This set contains repair/reconstruction details for the
the following bridges

SEE SHEET NO. 7 FOR INDEX OF SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

* 82-3HVB-2R-1

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	1
		ILLINOIS	PROJECT IR-70-1(155)1	

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
PROJECT IR - 70 - 1(155)1
ST. CLAIR COUNTY

C-98-106-86

LOCATION MAP

1000 0 1000 2000 3000
SCALE IN FEET

NET LENGTH OF PROJECT - 5,865.89 FT. - 1.111 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED September 30, 88
Dale C Klehr
DISTRICT ENGINEER
EXAMINED 10-28, 1988
Gary D. Gould
PASSED 1988
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)

ANTHONY W. NIEMEYER
NO. 62-39027

CARLOS A. LIZANA-FARIAS
NO. 81-3956

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

CONTRACT NO. 42345

ST. CLAIR COUNTY SECTION 82-3HVB-2R-1 F.A.I. ROUTE 70 Shts 1-106

SEE SHEET NO. 7 FOR
INDEX OF SHEETS

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

F.A.I. RTE.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-1	ST. CLAIR	320	1A

IR-70-1(155)
P-98-021-85

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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
PROJECT IR - 70 - 1(155)
ST. CLAIR COUNTY
C-98-106-86

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 OF SECTION INDICATED THUS:—

LOCATION MAP

1000 0 1000 2000 3000
SCALE IN FEET

NET LENGTH OF PROJECT — 5,865.89 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 17.6(C-20)

AS REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
September 30, 88
Dale C. Kiehr
11-29-88
Gary D. Gould
12-2-88
R. Hill
12-2-88
Director of Highways

ANTHONY W. NEMEYER
NO. 62-39027

CARLOS A. LIZANA-FARIAS
NO. 81-3956

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR

CONTRACT NO. 42345

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

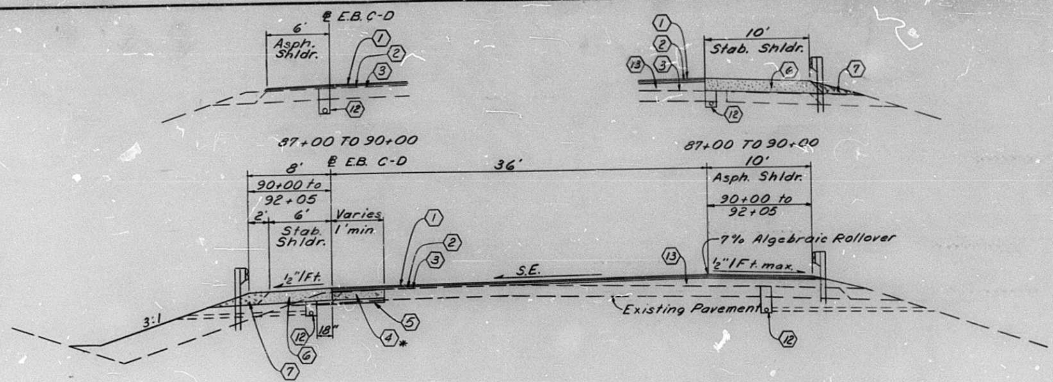
Revised 1-25-89, M.H.B.

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	2
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

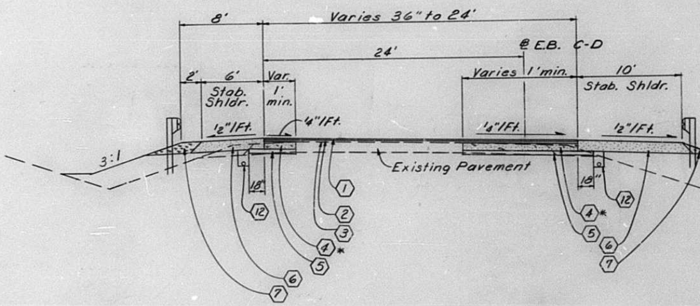
TYPICAL SECTION LEGEND

1. Bituminous Concrete Surface Course, Mixture E, Class I, Type 1, 1½"
2. Bituminous Concrete Binder Course, ½" min.
3. Bituminous Material (Prime Coat)
4. Portland Cement Concrete Base Course Widening 10"
5. Stabilized Sub-Base 4"
6. Bituminous Shoulders 8"
7. Aggregate Shoulders, Type B
8. Bituminous Concrete Surface Course, Mixture E, Class I, 1½"
9. Bituminous Concrete Binder Course, 1½" min.
10. Portland Cement Concrete Base Course 10"
11. Portland Cement Concrete Pavement 10"
12. Sub-Surface Drains, See Std. 2327
13. Leveling Binder (Machine Method) Var. Thickness, Range 1" min. - 3" max.

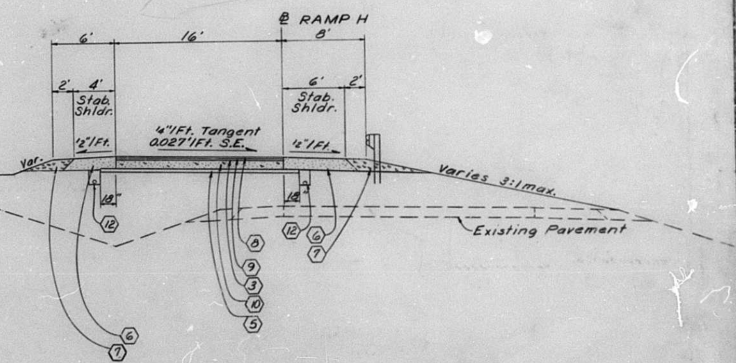


EASTBOUND C-D
87+00 TO 92+05

*When 6' or Greater use (10)



