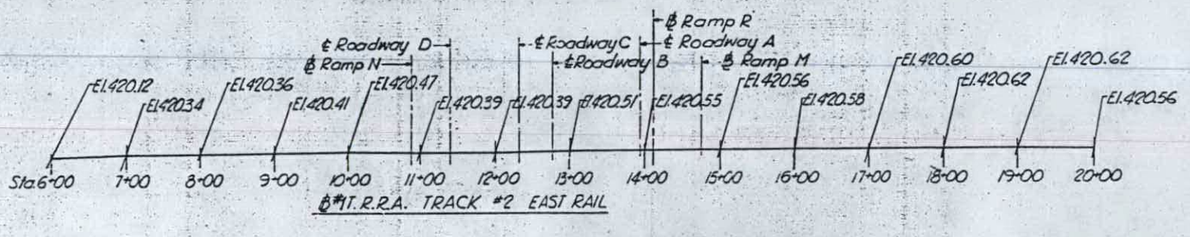

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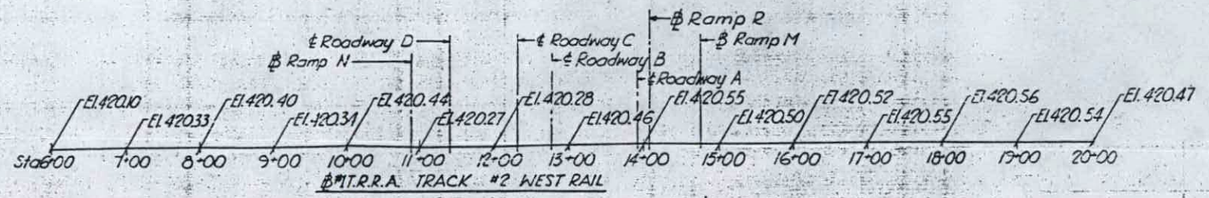

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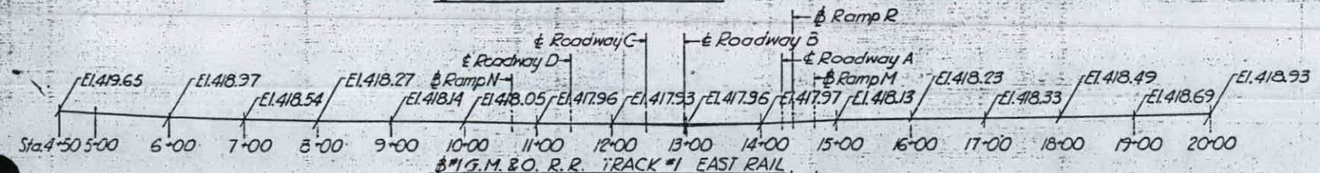
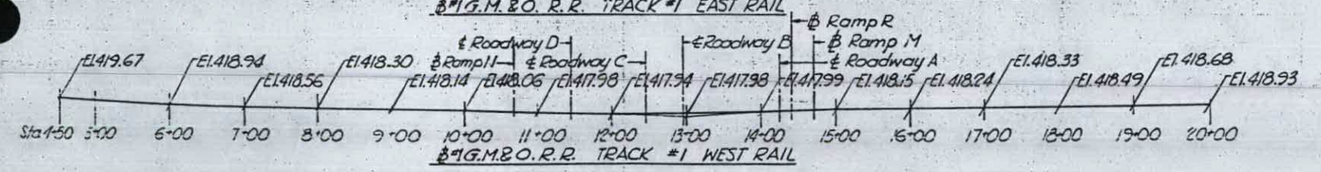


℄#1 G.M.&O.R.R. TRACK #1 EAST RAIL



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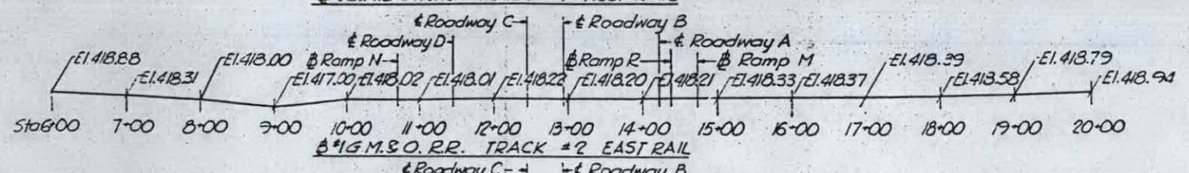

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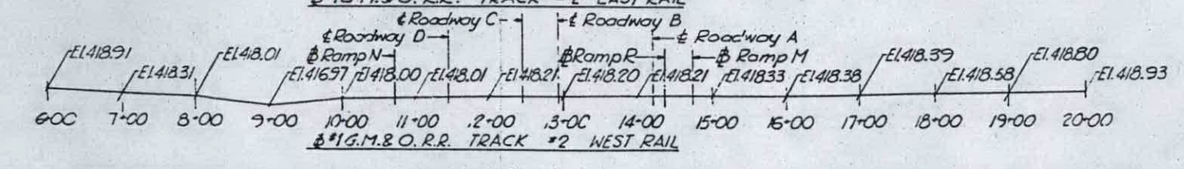

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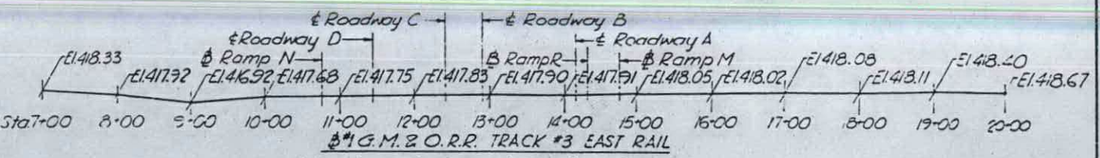

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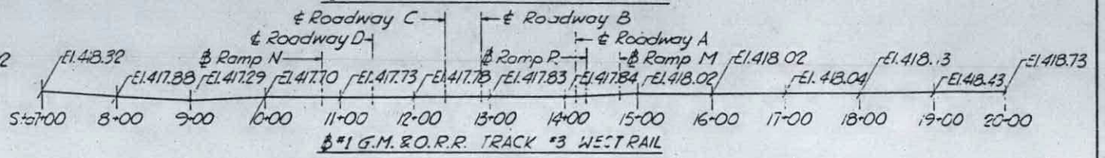
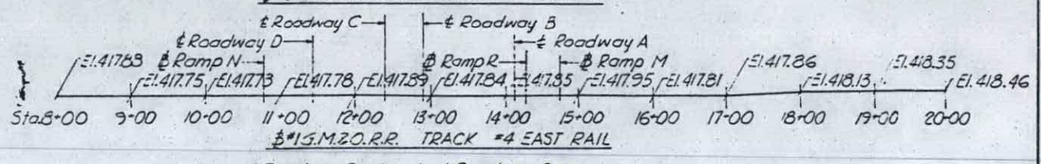
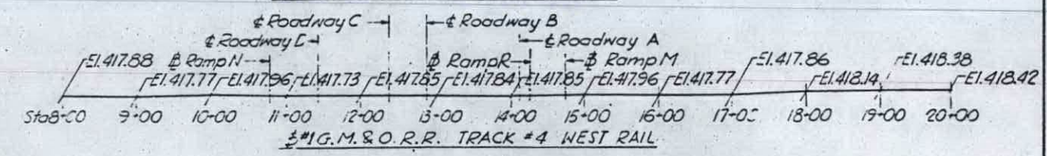


℄#1 G.M.&O.R.R. TRACK #3 WEST RAIL



℄#1 G.M.&O.R.R. TRACK #4 EAST RAIL



℄#1 G.M.&O.R.R. TRACK #4 WEST RAIL

℄#1 PLAN
TERMINAL R.R.
ASSOC. of ST. LOUIS
&
GULF MOBILE & OHIO R.R.

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

TERMINAL R.R. ASSOC. OF ST. LOUIS AND GULF MOBILE & OHIO R.R.

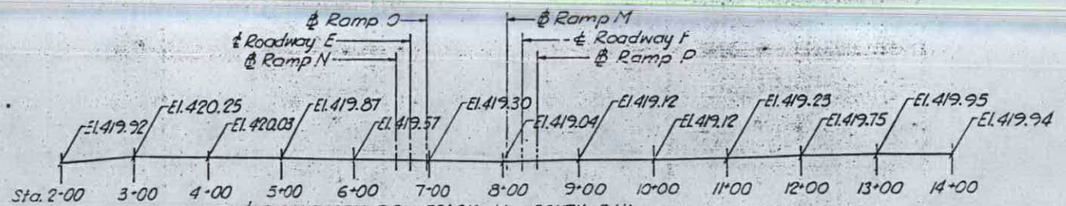
PROFILES

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

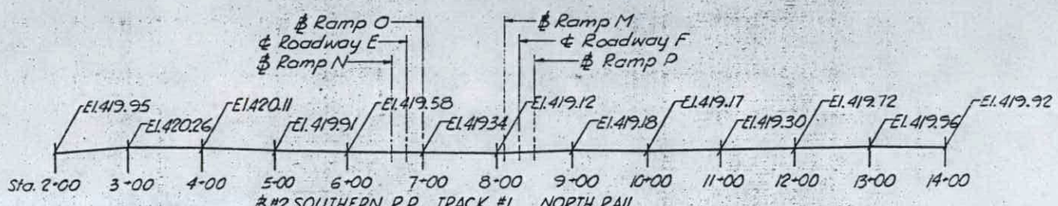
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET
46208 526

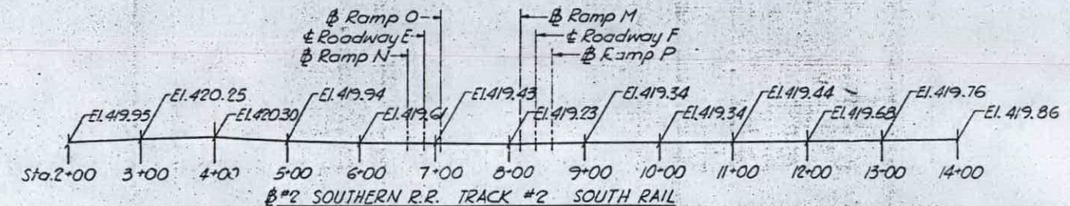
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	141
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



℄ #2 SOUTHERN R.R. TRACK #1 SOUTH RAIL



℄ #2 SOUTHERN R.R. TRACK #1 NORTH RAIL



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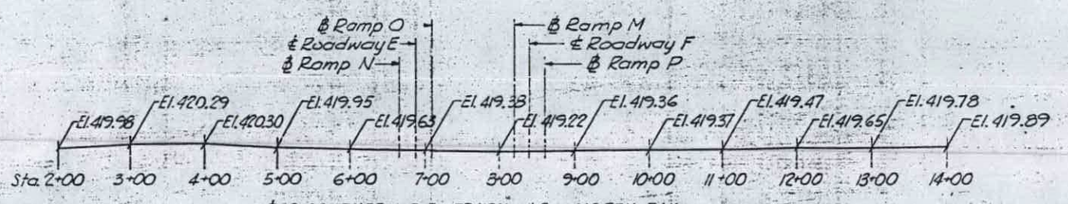

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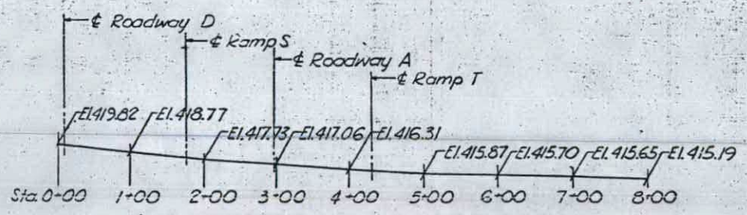
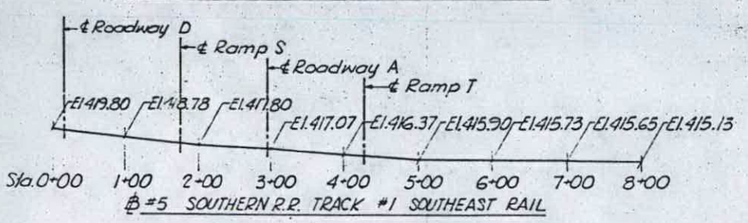
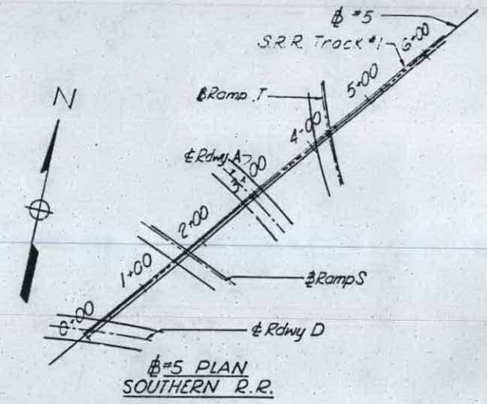


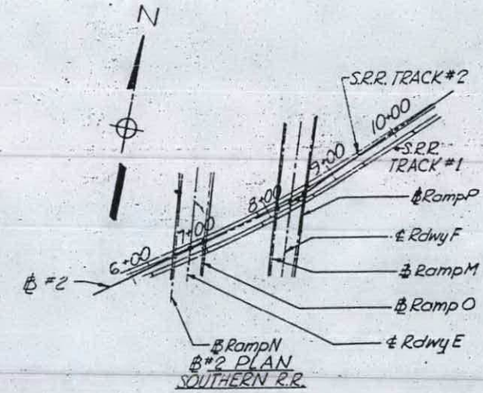
℄ #5 SOUTHERN R.R. TRACK #1 NORTHWEST RAIL



℄ #5 SOUTHERN R.R. TRACK #1 SOUTHEAST RAIL



℄ #5 PLAN
SOUTHERN R.R.



℄ #2 PLAN
SOUTHERN R.R.

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

SOUTHERN RAILROAD

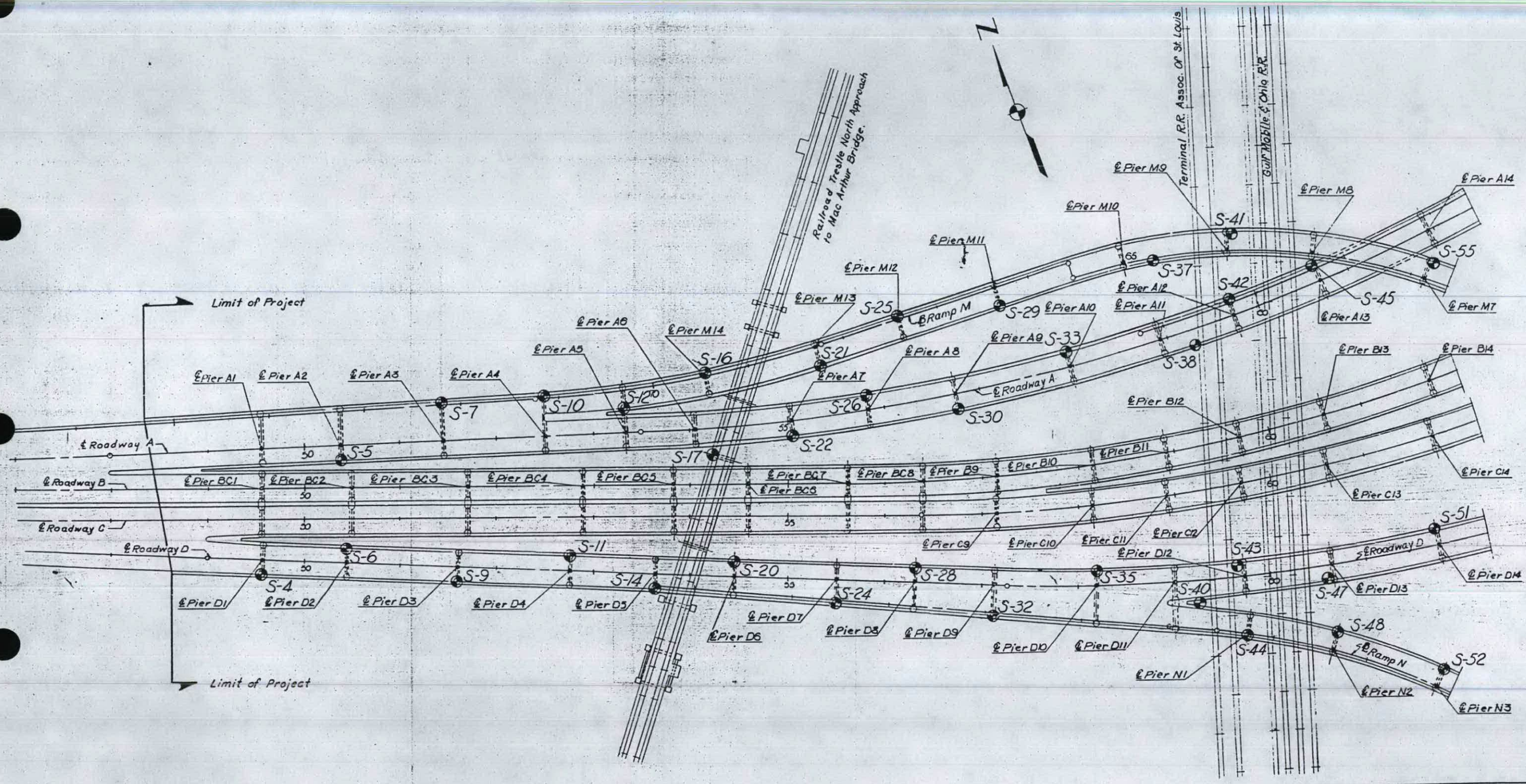
PROFILES

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

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

SHEET 463 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.— 70	82-3HVB-1	ST. CLAIR	207	142
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