EASTBOUND C-D
92+05 TO 95+45

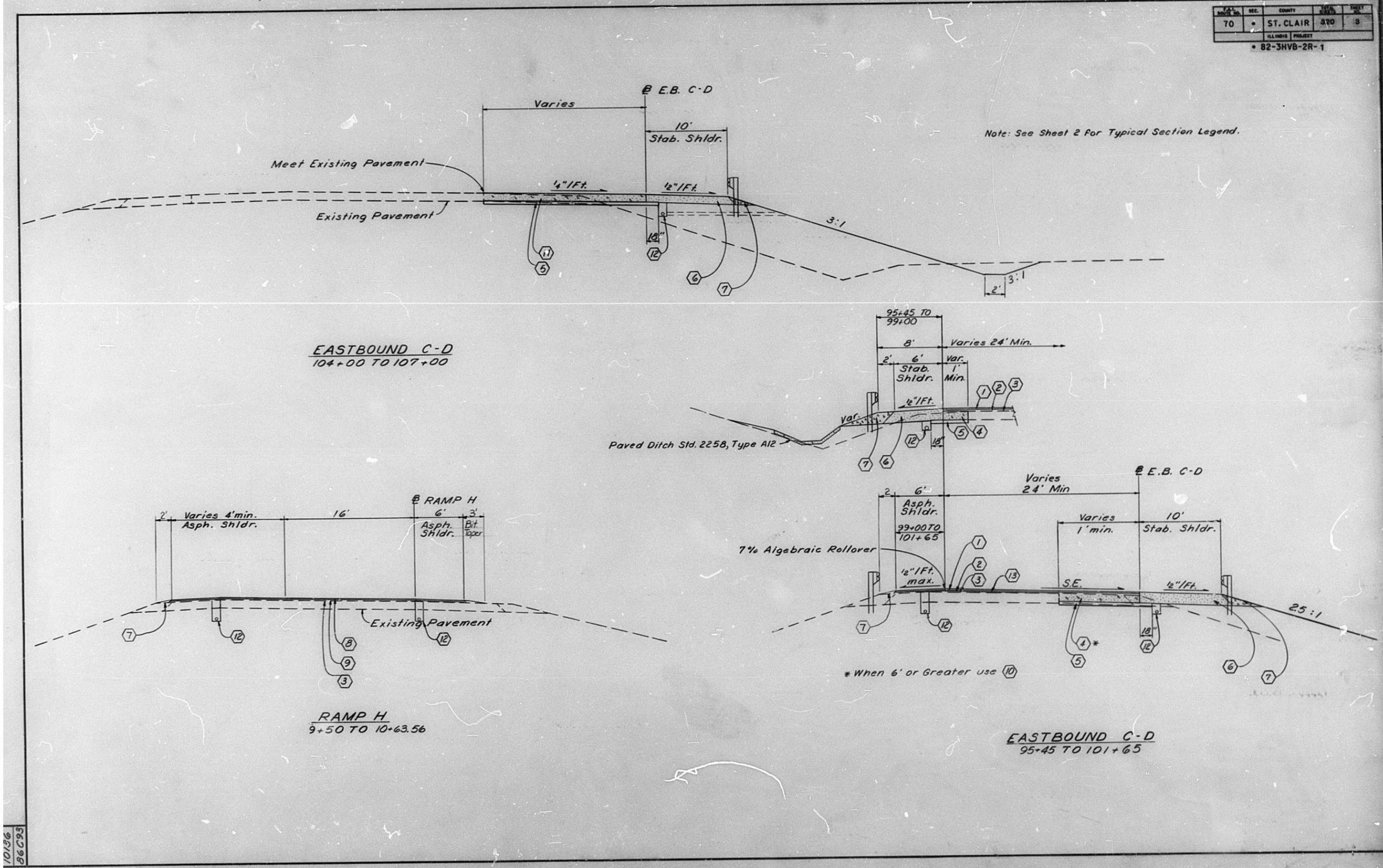


RAMP H
0+00 TO 9+50

STRUCTURAL DESIGN INFORMATION

C-D's 2 Lanes:
Structural Design Traffic: Year 1997
PV = 7160 SU = 740 MU = 1620
Road/Street Classification: Class I
Percent of Structural Design Traffic in Design Lane:
P = 60 S = 90 M = 90
Traffic Factor: TF = 17.6

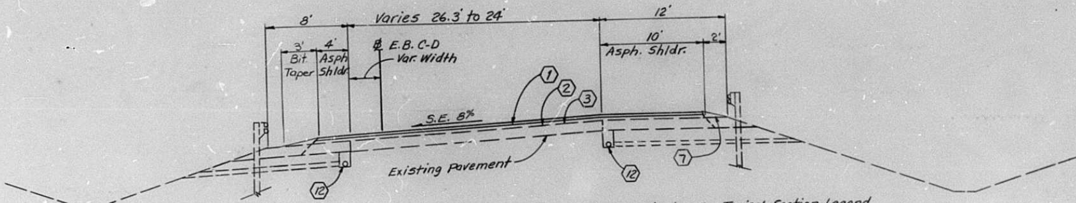
Ramps:
Structural Design Traffic: Year 1997
PV = 4060 SU = 90 MU = 180
Road/Street Classification: Class I
Percent of Structural Design Traffic in Design Lane:
P = 100 S = 100 M = 100
Traffic Factor: TF = 2.20



F.A.I. ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS | SHEET NO.
70 | • | ST. CLAIR | 320 | 3
ILLINOIS PROJECT
• 82-3HVB-2R-1
Note: See Sheet 2 for Typical Section Legend.
℄ E.B. C-D
Varies
10'
Stab. Shldr.
Meet Existing Pavement
Existing Pavement
1/4"/Ft.
1/2"/Ft.
3:1
18"
2'
3:1
EASTBOUND C-D
104+00 TO 107+00
95+45 TO 99+00
8'
Varies 24' Min.
2'
6'
Stab. Shldr.
Var. 1' Min.
1/2"/Ft.
Var.
Paved Ditch Std. 2258, Type A12
18"
℄ RAMP H
2'
Varies 4' min.
Asph. Shldr.
16'
6'
Asph. Shldr.
3'
Bit. Taper
Existing Pavement
RAMP H
9+50 TO 10+63.56
Varies
24' Min
℄ E.B. C-D
2
6'
Asph. Shldr.
99+00 TO 101+65
7% Algebraic Rollover
1/2"/Ft. max.
Varies
1' min.
10'
Stab. Shldr.
S.E.
1/2"/Ft.
2.5:1
18"
* When 6' or Greater use 10
EASTBOUND C-D
95+45 TO 101+65
10136
86C93

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	4
		ILLINOIS PROJECT		

• 82-3HVB-2R-1



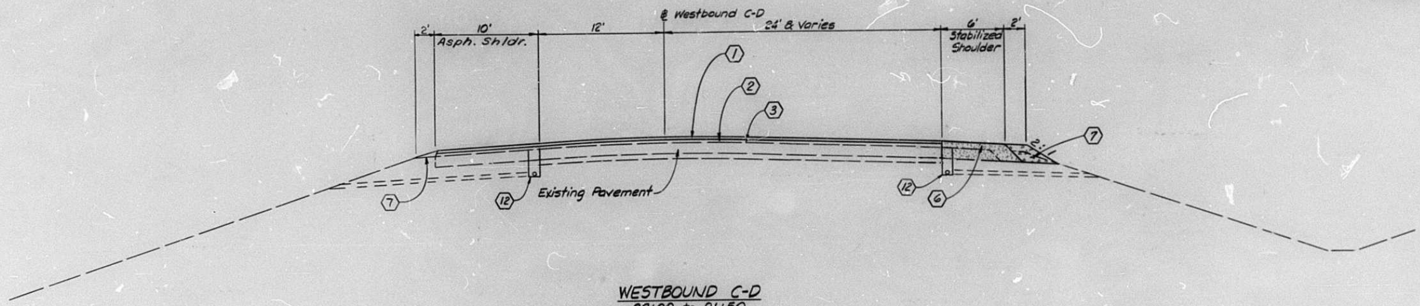
Note: See Sheet 2 For Typical Section Legend