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

POPLAR STREET BRIDGE APPROACHES

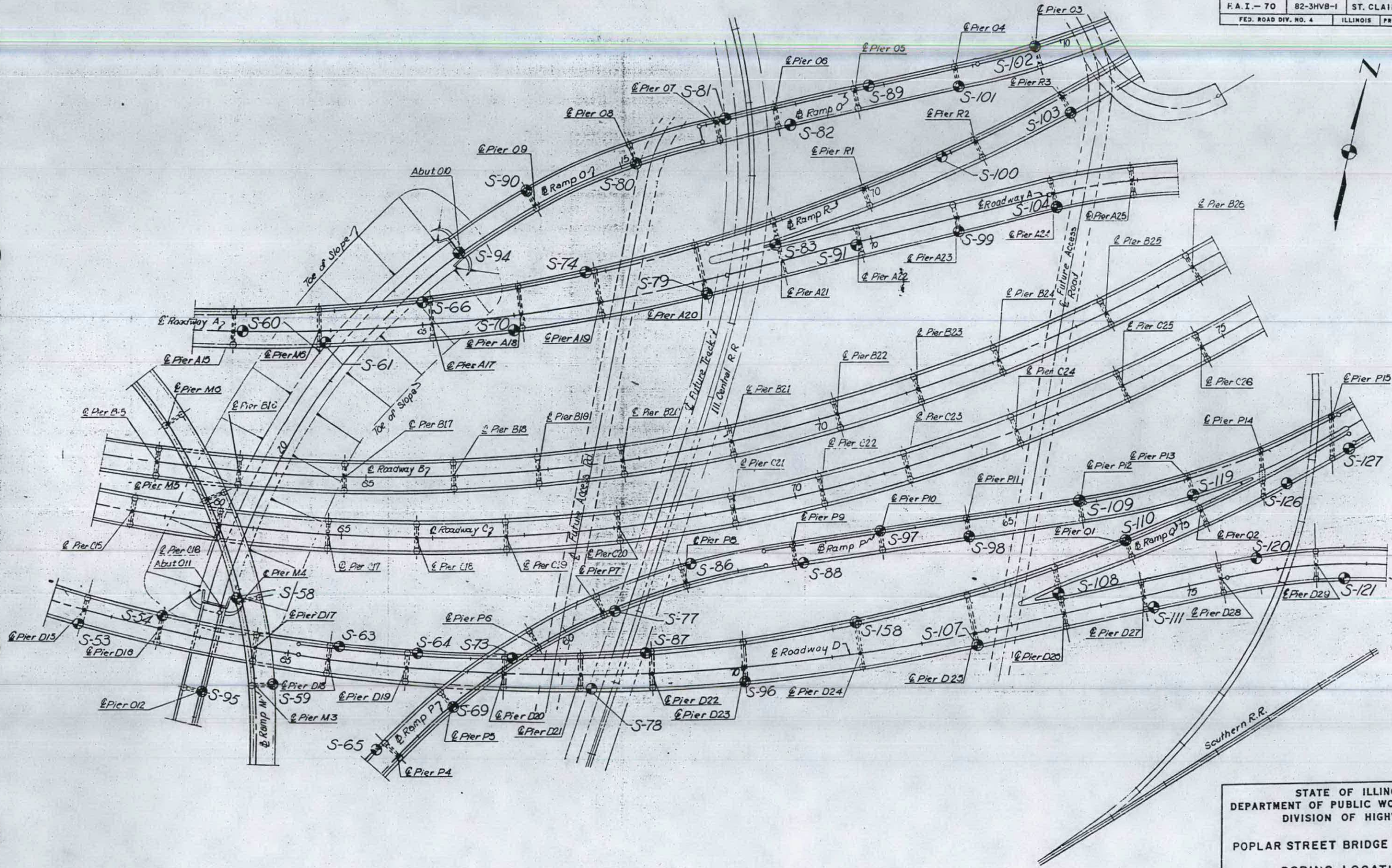
BORING LOCATIONS

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

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

SHEET
46 OF 52

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.– 70	82-3HVB-1	ST. CLAIR	207	143
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



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

POPLAR STREET BRIDGE APPROACHES

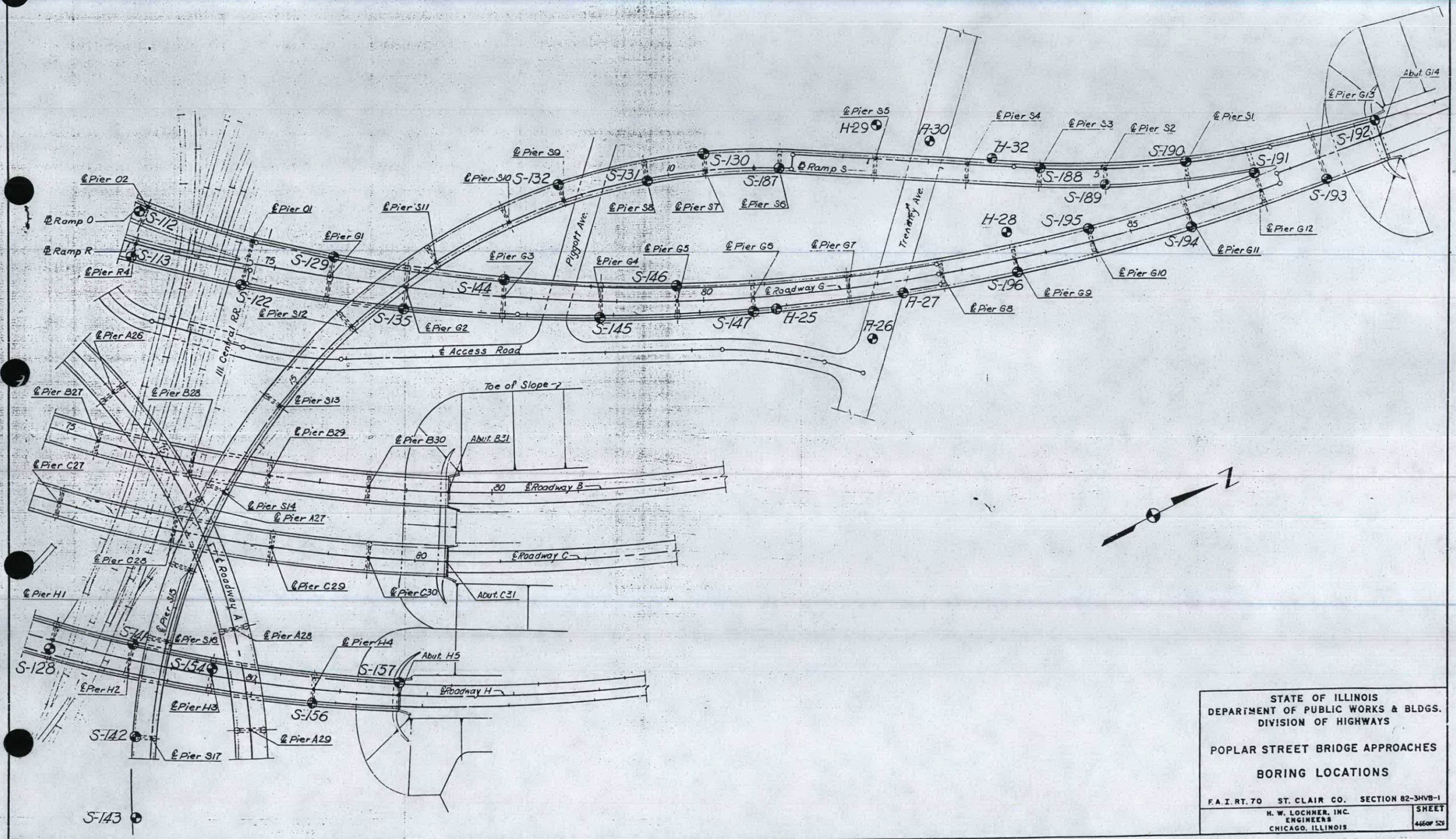
BORING LOCATIONS

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

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

SHEET 4.25 OF 5.26

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. — 70	82-3HVB-1	ST. CLAIR	207	144
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



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

POPLAR STREET BRIDGE APPROACHES

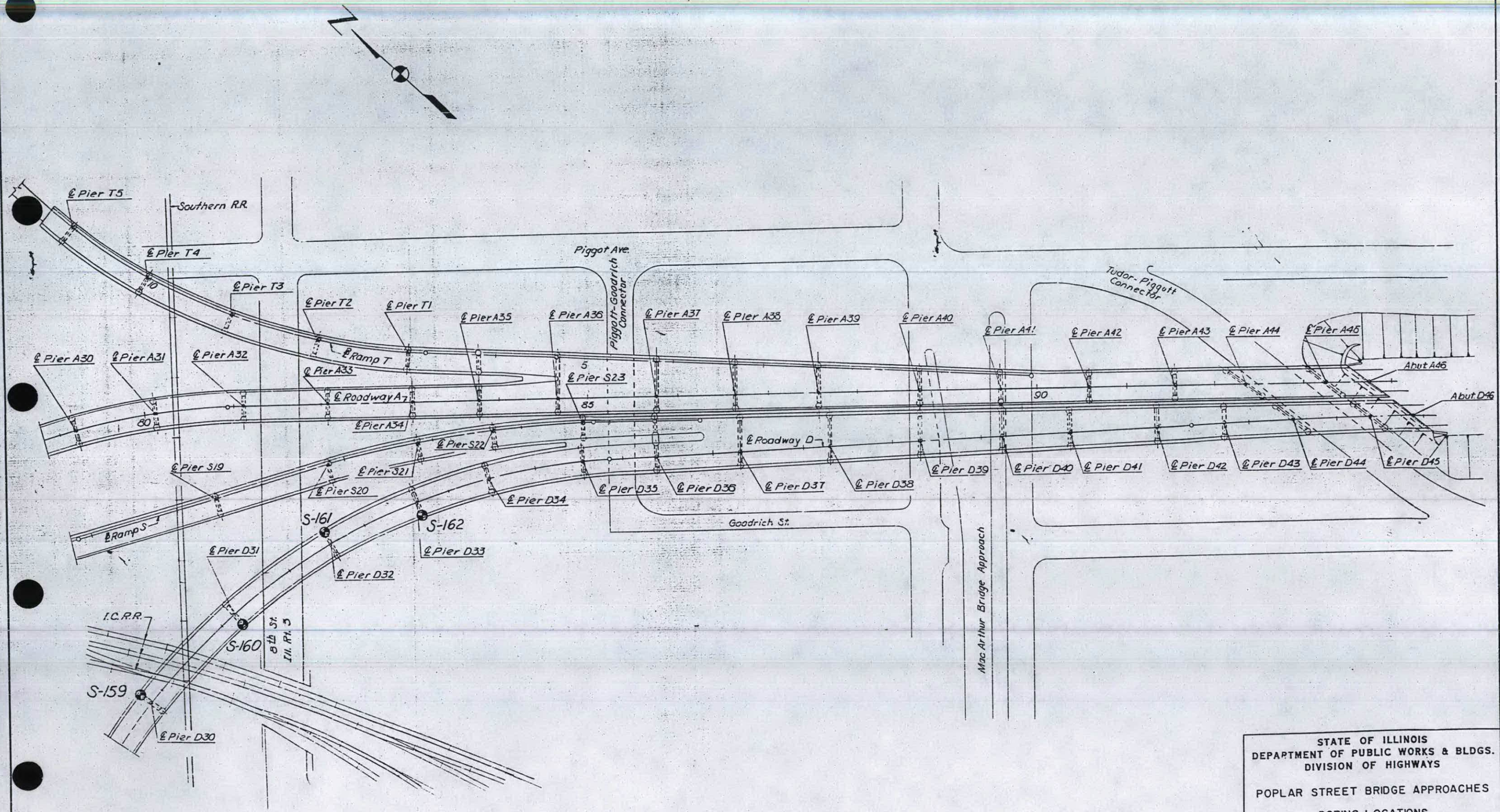
BORING LOCATIONS

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

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

SHEET 4650F 525

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	145
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



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

POPLAR STREET BRIDGE APPROACHES

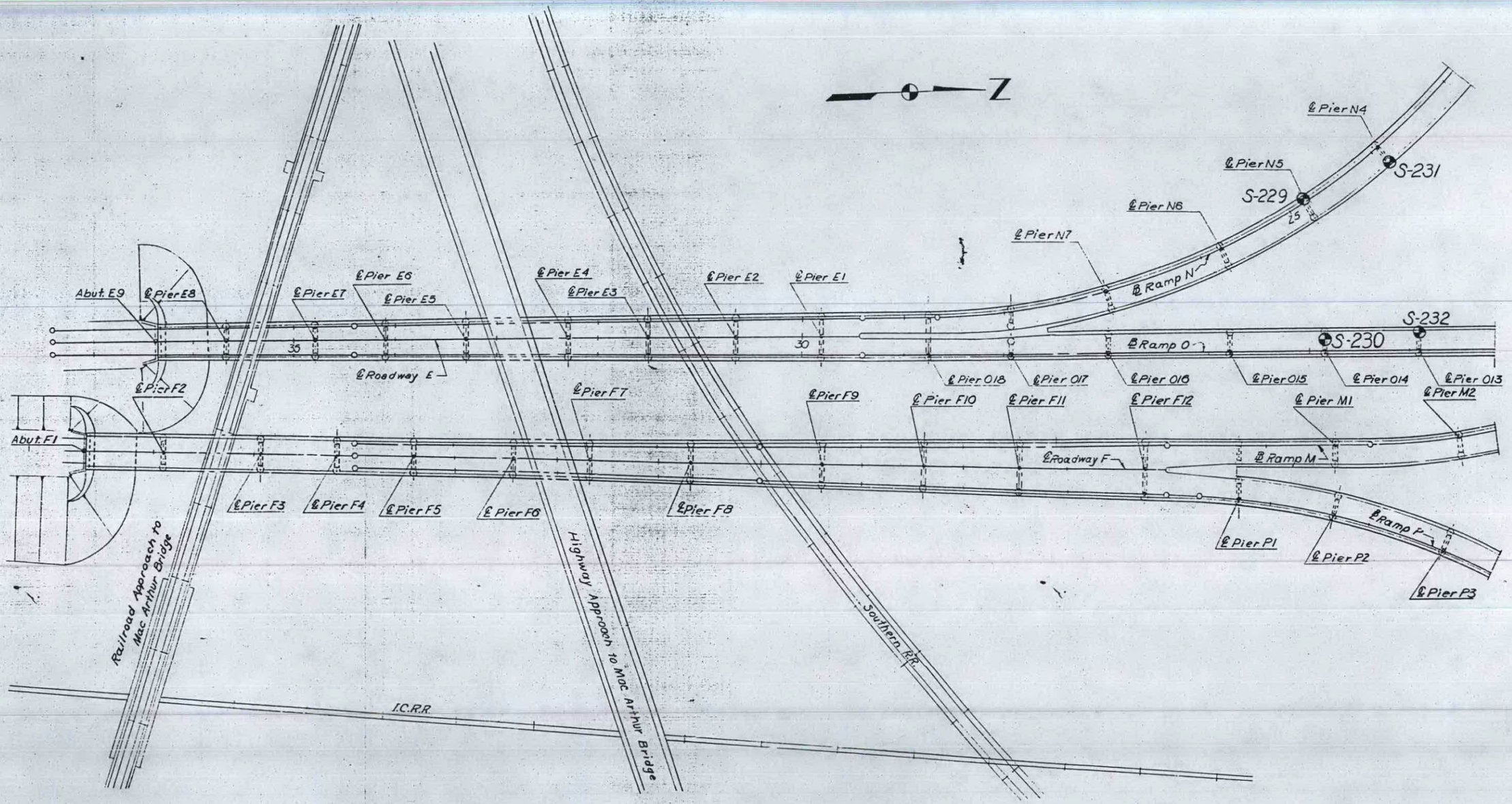
BORING LOCATIONS

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

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

SHEET
467 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	82-3HVB-1	ST. CLAIR	207	146
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



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

POPLAR STREET BRIDGE APPROACHES

BORING LOCATIONS

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

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

SHEET 468 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.– 70	82-3HVB-1	ST. CLAIR	207	170
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No. S–64

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	416.0 0			
		2		
Loose				
	5	8		
black				
		9		
cinders				
and	10	10		
bits of				
brick				
	15	9		
Fill				
	399.0			
Loose black clayey Silt and Cinders Fill.	396.7	9		31
Loose damp brown Silty fine Sand.	396.0 20	7		
Loose brown silty very fine Sand, Gray	393.5	6		
Clay,	25			
trace		2		
sand.	386.0 30	4		
Brown fine silty sand	382.0	3		
	35	16		
Medium				
		49		
wet				
	40	47		
gray				
		20		
fine				
	45	30		
Sand, (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47	39		
trace				
	50	31		
silt.				
	363.5	17		
Dense wet medium Sand, and silt	361.0 55	30		
Dense				
wet				
gray				
fine				
to	60	49		
coarse				
Sand,		53		
trace				
small				
gravel	65	50		
and				
silt.	348.5	60		
Boring stopped by inspector.				
WATER LEVEL 42.0		70		

BORING No. S–65

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	406.4 0			
Black cinders fill	404.9			
Loose damp brown Silt trace clay	403.4	7		21
Loose yellow and brown silty very fine Sand,	5	9		
	397.9	8		
Br. Clayey Silt	397.6 10	6		37
Yellow & Brown v.f. silty Sand	395.4			
Very loose wet gray Silt to very fine Sand	15	4		
	390.4	3		36
Very soft gray silty Clay	387.4	2	.31E	41
Loose medium gray fine Sand, trace silt.	20	3	.22E	43
	383.9	15		
Loose wet gray fine Sand, trace silty clay	25	5		
	373.4	5		
Medium dense wet gray silty fine Sand, trace clay.	35	36		
	362.9	24		
Medium wet gray fine to medium Sand, trace silt.	45	30		
	360.4			

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Dense	47	56		
wet				
gray	50	51		
fine				
to				
coarse		39		
silty				
Sand,	55	50		
trace				
small				
gravel.	348.4	21		
Denwe wet gray fine to coarse Sand, trace small gravel and silt.	60	41		
	344.9			
Dense wet gray fine to medium Sand, trace silt and clay.		16		
	341.465	32		
Boring stopped by Inspector. (about)				
WATER LEVEL (31.0)				

BORING No. S–66

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	408.2 0			
Topsoil	406.7			
Loose damp brown very fine sandy Silt	404.2	5		20
Loose yellow and brown very fine Sand	5	6		
	402.2			
Loose damp yellow & brown very fine Sand, little clayey silt.		9		21
	10	13		23
		10		
	15	7		36
	391.7			
Very soft clayey Silt, trace fine sand.	388.2 20	4		40
		7		
Medium gray very fine Sand, some silt.	25	6		
	379.2	18		
Medium wet gray fine Sand, trace silt.	30	40		
	371.2	29		
Medium wet gray fine Sand, some silt seams.	35	17		
	369.7	25		
Medium wet gray fine Sand, (continued)	40	43		
		33		
	45	23		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47	16		
trace				
silt.	358.2 50	28		
Medium dense gray fine to coarse Sand, trace small gravel and silt.	55	48		
	352.2			
Very dense wet gray fine Sand, trace silt.	350.7	64		
Boring stopped by Inspector.				
WATER LEVEL 31	60			

H – STANDARD PENETRATION TEST NUMBER – BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU – UNCONFINED COMPRESSIVE STRENGTH
W – WATER CONTENT % OVEN-DRY WEIGHT

TYPE FAILURE
B – BULGE
S – SHEAR
E – ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

AP

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

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

SHEET 492 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.- 70	82-3HVB-1	ST. CLAIR	207	171
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No. S-67

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	405.4 0			
Topsoil	404.1			
Loose brown fine silty Sand.	402.6	6		
Stiff brown silty Clay trace fine sand.	5 399.4	5	.448	29
Loose damp brown Silt trace clay some fine sand.	397.4	6		30
Loose brown fine Sand, trace silt and clay.	10 392.4	7		
		8		
Very loose wet gray fine Sand, trace silt.	13 388.4	2		
Very soft gray clayey Silt.	20 384.9	4		44
Loose wet gray silty fine Sand.		9		
Loose wet gray Silt, trace clay and fine sand	25 377.4	7		35
		4		37
Medium wet gray fine Sand, little silt, trace black organic matter	30 372.4	22		
		24		
Soft gray clayey Silt.	35 369.4	23		35
Medium dark grey very fine Sand, little silt, trace organic matter.	40 364.9	20		44
		19		44
Soft gray clayey Silt, some sand, trace organic matter.	359.5 45	7		44
		17		44
Medium (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47			
dense wet gray fine to coarse Sand.	50	49		
		27		
		33		
Decayed wood.	351.4			
	350.6 55			24
Dense wet gray fine Sand, trace silt.	60	46		
		45		
Dense gray fine to coarse Sand, trace silt.	342.4 65	43		
		29		
Medium wet gray fine to coarse Sand, trace silt.	337.9 70	27		
		21		
	330.4 75	23		
Boring stopped by Inspector.				
WATER LEVEL 29				