EASTBOUND C-D
81+60 TO 85+17

87C41

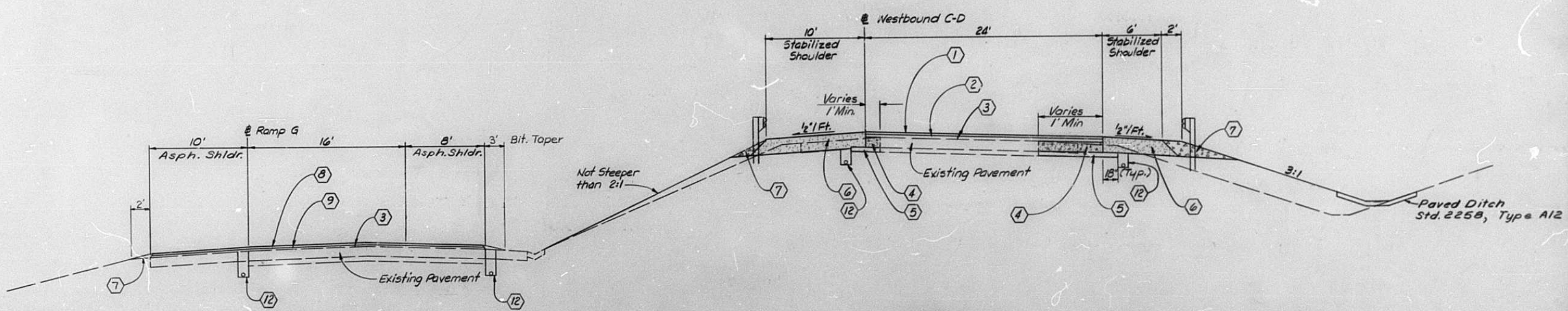
F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	5
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1



WESTBOUND C-D
88+00 to 91+50

Note: See Sheet 2 for Typical Section Legend.



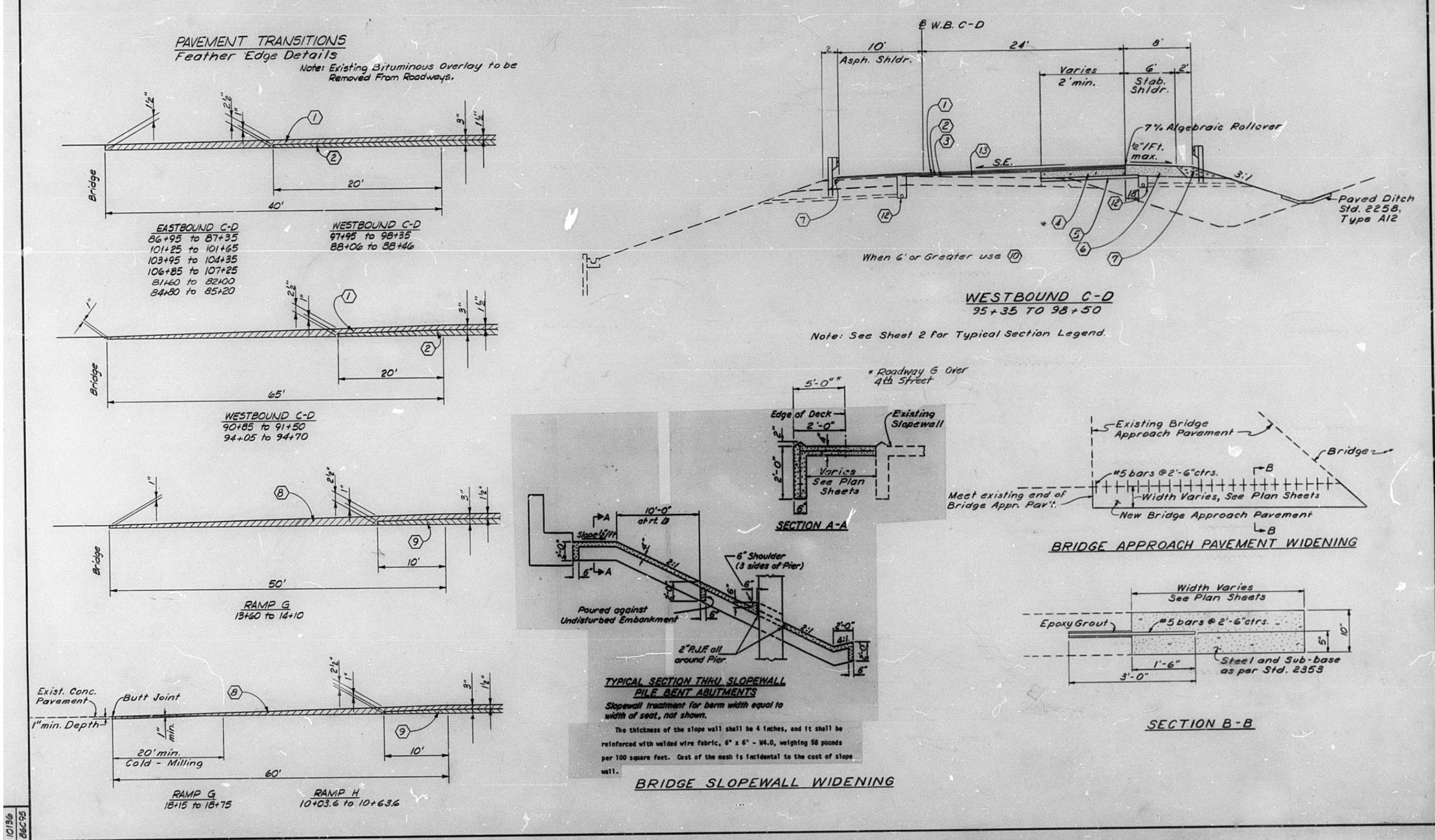
RAMP G
13+60 TO 18+75

WESTBOUND C-D
94+00 to 95+35

10136
86C92

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	6
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1



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

• 82-3HVB-2R-1

INDEX OF SHEETS

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 (800)892-0123, 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 PAVEMEMT 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.