BORING No. S-68

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	404.5 0			
Topsoil	403.0			
Very loose moist brown silty very fine Sand.	401.5	3		29
Loose wet gray and brown clayey Silt, trace very fine sand.	5 398.0	6	1.13S	33
Medium moist brown very fine Sand, trace silt.	10 393.0	8		
		11		
Loose wet gray very fine sandy Silt.	15	6		
		3	.31b	36
	386.0	3	.23B	35
Loose wet gray fine Sand, trace silt.	20	8		
		2		18
	380.0			
Loose to dense wet gray fine to coarse Sand, trace silt.	25	8		
		14		
		30		11
		33		
	35			44
	368.0			
Medium wet gray fine Sand, trace silt and organic matter.	40	17		
		18		
	364.0			
Medium loose wet gray fine Sand, trace silt; roots noted.	45	20		
		3		
	358.5			
Medium (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47			
wet gray fine to coarse Sand, small gravel, trace silt.	50	29		
		16		
	352.0	35		
Dense wet gray fine to medium Sand, trace silt and small gravel.	55	41		
		53		
	60	43		
		40		
	341.0			
Dense wet brown and gray coarse Sand, small gravel and silt.	65	49		
		22		
	70	23		
		41		
	75	35		
	327.0	23		
Boring stopped by Inspector.				
WATER LEVEL 29.0	80			

BORING No. S-69

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	414.7 0			
Loose to medium damp dark brown cinders, wood and brick	5	5		
		3		
	10	3		
		10		
Fill		15		
	401.2			
Medium stiff damp gray silty Clay	15 399.2	8	1.5E	26
Medium damp yellow & brown fine Sand, trace silt.		11		
	396.2			
Very loose wet yellow and brown fine Sand.	20 394.2	4		
Loose wet gray very fine Sand, little silt.		5		
	391.2			
Very soft gray silty Clay trace fine sand.	25	2	.25E	32
		2	.25E	42
	30 383.7	3	.25E	41
Loose wet gray Silt, trace clay.		7	.31B	31
	380.2			
Medium wet gray fine to coarse Sand, trace organic matter.	35	7		37
		37		
	40	20		
		6		
	369.2 45	11		
Medium (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47			
wet gray coarse Sand, trace small gravel and silt.	50 363.7	27		
		26		
Very dense wet gray fine Sand, trace silt.	361.2	53		
Dense wet gray coarse Sand, trace small gravel & organic matter.	55 358.7	44		
Medium wet gray coarse Sand, some gravel, wood & organic matter.	356.2	24		
Very dense wet gray fine to coarse Sand, trace organic matter.	60	47		
		35		
	351.2			
Very dense wet gray fine to coarse Sand, trace silt & gravel.	65 348.7	75		
Very dense, very wet gray fine Sand, trace silt.	346.2	66		
Dense wet gray Sand, trace silt and wood.	70 342.7	39		
Medium wet gray medium Sand, trace silt and small gravel.	339.7 75	53		44
Boring stopped by Inspector.				
WATER LEVEL 40.5				

N - STANDARD PENETRATION TEST NUMBER - BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU - UNCONFINED COMPRESSIVE STRENGTH
W - WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE
B - BULGE
S - SHEAR
E - ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

AP

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

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

SHEET 493 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. – 70	82-3HVB-1	ST. CLAIR	207	172
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No. S–70

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	407.6	0		
Top soil	406.9			
Loose damp yellow & brown very fine Sand, trace silt.	399.6	5 7 5		
Medium brown clayey Silt.	393.1	10 5	.88S&E	32 20
Loose wet brown fine Sand & Silt	392.1	15 8		35
Very loose wet gray Silt some very fine sand.	389.6	2		41
Very soft gray clayey Silt.	385.6	20 2	.22E	44
Loose damp gray very fine Sand, some silt, trace clay.	381.6	25 5		32
Medium damp gray fine Sand, trace silt.	378.6	26 10		71
Medium dense wet gray fine to medium Sand, trace small gravel	366.6	35 40		22 28
Medium wet gray coarse Sand, trace small gravel	362.6	45		15 21
Dense wet (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued) gray fine to coarse Sand	359.1	47		34
Dense wet gray medium Sand, trace small gravel and silt.	350.1	50 55		84 30 63
Boring stopped by Inspector.				
WATER LEVEL 33'				

BORING No. S–71

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	410.9	0		
Cinders,		5		12 15
Brick, Trace silt		10		18 5 12
Fill	399.4	15		7
Very loose brown clayey silt	398.4			
Soft brown gray clay	394.4	20	.5E	4 30
Very loose brown clayey Silt, trace sand	391.9	25	.7E	5 29
Gray clay trace silt.	389.8		1.2E	11 24
Brown very fine Sand, trace silt.	384.4	10		5 23
Medium fine Sand, trace silt.	376.9	15 40		26 28
Medium to dense (continued)		45		23 38

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued) fine to coarse Sand, trace small gravel and silt	354.4	47 50		16 16 17 22 53 57 45
Boring stopped by Inspector				
WATER LEVEL 39.8'				

BORING No. S–72

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	417.5	0		
Cinder fill.	405.5	5 10	1.0	7 9 33
Red and brown Silt and very fine Sand	404.5			
Cinder Fill	400.5	15		9
Gray Clay	399.5	20		3 13
Brown Silty fine Sand	394.0	25		5
Loose gray silty Clay	386.0	25 4 10	1.0E 0.5 .7E	7 33 27
Medium gray very fine Sand	373.5	35 40 45		13 11 10 11 12 31
Medium gray (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued) fine to coarse silty Sand, trace small gravel.	363.5	47 50		26 29 21
Dense gray fine to medium Sand, trace silt.	361.0	55		35
Dense gray fine to coarse silty Sand, trace small gravel.	354.0	60		25 50 37
Log wood	352.5	65		19
Dense gray fine to coarse Sand, trace small gravel.	349.0			34
Very dense gray fine to medium Sand, trace silt.	344.5	70		64 65
Very dense gray fine to coarse Sand	340.0	75		69 28
Boring stopped by Inspector.				
WATER LEVEL 40.0'				

N – STANDARD PENETRATION TEST NUMBER – BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU – UNCONFINED COMPRESSIVE STRENGTH
W – WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE
B – BULGE
S – SHEAR
E – ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

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

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

SHEET 494 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.- 70	82-3HVB-1	ST. CLAIR	207	173
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT ,		

BORING No. S-73

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
Ground Surface	415.6 0			
Medium loose black Cinders, brick, gravel, sand, and silt Fill	5	11		
	10	9		
Medium moist brown fine Sand.	399.1			
Gray clayey Silt	398.6			
Loose moist brown fine Silty Sand.	20	7		29
	394.1			
Medium damp gray fine Sand, trace silt.	25	17		
	30	17		
	383.1	15		
Medium damp brown fine Sand, trace silt.	35	22		
	376.6	23		
Dense moist gray fine to medium Sand, little small gravel, trace organic matter.	40	31		
	372.1	20		
Medium dense wet gray medium to coarse Sand, trace small	45	30		
(continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
(continued) gravel.	368.1 47	25		
Dense wet gray fine to coarse Sand, trace small gravel and silt.	362.6 50	32		
Gray coarse Sand and small gravel	359.6 55	13		
Dense wet gray coarse Sand, trace silt	60	27		
and small gravel with organic matter noted	70	26		
	342.6	33		
Very dense wet gray fine to medium Sand, trace silt.	338.1 75	85		
		44		
Boring stopped by Inspector.				
WATER LEVEL 40.5				

BORING No. S-74

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
Ground Surface	417.6 0			
Cinder, glass, and miscellaneous Fill	413.1 5	14		
Loose yellow and brown fine Sand, trace silt.	403.6 10	5		
Soft br. silty clay	403.1			
	15	9		40
Medium yellow and brown fine to medium Sand, trace silt.	20	14		
	25	17		
	30	29		
	35	37		
	379.6	24		
Dense gray and brown fine to coarse Sand, trace small to medium gravel.	40	42		
	375.6			
Dense gray medium Sand, trace silt.	45	40		
	372.6	28		
Medium (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
(continued)	47	28		
gray coarse Sand; some small gravel, trace silt.	50	43		
	361.6 55	25		
Medium gray fine Sand, trace silt	360.3	26		
Grey coarse Sand, trace small gravel, & silt.	358.6			
Dense gr. fine to coarse Sand, tr silt	357.6 60	34		
Boring stopped by Inspector.				
WATER LEVEL 41.0				

BORING No. S-75

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
Ground Surface	415.1 0			
Cinder, Rock and Coal Fill	419.1 5	14		
Medium damp brown silty clay	404.1 10	4		
Loose to medium	15	9		
damp yellow and brown very fine Sand, trace silt; organic matter noted.	20	14		
	25	25		
	30	33		
	382.1	25		
Very dense damp gray fine Sand.	377.1 35	63		
Very dense damp yellow and brown medium Sand, trace small gravel	376.6	60		
Dense damp gray fine to medium Sand, trace small gravel.	374.1 40	49		
Medium dense wet gray fine to coarse Sand, trace small gravel (continued)	45	43 26		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
(continued)	47	22		
and silt.	50	22		
	342.6	35		
Boring stopped by Inspector.				
WATER LEVEL 46.0				

H - STANDARD PENETRATION TEST NUMBER - BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU - UNCONFINED COMPRESSIVE STRENGTH
W - WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE
B - BULGE
S - SHEAR
E - ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

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

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

SHEET 495 OF 526

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I.- 70	82-3HVB-1	ST. CLAIR	207	174
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No.S-76

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	416.8 0			
Cinder, Brick, Coal and Brick	5	13		
Fill	410.8			
Brown silty Sand, trace clay	408.8	3		27
Loose damp yellow and brown very fine Sand, trace silt.	10	5		
	402.8			
	15	6		
Loose		7		
to				
dense	20	9		
brown				
very		16		
fine				
Sand,	25	17		
trace		28		
silt				
with	30	26		
organic				
matter		26		
noted.	35	38		
		25		
	40	52		
	374.8			
Dense wet gray fine to coarse (continued)	45	54		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47			
Sand,		34		
trace				
small	50			
gravel				
and silt.	364.3	34		
Boring stopped by Inspector.				
WATER LEVEL 42.0				

BORING No.S-77

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	414.1 0			
Top soil	413.1			
Cinders and Miscellaneous	5	9		
fill	407.1			
		4		
Loose	10	10		
to		7		
dense	15	9		
		20		
yellow				
and	20	15		
		14		
brown	25	16		
		12		
fine	30	21		
Sand,		24		
trace	35	28		
		38		
silt.	375.6			
Medium dense wet gray fine to coarse (continued)	40	43		
		23		
	45	42		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47			
Sand,		32		
trace				
small	50	23		
gravel				
and				
silt.		29		
	360.1			
Medium dense wet gray fine	55	19		
Sand,	60	16		37
trace				
silt.	352.1			
Very dense gray fine to coarse Sand, trace small gravel.	65	55		42
Boring stopped by Inspector.				
WATER LEVEL 38.0.				

BORING No.S-78

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	415.6 0			
Topsoil	414.1			
Black cinders and brick fragments fill.	411.1	6		
	5	2		
Medium		11		
damp	10	13		
yellow		13		
	15	18		
and		18		
brown	20	22		
fine		29		
	25	23		
Sand,		32		
trace	30	23		
silt.		24		
	35	37		
	379.6			
Dense wet gray fine to coarse Sand, some small (continued)	40	38		
		38		
	45	37		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47			
gravel,		39		
trace				
silt.	365.4 50	31		
Boring stopped by Inspector.				
WATER LEVEL 38.0				

H - STANDARD PENETRATION TEST NUMBER - BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU - UNCONFINED COMPRESSIVE STRENGTH
W - WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE
B - BULGE
S - SHEAR
E - ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

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

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

SHEET 496 OF 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.– 70	82-3HVB-1	ST. CLAIR	207	177
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No.S-85

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	414.5 0			
Slag and cinder fill	409.7 5	38		
Very brown Silt.	404.5 10	3		30
Loose to medium brown fine Sand, trace silt.	392.0	6		
Medium brown fine Sand, trace silt.	382.5	15	11	
Dense brown fine Sand,	379.5 35	25	11	
Very dense gray medium Sand, trace small gravel.	377.0	59		
Medium gray fine to medium Sand, trace small gravel and silt.	369.7 45	52		
Medium gray fine to coarse Sand, trace small gravel (continued		42		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued) & silt w/org. matter	367.0 47	20		
Medium gray medium to coarse Sand	364.5 50	15		
Dense gray fine to coarse Sand, with large gravel	354.5 60	26		
		47		
		23		
		58		
		40		
Boring stopped by Inspector.				
WATER LEVEL 40.0				

BORING No.S-86

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	414.5 0			
Black Cinder Fill	403.5 10	7		
		5		
		6		
		49		
Medium brown very fine Sand,	402.0	15		
Medium brown very fine Sand, trace silt.	381.0	15	10	
		8		
		20	16	
		24		
		23	23	
		15		
		30	17	
		20		
Dense gray fine Sand, trace organic matter.	371.5	48		
		41		
		40	30	
		41		
Medium dense gray fine to medium (continued)		45	42	

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued) Sand, trace small gravel & silt.	366.5 47	25		
Medium gray fine to coarse Sand	361.0 50	17		
Dense gray fine Sand	359.5 55	31		
		57		
Boring stopped by Inspector.				
WATER LEVEL 38.0				

BORING No.S-87

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	414.5 0			
Cinders.		16		
Slag.	409.5 5	8		
		6		
Brick	404.5 10	8		
Fill	399.5 15	5		
		8		
	398.0			
Medium		10		
	394.5 20	17		
brown fine Sand, trace silt.	389.5 25	28		
		21		
		24		
		22		
		25		
		35		
	376.0			
Dense brown fine Sand, trace small gravel.	376.5	33		
Dense gray fine to medium Sand, trace small gravel (continued	368.5	50		
		35		
		33		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47			
Medium gray fine to medium Sand, trace small gravel and silt.	50 363.5	25 17		
Medium gray fine to coarse Sand	55 358.5	26 29		
Medium gray fine Sand	356.5	39		
Medium gray fine to medium Sand, trace silt.	60 351.0	32 21		
Gray fine Sand	349.5 65	98		
Boring stopped by Inspector				
WATER LEVEL 39.0				

N - STANDARD PENETRATION TEST NUMBER - BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU - UNCONFINED COMPRESSIVE - STRENGTH W - WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE B - BULGE S - SHEAR E - ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

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

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

SHEET 499 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.- 70	82-3HVB-1	ST. CLAIR	207	178
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No. S-88

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	414.3 0			
Cinder, Bricks, Miscellaneous Fill	408.1 5	4		
Loose		5		
	10	7		
medium		9		
brown	15	11		
fine		15		
Sand.	20	16		
		19		
trace	25	21		
silt.	385.8	23		
Medium brown fine Sand and silt	384.8			
Dense	10	28		
brown				
fine to		39		
medium				
Sand,	15	35		
trace silt.	378.3			
Medium brown medium to coarse Sand trace small gravel.	375.0	25		
	40	20		
Dense				
grey		24		
fine				
to				
medium	45	28		
Sand, (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47	31		
trace				
small	50	27		
gravel				
and		34		
silt.	359.8			
Dense gray fine to coarse Sand,	55	33		
	356.8	47		
Boring stopped by Inspector.				
WATER LEVEL 19.0.	60			

BORING No. S-89

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	414.7 0			
Cinders		5		
Fill	408.7 5	15		
Very loose brown fine Sand	406.2	3		
Loose brown fine Sand trace silt.	403.7 10	8		
Brown fine Sand, trace silt and cinders	400.7	5		
Stiff	15	5	.75	24
gray				
silty		8	1.2	33
Clay				
trace fine Sand.	20	5	1.0	26
	394.7			
Brown very fine Sand, trace silt.	25	13 17		
	387.2	21		
Very dense gray fine Sand, trace silt.	30	15 53		
	381.2			
Very dense gray fine Sand, trace silt and small gravel.	35	57 48		
	40	17		
	373.7			
Medium gray fine Sand, trace silt.	371.7	23		
Medium gray fine Sand, trace small gravel and silt.	45	20		
	368.7			
(continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47	17		
Medium gray fine to coarse Sand, trace small gravel and silt.	50	20		
		32		
	55	29		
	358.7			
Very dense gray fine to coarse Sand, trace silt	60	25 100		
	352.2	104		
Boring stopped by Inspector.				
WATER LEVEL 19.5	65			

BORING No. S-90

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	417.2 0			
Brick & Clay Fill	416.2			
Loose damp brown very fine Sand, trace silt and clay.	5	6 5 3		16
	408.2			
Soft moist brown and gray clayey Silt.	10	5 9	.70S	32 40
	403.7			
Loose wet brown very fine Sand, some silt.	15	9		
	401.2			
Loose damp brown very fine Silty Sand.	399.7	4		23
Soft gray silt trace very fine sand, and clay	20	6 5	.37B	44
	392.7			
Loose damp gray very fine Sand, some silt.	25	8		
	390.2			
Loose damp gray fine Sand.		9		
	30	8		
	386.2			
Medium dense wet gray fine to medium Sand, trace silt.	35	42 68 28		
	40	28		
	375.7			
Medium wet gray fine to coarse Sand, trace small gravel.	373.2	24		
Med. wet gr.f. Sand, sm. grvl. silt&decayed wd.	45	18		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47	17		
Gray fine Sand, trace silt.	50	11		
	366.2			
Loose wet gray fine to coarse Sand, trace small gravel & silt with wood.	364.2	11		
Gray fine to medium Sand, some medium gravel.	55	40 47		
	358.7			
	60	63		
Very dense wet gray fine Sand, trace small gravel	65	83 92		
		80		
and silt.	20	51 46		
	343.7			
Dense wet gray fine to coarse Sand, trace sm. gravel.	342.2	75		
Boring stopped by Inspector.				
WATER LEVEL 30.0.				

N - STANDARD PENETRATION TEST NUMBER - BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU - UNCONFINED COMPRESSIVE STRENGTH
W - WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE
B - BULGE
S - SHEAR
E - ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

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

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

SHEET 500 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.- 70	82-3HVB-1	ST. CLAIR	207	181
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No. S-97

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	414.6 0			
Cinder and Miscellaneous Fill	406.6	10 5	6	3
Loose to dense grayish brown very fine Sand, trace silt.	383.6	10 15 25 20	7 8 9 29 31	34 27
Medium dense grey very fine Sand, trace silt.	376.6	35	28 48	
Medium to very dense grey fine to coarse Sand, trace silt.	373.6	40	24 55	
Very dense grey fine Sand, trace silt and organic matter.	368.6	45	79 60	
Very (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47	59		
dense gray fine to coarse Sand, trace small gravel.	364.6 50	63		
Boring stopped by Inspector.				
WATER LEVEL 17.0				

BORING No. S-98

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	415.0 0			
Cinder Fill	411.2	8		
Broken concrete Fill	409.0 5			
Brick, sand and cinder Fill	406.0	5		
Loose black fine Sand, brick and cinder Fill	403.5 10	7		
Brown very fine silty Sand, trace clay.	397.7 15	12	17	
Medium yellow and brown fine Sand, trace silt.	380.5 35	22 20 20 29 18 19 16 23		
Medium dense grey fine to medium Sand	373.5 40	58 43		
Dense grey fine to medium Sand	371.0 45	59 48		
Dense grey fine (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(cont'd) Sand	368.0 47	35		
Dense gray fine to coarse Sand, some small gravel.	365.0 50	32		
Boring stopped by Inspector.				
WATER LEVEL 38.5				