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

• 82-3HVB-2R-1

CODE NO.	ITEM	UNIT	QUANTITY	X 171-50 ROADWAY A BRIDGE OVER RAILROAD	X 271-2A ROADWAY G BRIDGE OVER ROAD	X 571-50 ROADWAY D BRIDGE OVER ROAD & R.R.	X 171-50 RAMPS Q & R BRIDGE OVER RAILROAD	X 171-50 RAMPS P,Q & H BRIDGE OVER RAILROAD	X 271-2A ROADWAY H SPANS H2 - H4 OVER ROAD	X 271-2A ROADWAY H OVER TRENDLEY AVE.	X 271-2A RAMP G BRIDGE OVER 4th STREET	X 271-2A ROADWAY C BRIDGE OVER 4th STREET	X 571-50 ROADWAY B & C BRIDGES OVER BROADWAY	SFTY-30 E.B. & W.B. C-D RAMPS G & H
				CONSTRUCTION TYPE CODE										
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	CU. YD.	552											552
21501200	AGGREGATE SHOULDERS, TYPE B	TON	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"	SQ. YD.	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											1,311
40600830	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE E; CLASS I TYPE 1	TON	1,309					1.3						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.	1,305.6	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			
50100300	REMOVAL OF EXISTING STRUCTURE (RAMP Q) NO. 1	EACH	1					1						
50100400	REMOVAL OF EXISTING STRUCTURE (RAMP R) NO. 2	EACH	1				1							
50200100	STRUCTURE EXCAVATION	CU. YD.	1,440				597	180			19	223	421	
50300100	FLOOR DRAINS	EACH	73	8		2	12	8			3		40	
X5033000	INSTALLING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	6									6		
X5033100	INSTALLING ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	3									3		
50300108	PREFORMED JOINT SEAL 1¼"	LIN. FT.	469				370	87					12	
50300120	PREFORMED JOINT SEAL 2½"	LIN. FT.	42					30					12	
50300130	PREFORMED JOINT SEAL 4"	LIN. FT.	82					82						
50300300	PROTECTIVE COAT	SQ. YD.	6,771	1,945	1,049	2,048	460	276	260	35	196	92	410	
50300400	CONCRETE HEADWALL FOR PIPE DRAINS	EACH	9											9
50400300	CLASS X CONCRETE	CU. YD.	1,558.3				706.6	219.0			27.9	180.5	424.3	
50300250	CLASS X CONCRETE SUPERSTRUCTURE	CU. YD.	3,053.0	92.2	74.7	138.2	811.9	449.3	17.0	146.6	443.9	184.0	695.2	
50700400	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	39,925.0	5,430.0	2,704.0	4,056.0	15,920.0	7,630.0	1,350.0		675.0	340.0	1,820.0	
50700300	ERECTING STRUCTURAL STEEL	L. SUM	1	0.01	0.01	0.02	0.45	0.19		0.01	0.01	0.07	0.23	
50700500	STUD SHEAR CONNECTORS	EACH	18,839				7,983	3,573			7,209		74	
51100430	PIPE CULVERT, TYPE 1 RCCP 15"	LIN. FT.	137											137
51101267	PIPE CULVERTS, TYPE 2 RCCP 12"	LIN. FT.	36											36
51101270	PIPE CULVERTS, TYPE 2 RCCP 15"	LIN. FT.	106											106
51101279	PIPE CULVERTS, TYPE 2 RCCP 24"	LIN. FT.	18											18
51101480	PIPE CULVERTS, TYPE 2, CORRUGATED STEEL OR ALUMINUM CULVERT PIPE 15"	LIN. FT.	44											44
51102131	PIPE CULVERTS, TYPE 3 RCCP 36"	LIN. FT.	352											352
51113657	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 12"	EACH	1											1
51113660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	2											2
51113669	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24"	EACH	1											1
51113447	END SECTIONS 12"	EACH	5											5
51113450	END SECTIONS 15"	EACH	1											1
51200100	REINFORCEMENT BARS	POUND	250,603				128,620	37,330			4,130	19,530	42,550	18,443
51200200	REINFORCEMENT BARS, EPOXY COATED	POUND	732,772	12,372	6,070	11,040	234,590	121,920	760	37,460	121,610	50,830	136,120	
51302200	FURNISHING CONCRETE PILES	LIN. FT.	11,844				5,101	1,810			155	1,691	3,087	
51302800	DRIVING CONCRETE PILES	LIN. FT.	11,844				5,101	1,810			155	1,691	3,087	
51304200	TEST PILE CONCRETE	EACH	13				4	2			2	2	3	
51400100	NAME PLATES	EACH	6				1	1		1	1	1	1	
60705000	PIPE DRAINS, CORRUGATED STEEL OR ALUMINUM ALLOY 12"	LIN. FT.	646											646
60707600	PIPE UNDERDRAINS 4"	LIN. FT.	7,715											7,715
60708100	PIPE UNDERDRAINS 4" (SPECIAL)	LIN. FT.	236											236
61218400	MANHOLES, TYPE A, 4' DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	7											7
61244400	FLUSH INLET BOX FOR MEDIAN (2240)	EACH	1											1
61247000	TYPE C INLET BOX, STANDARD 2324	EACH	3											3
61247100	TYPE D INLET BOX, STANDARD 2324	EACH	7											7

⊙ NON-PART.

REV. 8/26/88

SUMMARY OF QUANTITIES

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	9
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

	CODE NO.	ITEM	UNIT	QUANTITY	X 171-50 ROADWAY A BRIDGE OVER RAILROAD	X 271-2A ROADWAY G BRIDGE OVER ROAD	X 571-50 ROADWAY D BRIDGE OVER ROAD & R.R.	X 171-50 RAMPS O & R BRIDGE OVER RAILROAD	X 171-50 RAMPS P,Q & H BRIDGE OVER RAILROAD	X 271-2A ROADWAY H SPANS H2 - H4 OVER ROAD	X 271-2A ROADWAY H OVER TRENDLEY AVE.	X 271-2A RAMP G BRIDGE OVER 4th STREET	X 271-2A ROADWAY C BRIDGE OVER 4th STREET	X 571-50 ROADWAY B & C BRIDGES OVER BROADWAY	SFTY-30 E.B. & W.B. C-D RAMPS G & H
	61255500	MANHOLES TO BE ADJUSTED	EACH	1											1
	61258200	MANHOLES TO BE RECONSTRUCTED WITH NEW TYPE I FRAME, CLOSED LID	EACH	1											1
	61260300	INLETS TO BE ADJUSTED WITH NEW TYPE I 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	EACH	1											1
	62900300	CHAIN LINK FENCE, 6 FT.	LIN. FT.	180											180
⊙	X0320025	FURNISH AND MAINTAIN RADIO	EACH	3											3
	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
			SQ. YD.	2,680											2,680
	61700030	BITUMINOUS SURFACE REMOVAL (VARIABLE DEPTH)	SQ. YD.	2,547											2,547
	61700100	PAVEMENT REMOVAL	SQ. YD.	747											747
	61700900	BITUMINOUS CONCRETE REMOVAL	SQ. YD.	584											584
	61700920	BITUMINOUS CONCRETE SHOULDER REMOVAL	SQ. YD.	25,118	9,632	4,839	8,597		407	1,248	395				
	61701000	BITUMINOUS CONCRETE SURFACE REMOVAL	LIN. FT.	88											88
	61701800	COMBINATION CURB AND GUTTER REMOVAL (PARTIAL)	LIN. FT.	317											317
	61704000	PAVED DITCH REMOVAL	SQ. YD.	457											457
	61704500	PAVEMENT REMOVAL (SURFACE COURSE)	SQ. YD.	416							30				386
	61704800	SLOPE WALL REMOVAL	SQ. YD.	1,189							30				1,159
	61800100	SLOPE WALL 4 INCH													
															100
	62000545	CLASS A PATCHES TYPE III, 9 INCH	SQ. YD.	100											1
	62800035	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	1											1
	62800040	TRAFFIC BARRIER TERMINAL, TYPE 1A	EACH	1											3
	62800045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3											7
	62800070	TRAFFIC BARRIER TERMINAL, TYPE 5	EACH	7											6
	62800085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	6											2,725
	62801900	REMOVAL AND REINSTALLATION OF EXISTING S.P.B. GUARD RAIL, SINGLE RAIL	LIN. FT.	2,725											845
	62910400	CHAIN LINK FENCE TO BE REMOVED AND RE-ERECTED	LIN. FT.	845											920
	63300300	STEEL PLATE BEAM GUARD RAIL REMOVAL	LIN. FT.	920											2.5
	64200200	SEEDING, CLASS 2	ACRE	2.5											400
	64300820	HAY OR STRAW BALES	EACH	400											12
	64600401	ENGINEER'S FIELD OFFICE, TYPE A-1	CAL. MO.	12											12
	64600600	ENGINEER'S FIELD LABORATORY	CAL. MO.	12											1
	64801800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L. SUM	1											1,120
	65000100	MOBILIZATION	L. SUM	1											
•	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				
	Z0013500	CONCRETE THRUST BLOCKS	EACH	5											5

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

REV. 8/26/88

SUMMARY OF QUANTITIES

87C PRF: SUM2 1,2,3,35

F.A.I. RTE.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	10

ILLINOIS PROJECT
• 82-3HVB-2R-1

	CODE NO.	ITEM	UNIT	QUANTITY	X 171-50 ROADWAY A BRIDGE OVER RAILROAD	X 271-2A ROADWAY C BRIDGE OVER ROAD	X 571-50 ROADWAY D BRIDGE OVER ROAD & R.R.	X 171-50 RAMPS O & R BRIDGE OVER RAILROAD	X 171-50 RAMPS P,Q & H BRIDGE OVER RAILROAD	X 271-2A ROADWAY H SPANS H2 - H4 OVER ROAD	X 271-2A ROADWAY H OVER TRENDLEY AVE.	X 271-2A RAMP G BRIDGE OVER 4th STREET	X 271-2A ROADWAY C BRIDGE OVER 4th STREET	X 571-50 ROADWAY B & C BRIDGES OVER BROADWAY	SFTY-30 E.B. & W.B. 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				
	Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ. YD.	4,328	2,014	353	1,750		60	105	46				
	Z0017900	DRAINAGE SCUPPERS	EACH	104	39	12	33			6	4	6	4		
	Z0020400	EPOXY MORTAR REPAIR	CU. FT.	2.7								2.7			
Ⓝ	Z0029999	IMPACT ATTENUATOR REMOVAL	EACH	1		1									
Ⓝ	Z0030000	IMPACT ATTENUATORS	EACH	4		1		1	1						1
	Z0033400	LOCATING UNDERGROUND CABLE	LIN. FT.	430											430
	50300150	NEOPRENE EXPANSION JOINT 2"	LIN. FT.	805	131	32	107			38	174	245	39	39	
	50300155	NEOPRENE EXPANSION JOINT 2½"	LIN. FT.	375	68	91	40	61					47	68	
	50300160	NEOPRENE EXPANSION JOINT 4"	LIN. FT.	407	125	37	72	41	80					52	
	50300165	NEOPRENE EXPANSION JOINT 6½"	LIN. FT.	12										12	
	Z0039200	PERMANENT SURVEY MARKERS, TYPE I	EACH	19											19
	Z0040500	PIPE CULVERT REMOVAL	LIN. FT.	137											137
	X0702200	TRAFFIC BARRIER TERMINAL CONNECTOR	EACH	7											7
▲	Z0076600	TRAINEES	HOUR	1,500											1
	Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L. SUM	1	0.25		0.25	0.25	0.25						
	X0300101	FLOOR DRAIN REMOVAL	EACH	741	293	149	248			51					
	X0974000	OFFICE COPY MACHINE	EACH	1											1
	X0300109	TRAFFIC CONTROL AND PROTECTION (HOV LANE)	EACH	400											400
	Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ. YD.	398	90	200	108								
	X6163801	MOVABLE CONCRETE MEDIAN BARRIER TRANSFER AND TRANSPORT VEHICLE	EACH	1											1
	X0300103	FACSIMILE MACHINE	CALMO	12											12

• SPECIALTY ITEMS ▲ 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	11
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

REMOVAL QUANTITIES

LOCATION	SLOPE WALL REMOVAL SQ. YD.	BITUMINOUS SURFACE REMOVAL SQ. YD.	PAVEMENT REMOVAL SQ. YD.	PAVED DITCH REMOVAL SQ. YD.	CHAIN LINK FENCE TO BE REMOVED & RE-ERCTED LIN. FT.	PAVEMENT REMOVAL (SURFACE CSE.) SQ. YDS.
	61704800	61700030	61700100	61704000	62910400	61704500
℄ WESTBOUND C-D LT. 92+35 TO RT. 105+35 EASTBOUND C-D					795	
℄ WESTBOUND C-D RT. 95+20 TO 98+40				288.9		
℄ WESTBOUND C-D LT. 98+00 TO 98+30			13.3			
℄ EASTBOUND C-D 81+60 TO 82+61		291.8				
℄ EASTBOUND C-D 84+15 TO 85+18		278.1				
℄ EASTBOUND C-D LT. 97+25 TO 97+57				28.4		
℄ EASTBOUND C-D 101+52 TO 102+25	100.0					
℄ EASTBOUND C-D 107+22 TO 108+06	285.5					
℄ RAMP H LT. & RT. 0+00 TO 9+50			2533.3			
℄ WESTBOUND C-D 88+06 TO 89+50		640.0				
℄ WESTBOUND C-D 90+80 TO 91+50						180.0
℄ WESTBOUND C-D 94+05 TO 95+60		231.1				80.0
℄ WESTBOUND C-D 97+60 TO 98+40		142.2				
℄ EASTBOUND C-D 86+70 TO 88+00		585.0				
℄ EASTBOUND C-D 100+25 TO 101+45		213.3				
℄ RAMP G 13+60 TO 14+85		298.7				106.7
℄ RAMP G 18+55 TO 18+75						53.3
℄ RAMP H 10+43.6 TO 10+63.6						35.6
TOTALS	386	2680	2547	317	795	456.7