BORING No. S-99

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	410.0 0			
Cinders, and Brick Fill	403.5 5	7 4		
Loose yel.Abrn.v.f. Sand & Cinder Fill	402.5	8		
Loose yellow and brown very fine Sand, black organic matter noted.	399.0 10	6		
Loose gray fine Sand.	396.0	9		
Soft gray clayey Silt.	391.0 15	2	30	
Medium dense yellow and brown fine Sand, trace silt.	378.0 20 25 10	16 16 26 20 43	44	
Dense grey fine to medium Sand, trace silt.	372.0 35	35 36 36		
Medium gray fine Sand, trace organic matter noted.	367.0 40	23 22		
Medium gray fine (continued)		45	27	

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
(continued)	47	26		
to medium Sand, trace silt.	50 359.0	32		
Dense gray fine to coarse Sand, trace silt.	355.0 55	30 44		
Boring stopped by Inspector.				
WATER LEVEL 32.0				

N - STANDARD PENETRATION TEST NUMBER - BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU - UNCONFINED COMPRESSIVE STRENGTH
W - WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE
B - BULGE
S - SHEAR
E - ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

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

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

SHEET 503 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. – 70	82-3HVB-1	ST. CLAIR	207	185
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No. S-109

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	413.8 0			
Cinder,		7		
Sand,	5	16		
Bricks,		35		
and	10	5		
Miscellaneous		4		
Fill.	15	6		
	397.8			
Gray silt with very fine sand	20	9		40
	392.8	12		
Very soft gray silty, some fine sand.	25	4		
	386.8	2		44
Very soft grey silty Clay	30	3	1.1E	44
	382.8	7		
Dense gray medium Sand, trace silt.	35	15		
	377.8	43		
Dense gray fine Sand	375.8	33		
Medium dense gray fine Sand, some silt.	40	26		
	372.3			
Very dense gray medium to coarse Sand	370.8	68		
V. Dense gray fine Sand, trace gravel.	45	55		
	367.8			

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Dense gray fine Sand	47	38		
	362.3			
Medium to dense gray fine Sand, trace silt.	55	36		
	355.3	21		41
Medium gray medium to coarse Sand, trace silt and gravel.	60	25		
	352.8			
Gray fine Sand	351.3	44		
Boring stopped by Inspector.				
WATER LEVEL 47.0				

BORING No. S-110

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Ground Surface	411.2 0			
Cinder, slag, brick, Fill	406.2 5	16		
Very loose brown & gray very fine Sandy Silt	402.2	4		
Loose cinder, slag, brick, w/seams brown very fine sandy silt	397.2	14		6
Loose gray very fine silty Sand, with organic silt lenses.	390.2	15		10
Very soft gray silt, some fine Sand and organic matter.	382.0	20		4
Medium gray fine to medium Sand, trace silt.	373.0	30		10
Medium gray fine to medium Sand, with some gravel, trace silt.	365.2	40		22
		45		33

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T/S.F.	W %
Gray Medium dense fine to coarse Sand.	47	65		
	364.2			
Medium dense fine to coarse Sand, trace silt, few small to medium gravels.	55	37		
	356.7	23		44
Dense gray silty fine Sand, few organic lenses	348.2	60		21
Dense gray coarse Sand with small gravel, trace silt	343.7	65		30
				26
Boring stopped by Inspector.				
WATER LEVEL 33.0				

BORING No. S-111

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
Ground Surface	409.9 0			
Cinders,		10		
Slag,	5	16		
		25		
and	10	13		
Brick		2		
Fill	15	14		
	393.4			
Medium gray very fine silty Sand	390.9	12		
Very soft gray clayey Silt, trace fine sand	30	2		
	378.9	3	.25E	34
Very loose gray very fine silty sand	376.4	3	.25E	34
Medium gray fine Sand, trace silt.	40	35		40
	368.9	39		
Medium dense gray fine to medium Sand, trace gravel.		32		
		43		17
(continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
(continued)	47	24		
coarse Sand	50	16		
	358.9			
Medium gray coarse Sand, trace small gravel.	55	29		
	353.9	16		
Medium dark gray fine to coarse Sand, trace small gravel and silt	60	18		
	348.9	16		
Dense wet gray Sand	346.9	42		
Medium gray very fine to coarse Sand, trace small gravel an silt.	334.9	65		35
		20		19
Dense gray fine to coarse Sand & small gravel.	327.4	80		36
		28		28
Boring stopped by Inspector.				
WATER LEVEL 33.0				

N – STANDARD PENETRATION TEST NUMBER – BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU – UNCONFINED COMPRESSIVE STRENGTH
W – WATER CONTENT % OVER DRY WEIGHT

TYPE FAILURE
B – BULGE
S – SHEAR
E – ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

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

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

SHEET
507 of 526

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.- 70	82-3HVB-1	ST. CLAIR	207	187
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		

BORING No. S-118

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
Ground Surface	412.3 0			
Slag	409.8			
Black cinders, Sand, and miscellaneous fill	406.8 5	5		
Loose deep brown fine Sand, some silt.	405.3			
Soft dark brown silty Clay, trace fine sand.	397.8 10	6		
		8	.7	27
		5	.6	31
Loose brown fine Sand, trace silt	395.3 15	9		
Loose brown sandy Silt.	392.8	7		
Medium yellow and brown very fine Sand, trace silt.	386.3 25	23		
		15		
		13		
Medium grey sandy Silt.	383.3	14		
Medium gray fine Sand, trace silt.	381.3 30	15		
Loose gray Silt, and very fine Sand.	378.3	8		
Dense to very dense gray fine Sand,	35	47		
		33		
	40	33		
		40		
	45	54		
trace (continued)				

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
(continued)	47	122		
silt.	361.8 50	33		
Medium gray fine to coarse Sand, trace small gravel, trace silt.	351.3			
		27		
		27		
	60	11		
		22		
Medium grey fine to coarse Sand and small gravel, trace silt.	347.8			
Dense gray fine Sand,	65 343.3	45		
		34		
Dense to very dense gray fine to coarse Sand, trace silt and small gravel.	70	40		
		45		
	75	37		
		33		
	333.3			
Dense gray fine to coarse Sand, with small to large gravel, trace silt.	80 330.3	41		
		29		
Medium to v.dense gray fine to coarse Sand, with small gravel, trace silt, some limestone fragments.	85	45		
		43		
	90	27		
	319.8	50		
Boring stopped by Inspector.				
WATER LEVEL 35.0				

BORING No. S-119

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
Ground Surface	410.6 0			
Cinders, Brick, Sand Fill and Concrete Slag from 2' to 3.2'	406.1			
Loose brown very fine Sand, some silt.	5 404.6	7		
Soft grey and brown silty Clay	402.1	6		
Loose to medium grey and brown very fine Sand,	10	5		
		6	1.5	30
	15	9	2.0	27
with silt seams.	391.1	12		
Medium gray fine Sand,	20	10		
	25	9		
		14		
	30	14		
trace silt.	377.6	14		
Dense grey medium Sand, trace silt.	35 371.6	44		
		43		
	40	18		
Medium gray medium to coarse Sand, (continued)	45	13		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
(continued)	47	35		
trace silt and wood chips.	50 357.6	22		
		16		
Loose gray fine to coarse Sand, trace silt.	55 352.1	9		
		10		
V.Loose gray small gravel, some fine to coarse Sand, 1/8 to 2" wood seams.	60 347.1	2		
Very loose grey medium Sand, tr.silt 1/8 - 2" wood seam	345.6 65	12		
Dense gray fine to medium Sand, trace	70	7		
silt.	339.6	33		
Dense gray fine to medium Sand, trace silt.	75 334.6	68		
Very dense fine to medium grey Sand, trace silt & small gravel.	331.6	104		
Medium dense gray fine to coarse Sand, trace silt and small to medium gravel.	80	22		
		28		
	85	30		
		80		
	90	45		
		55		
	95	19		
		35		
	310.6 100	21		
Boring stopped by Inspector.				
WATER LEVEL 32.5				

BORING No. S-120

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
Ground Surface	411.8 0			
Cinders, bricks, clay and slag Fill	5 404.8	51		
Stiff gray and brown silty Clay	10 400.8	9	1.0	27
		5	.5	27
Medium brown clayey Silt, some fine sand.	396.8 15	4	.5	34
		11		
Medium gray and brown fine silty Sand.	20 388.8	32		
		7		
Medium dense gray fine to medium Sand, trace silt.	25	14		
		21		
	30	25		
		23		
	35	32		
		30		
	40	37		
		23		
	367.8			
Medium gray medium Sand, (continued)	45	21		

IDENTIFICATION	ELEV. DEPTH	N BLOWS	QU T.S.F.	W %
(continued) trace silt.	47 363.3	25		
Dense	50	45		
medium gray		42		
fine	55	25		
Sand, trace silt.	60 349.3	45		
		26		
Boring stopped by Inspector.				
WATER LEVEL 41.0				

N - STANDARD PENETRATION TEST NUMBER - BLOWS TO DRIVE 2" O.D. SPLIT SPOON SAMPLER 12" WITH 140# WT. FALLING 30"