PAVEMENT QUANTITIES

LOCATION	STABILIZED SUBBASE 4" SQ. YD.	P.C. CONCRETE BASE COURSE 10" SQ. YD.	P.C. CONCRETE BASE COURSE WIDENING 10" SQ. YD.	P.C. CONCRETE PAVEMENT 10" SQ. YD.	PAVEMENT FABRIC SQ. YD.	BITUMINOUS SHOULDER 8" SQ. YD.	AGGREGATE SHOULDERS TYPE B TON
	21800100	30400500	30500500	40800500	40801200	21900600	21501200
℄ WESTBOUND C-D RT. 88+06 TO 91+85						253	113
℄ WESTBOUND C-D LT. 94+00 TO 95+35						120	60
℄ WESTBOUND C-D RT. 94+80 TO 98+70						260	116
℄ WESTBOUND C-D LT. 94+85 TO 96+00	45		26				
℄ WESTBOUND C-D RT. 94+85 TO 97+90	288	253	42				
℄ EASTBOUND C-D LT. 90+00 TO 91+75	156		114			117	52
℄ EASTBOUND C-D LT. 91+75 TO 94+00	200	175				150	67
℄ EASTBOUND C-D LT. 94+00 TO 95+50	108	117					
℄ EASTBOUND C-D RT. 94+00 TO 95+20	427	400					
℄ EASTBOUND C-D LT. 95+50 TO 99+40	282		183				
℄ EASTBOUND C-D RT. 95+20 TO 96+70						217	45
℄ EASTBOUND C-D RT. 95+20 TO 100+90	728	633					
℄ EASTBOUND C-D LT. 95+45 TO 101+14						379	169
℄ EASTBOUND C-D RT. 96+70 TO 101+50						533	143
℄ EASTBOUND C-D LT. 104+13 TO 106+17	442			408	408		
℄ EASTBOUND C-D RT. 104+22 TO 107+15						326	57
℄ RAMP H LT. & RT. 0+00 TO 1+94	410	377				135	55
℄ RAMP H RT. 2+08 TO 9+50						495	221
℄ RAMP H LT. 3+14.82 TO 9+50	1341	1129					
℄ RAMP H LT. 4+45 TO 9+50						224	150
TOTALS	4427	3084	365	408	408	3209	1248

BITUMINOUS PAVEMENT

LOCATION	SQ. YDS.	BITUMINOUS CONCRETE SURFACE COURSE MIX. E, CLASS I, TYPE 1 TON	BITUMINOUS CONCRETE BINDER COURSE TON	BITUMINOUS MATERIAL (PRIME COAT) TON	AGGREGATE (PRIME COAT) TON	LEVELING BINDER (MACHINE METHOD) TON	REMARKS
		40600830	40600700	40600200	40600300	40600500	
℄ WESTBOUND C-D LT. & RT. 88+05 TO 91+55	1543	129	130	0.5	2.3	288	
℄ WESTBOUND C-D RT. 88+06 TO 91+85	253	21	21	0.1			SHOULDER OVERLAY
℄ WESTBOUND C-D LT. 88+55 TO RAMP G 11+25	328	27	28	0.1			SHOULDER OVERLAY
℄ WESTBOUND C-D LT. 95+35 TO 98+00	236	20	20	0.1			SHOULDER OVERLAY
℄ WESTBOUND C-D RT. 94+25 TO 98+60	1210	101	102	0.4	1.8	170	
℄ EASTBOUND C-D LT. & RT. 81+60 TO 85+17	1540	129	129	4.8	1.5		
℄ EASTBOUND C-D RT. 86+70 TO 94+00	3008	252	253	0.9	4.5	402	SHOULDER OVERLAY
℄ EASTBOUND C-D LT. 87+17 TO 90+00	189	16	16	0.1			SHOULDER OVERLAY
℄ EASTBOUND C-D RT. 86+80 TO 92+05	356	30	30	0.1			
℄ EASTBOUND C-D RT. 94+00 TO 95+10	440	37	37	0.1	0.7	25	
℄ EASTBOUND C-D LT. 94+00 TO 95+45	97	14	8	0.1	0.1		
℄ EASTBOUND C-D RT. 95+10 TO 101+45	2117	176	178	0.7	3.2	120	
℄ RAMP G LT. 13+70 TO 17+95	472	40	40	0.2			SHOULDER OVERLAY
℄ RAMP G RT. 13+73 TO 18+75	892	75	75	0.3	1.3	50	
℄ RAMP G RT. 13+88 TO 18+60	420	35	35	0.1			SHOULDER OVERLAY
℄ RAMP H LT. 2+08 TO 3+15	214	21	24	0.1	0.3		
℄ RAMP H LT. 3+15 TO 9+50	1129	95	95	0.4	1.7		
℄ RAMP H LT. 9+50 TO 10+63.56	202	17	17	0.1	0.3	11	
℄ RAMP H LT. 9+50 TO 10+63.56	51	4	4	0.1			SHOULDER OVERLAY
℄ RAMP H RT. 9+50 TO 10+63.56	76	6	6	0.1			SHOULDER OVERLAY
TOTALS		1245	1248	10	18	1066	