QU - UNCONFINED COMPRESSIVE STRENGTH
W - WATER CONTENT % OVEN DRY WEIGHT

TYPE FAILURE
B - BULGE
S - SHEAR
E - ESTIMATED VALUE

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

POPLAR STREET BRIDGE APPROACHES

BORING LOGS

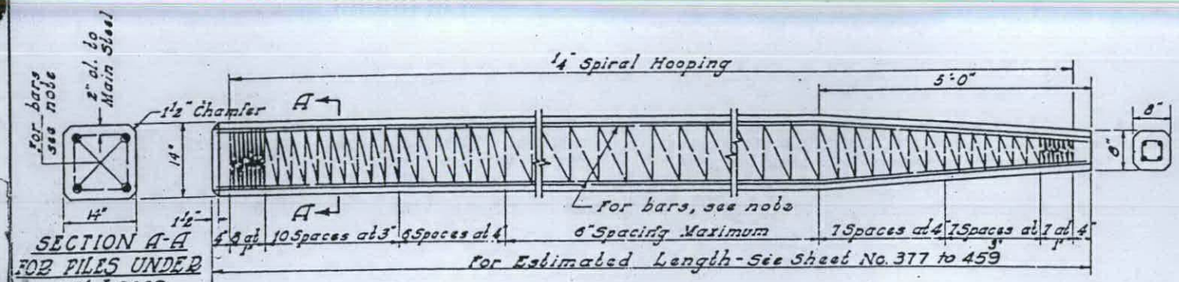
D P

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

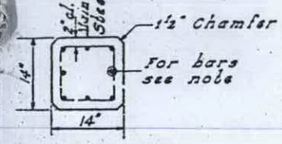
H. W. LOCHNER, INC.
ENGINEERS
CHICAGO, ILLINOIS

SHEET 509 OF 526

FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.—70	82-3HVB-1	ST. CLAIR	207	204
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT		



SECTION A-A
FOR PILES UNDER 45' LONG

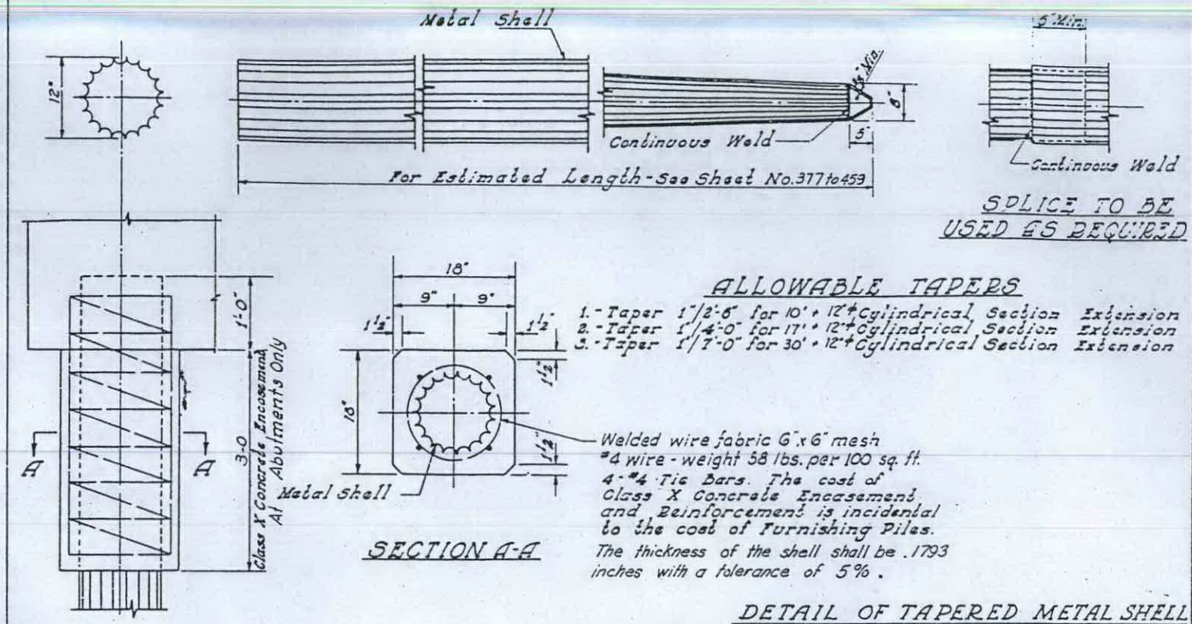


SECTION A-A
FOR PILES 45' OR MORE

NOTE:-
For 14:14" Piles 45' long or more use 6-#9 bars -4 for the full length and 4 to the point of bevel. For 14"-14" Piles under 45'-0" long use 4-#9 bars the full length.

HANDLING:- For Pile lengths up to 45 Ft. use 2 slings placed at a distance of 0.21 L* from each end. For Piles longer than 45 Ft., use three slings placed at a distance of 0.12 L* from each end and at mid-point of pile.
*L = Over all length of pile to be handled

DETAIL OF PRECAST CONCRETE PILES



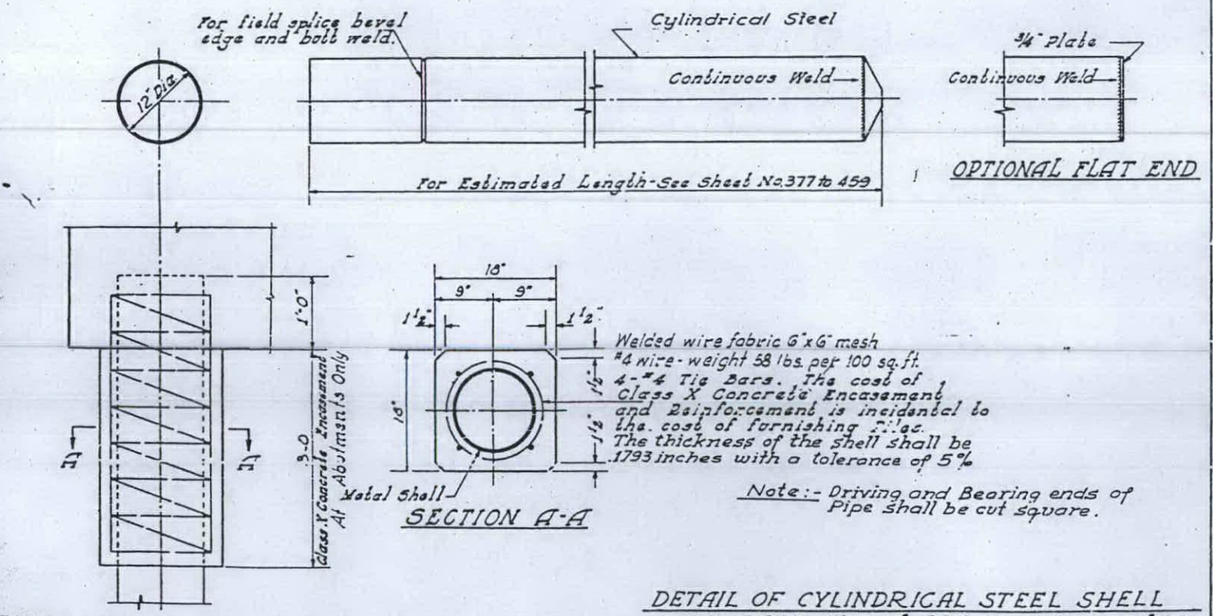
SPLICE TO BE USED AS REQUIRED

ALLOWABLE TAPERS

1.- Taper 1"/2'-6" for 10' + 12"+Cylindrical Section Extension
2.- Taper 1"/4'-0" for 17' + 12"+Cylindrical Section Extension
3.- Taper 1"/7'-0" for 30' + 12"+Cylindrical Section Extension

SECTION A-A

DETAIL OF TAPERED METAL SHELL FOR CAST IN PLACE CONC. PILES.



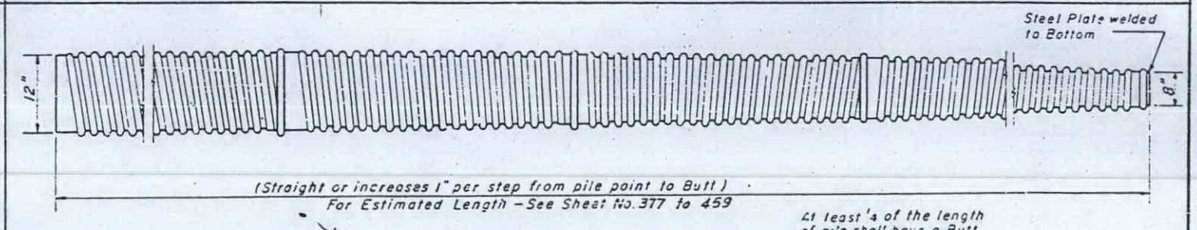
SECTION A-A

Note:- Driving and Bearing ends of Pipe shall be cut square.

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

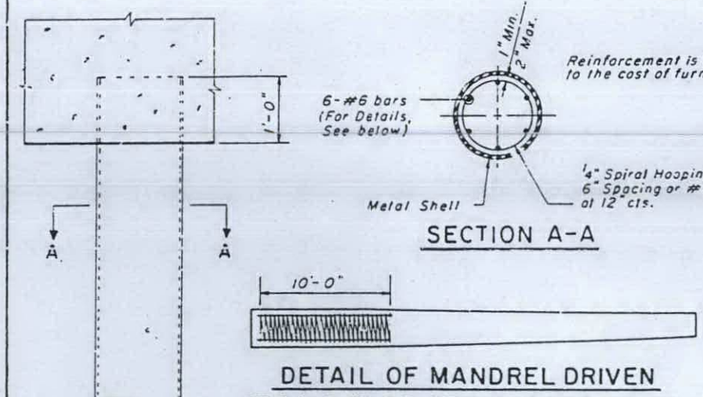
¾" Plate
Continuous Weld

OPTIONAL FLAT END

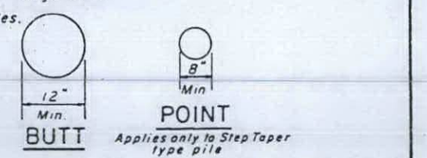


At least ¼ of the length of pile shall have a Butt diameter equal to or greater than 12"

Gages are furnished to suit soil conditions (14 Gage Min.)



SECTION A-A



DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES

DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED BY

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

CONCRETE PILE DETAILS

POPLAR STREET BRIDGE APPROACHES

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