GUARDRAIL

LOCATION	REM. & REIN. EXISTING STEEL PLATE BEAM GUARDRAIL, SINGLE RAIL LIN. FT.	TRAFFIC BARRIER TERMINALS: TYPE 1 EACH	TYPE 1A EACH	TYPE 2 EACH	TYPE 5 EACH	TYPE 6 EACH	TRAFFIC BARRIER TERMINAL CONNECT. EACH	STEEL PLATE BEAM GUARDRAIL REMOVAL LIN. FT.
	62801900	62800035	62800040	62800045	62800070	62800085	X0702200	63300300
WESTBOUND C-D								
RT. 88+05 TO 88+30						1	1	
RT. 88+30 TO 91+80	350							
RT. 91+76.75 TO 91+90					1		1	
LT. 94+10 TO 95+00								90
LT. 95+00 TO 95+12.5				1				
LT. 95+12.5 TO 98+00	287.5							
RT. 94+75 TO 95+00						1		
RT. 95+00 TO 98+12.5	312.5							
LT. 98+11.75 TO 98+25					1			
RT. 98+20 TO 99+00								130
EASTBOUND C-D								
RT. 86+65 TO 86+78.25					1		1	
LT. 87+00 TO 87+13.25					1		1	
RT. 90+00 TO 2+32.66 RAMP H	437.5							
LT. 91+00 TO 98+37.5	737.5							
RT. 94+85 TO 98+20								340
RT. 98+00 TO 98+25			1					
RT. 98+25 TO 101+50	325							
LT. 98+37.5 TO 98+50				1				
LT. 98+50 TO 100+40								360
RT. 101+50 TO 101+75						1		
RT. 104+20 TO 104+32.5					1			
RT. 104+32.5 TO 107+07.5	275							
RT. 107+07.5 TO 107+32.5						1		
EASTBOUND I-55/70								
RT. 115+35 TO 115+48.25					1			
RAMP S								
RT. 91+35 TO 91+60						1	1	
RAMP G								
LT. 11+06.75 TO 11+20					1		1	
LT. 13+50 TO 13+75						1	1	
LT. 15+10 TO 15+35		1						
RAMP H								
RT. 2+32.66 TO 2+45.16				1				
TOTALS	2725	1	1	3	7	6	7	920

SEEDING (SEE SPECIAL PROVISIONS)

LOCATION	SEEDING CLASS II ACRE	NITROGEN FERTILIZER NUTRIENT POUND	PHOSPHORUS FERTILIZER NUTRIENT POUND	POTASSIUM FERTILIZER NUTRIENT POUND	MULCH METHOD 2 TON	EMULSIFIED ASPHALT GALLON
	64200200	FOR	INFORMATION		ONLY	
℄ WESTBOUND C-D RT. 93+70 TO 99+00	0.28	22	45	22	0.6	56
℄ WESTBOUND C-D LT. 93+90 TO 98+25	0.05	4	8	4	0.1	10
℄ EASTBOUND C-D RT. 89+40 TO 94+00	0.14	11	22	11	0.3	28
℄ EASTBOUND C-D LT. 90+50 TO 94+00	0.19	15	30	15	0.4	38
℄ EASTBOUND C-D LT. 94+00 TO 100+40	0.12	10	20	10	0.2	24
℄ EASTBOUND C-D RT. 103+20 TO 108+10	0.77	62	124	62	1.5	154
℄ RAMP H RT. 2+08 TO 10+50	0.34	27	54	27	0.7	68
℄ RAMP H LT. 4+70 TO 10+80	0.56	45	90	45	1.1	112
TOTALS	2.5	196	393	196	4.9	490

SLOPE WALL 4" 61800100

LOCATION	SQ. YD.
℄ WESTBOUND C-D RT. 93+83 TO 94+47	71.1
℄ EASTBOUND C-D LT. & RT. 101+52 TO 102+45	264.0
℄ EASTBOUND C-D LT. & RT. 103+18 TO 103+92	353.6
℄ EASTBOUND C-D LT. & RT. 107+22 TO 108+15	438.2
℄ EASTBOUND I-55/70 RT. 114+90 TO 115+26	32.0
TOTAL	1159

IMPACT ATTENUATORS Z0030000

LOCATION	EACH
℄ WESTBOUND C-D RT. 98+40	1
℄ ROADWAY G RT. 86+70±	1
℄ RAMP R RT. 73+20±	1
℄ RAMP O RT. 73+80±	1
TOTAL	4

BRIDGE APPROACH PAVEMENT

LOCATION	STABILIZED SUBBASE 4" SQ. YD.	BRIDGE APPROACH PAVEMENT (STD. 2353) SPECIAL SQ. YD.	REINFORCEMENT BARS LBS.	P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT SQ. YD.
	INCIDENTAL	40801310	51200100	40801500
℄ WESTBOUND C-D LT. 94+10 TO 94+85	54	42	1521	
℄ WESTBOUND C-D RT. 94+47 TO 94+85	23	17	616	
℄ WESTBOUND C-D RT. 94+80				23
℄ WESTBOUND C-D RT. 97+90 TO 98+70	138	124	4537	
℄ WESTBOUND C-D LT. 97+90				31
℄ WESTBOUND C-D RT. 98+70				16
℄ EASTBOUND C-D RT. 81+66				13
℄ EASTBOUND C-D LT. 81+72				10
℄ EASTBOUND C-D RT. 85+01				13
℄ EASTBOUND C-D LT. 86+01				13
℄ EASTBOUND C-D RT. 86+80				17
℄ EASTBOUND C-D LT. 87+17				16
℄ EASTBOUND C-D LT. 101+14				15
℄ EASTBOUND C-D LT. 100+90 TO 101+57	101	89	3246	
℄ EASTBOUND C-D RT. 101+50				22
℄ EASTBOUND C-D 103+82 TO 104+13	71	65	2385	
℄ EASTBOUND C-D RT. 104+22				22
℄ EASTBOUND C-D 106+17 TO 107+18	185	168	6138	
℄ EASTBOUND C-D RT. 107+15				20
℄ RAMP S LT. 88+55				15
℄ RAMP G LT. 13+70				20
TOTALS	572	505	18,443	266

PAINT & MARKER QUANTITIES

LOCATION	4" WHITE LIN. FT.	4" YELLOW LIN. FT.	8" WHITE LIN. FT.	12" WHITE LIN. FT.	WHITE PAV'T. MARKER EACH	YELLOW PAV'T. MARKER EACH
	T5020200	T5020200	T5020500	T5030600	T5040100	T5040100
W.B. C-D 49+55 TO I-55/70 114+65	6000	5465	3310	490	78	
RAMP A	790	290				
RAMP O	825	50			29	3
RAMP G	890	445				
RAMP S	525	150			22	4
E.B. C-D 59+00 TO I-55/70 115+40	5055	4575	2845	1275	90	
RAMP D	1785	715			38	5
RAMP H	1300	540	225	70	46	5
RAMP P	50	1200				
RAMP T	775					
RAMP M	380		430		5	
TOTALS	18,375	13,430	6810	1835	308	17

TREE AND HEDGE REMOVAL

LOCATION	TREE REMOVAL (6 TO 15 INCH DIA.) IN DAIMETER	TREE REMOVAL (OVER 15 INCH DIA.) IN DAIMETER	HEDGE REMOVAL UNITS	REMARKS
	20100100	20100200	20100600	
℄ EASTBOUND C-D RT. 97+00 TO 102+00			5	
℄ EASTBOUND C-D RT. 104+00 TO 108+00			4	
℄ EASTBOUND C-D RT. 105+00 TO 106+30		40		2 TREES AT 20" DIA.
℄ EASTBOUND C-D RT. 107+00 TO 108+00	16			2 TREES AT 8" DIA.
TOTALS	16	40	9	

SCHEDULE OF QUANTITIES

NOTE: FOR SCHEDULE OF QUANTITIES OF TEMPORARY CONNECTOR BETWEEN TUDOR AND PIGGOTT AVENUES, SEE SHEET 31.

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	12
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

DRAINAGE TABULATION

LOCATION			PIPE CULVERTS							END SECTIONS					INLETS & MANHOLES							MISCELLANEOUS			
			PIPE DRAINS 12" LIN. FT.	PIPE CULVERTS TYPE 2 15" CS/A LIN.FT.	PIPE CULVERTS TYPE 2 RCCP 12" LIN.FT.	PIPE CULVERTS TYPE 2 RCCP 15" LIN.FT.	PIPE CULVERTS TYPE 2 RCCP 24" LIN.FT.	PIPE CULVERTS TYPE 3 RCCP 36" LIN.FT.	PIPE CULVERT REMOVAL LIN. FT.	PRECAST R.C. FLARED END SECTION 12" EACH	PRECAST R.C. FLARED END SECTION 15" EACH	PRECAST R.C. FLARED END SECTION 24" EACH	END SECTION 12" EACH	END SECTION 15" EACH	INLET BOX FOR MEDIAN (2240) EACH	MANHOLE TYPE A, 4' DIA. TY. 1 F CL EACH	TYPE C INLET BOX STD. 2324 EACH	TYPE D INLET BOX STD.2324 EACH	MANHOLE ADJUST EACH	INLETS TO BE REMOVED EACH	GRATING FOR CONC. FLARED END SECTION 24" - EACH	MANHOLE TO BE RECONSTRUCTED TY 1 F CL EACH	TRENCH BACKFILL CU. YDS.	CONCRETE COLLAR EACH	CONCRETE THRUST BLOCKS STD.2324 EACH
			60705000	51101480	51101267	51101270	51101279	51102131	Z0040500	51113657	51113660	51113669	51113447	51113450	61244400	61218400	61247000	61247100	61255500	61265200	61407910	61258200	21000100	INCIDENTAL	Z0013500
℄ WESTBOUND C-D	88+22	LT.	58										1					1							1
℄ WESTBOUND C-D	94+75	RT.	67						67								1			1					
℄ WESTBOUND C-D	96+45	RT.				54					1														
℄ WESTBOUND C-D	97+03	RT.							20							1									
℄ WESTBOUND C-D	98+05	LT.	28										1					1							1
℄ EASTBOUND C-D	81+77	LT.	49										1				1								1
℄ EASTBOUND C-D	86+80	RT.	66						66				1					1		1					1
℄ EASTBOUND C-D	87+15	LT.	66						66								1			1					
℄ EASTBOUND C-D	92+45	LT.					8		8						1									1	
℄ EASTBOUND C-D	94+55	LT.		44										1										1	
℄ EASTBOUND C-D	97+00	LT.				52					1														
℄ EASTBOUND C-D	97+50	LT.														1									
℄ EASTBOUND C-D	101+55	RT.	67						75									1		1					
℄ EASTBOUND C-D	106+40	RT.					10					1									1	1			
℄ EASTBOUND C-D	106+83	RT.							115											1					
℄ EASTBOUND C-D	107+20	RT.	128															1							
℄ E.B. I-55/70	110+70	RT.						275								1							428		
℄ E.B. I-55/70	113+35	RT.														1									
℄ E.B. I-55/70	114+44	RT.						42								1							59		
℄ E.B. I-55/70	114+85	RT.						35								1							65		
℄ E.B. I-55/70	115+16	RT.																	1						
℄ E.B. I-55/70	115+45	RT.	57						57									1		1					
℄ RAMP G	13+67	LT.	60						60				1					1		1					1
℄ RAMP H	3+94	LT. & RT.			36					1						1									
TOTALS			646	44	36	106	18	352	534	1	2	1	5	1	1	7	3	7	1	7	1	1	552	2	5

STRIP REFLECTIVE CRACK CONTROL TREATMENT 40601960

LOCATION	LIN. FT.
℄ EASTBOUND C-D 88+74 TO 99+50 LT.	1076
℄ EASTBOUND C-D 92+05 TO 101+50 RT.	945
℄ WESTBOUND C-D 94+15 TO 96+35 LT.	220
℄ WESTBOUND C-D 94+45 TO 98+55 RT.	410
TOTAL	2651

CHAIN LINK FENCE 62900300

LOCATION	LIN. FT.
℄ RAMP H RT. 12+50 TO 14+30	180
GRAND TOTAL	180

FILLING EXISTING MANHOLES 61500100

LOCATION	EACH
℄ EASTBOUND I-55/70 RT. 111+77	1

PERMANENT SURVEY MARKERS, TYPE I Z0039200

LOCATION		EACH
P.C. 89+73.41	℄ WESTBOUND C-D	1
P.I. 91+68.27	℄ WESTBOUND C-D	1
P.T. 93+62.66	℄ WESTBOUND C-D	1
P.C. 96+34.98	℄ WESTBOUND C-D	1
P.C.C. 88+74.36	℄ EASTBOUND C-D	1
P.T. 92+06.10	℄ EASTBOUND C-D	1
P.O.T. 96+50.00 BK.	℄ EASTBOUND C-D	1
P.O.T. 96+50.00 AHD.	℄ EASTBOUND C-D	1
P.C. 98+52.12	℄ EASTBOUND C-D	1
P.O.T. 9+86.24	℄ RAMP G	1
P.O.T. 16+66.62	℄ RAMP G BK.	1
P.O.T. 16+66.62	℄ RAMP G AHD.	1
P.C.C. 19+09.47	℄ RAMP G	1
P.T. 19+80.20	℄ RAMP G	1
P.O.T. 0+00.00	℄ RAMP H	1
P.C. 4+15.82	℄ RAMP H	1
P.T. 6+39.69	℄ RAMP H	1
P.C. 10+63.56	℄ RAMP H	1
P.T. 13+01.93	℄ RAMP H	1
GRAND TOTAL		19

PIPE UNDERDRAINS 4" (SPECIAL)

LOCATION	PIPE UNDERDRAINS 4" (SPECIAL) LIN. FT.	CONC. HEADWALL FOR PIPE DRAINS EACH
	60708100	50300400
℄ WESTBOUND C-D LT. 91+00	14	1
℄ WESTBOUND C-D RT. 91+70	11	1
℄ WESTBOUND C-D LT. 94+35	14	1
℄ WESTBOUND C-D RT. 94+80	11	1
℄ EASTBOUND C-D RT. 84+80	16	1
℄ EASTBOUND C-D LT. 84+83	13	1
℄ EASTBOUND C-D RT. 90+00	14	1
℄ EASTBOUND C-D LT. 90+00	11	1
℄ EASTBOUND C-D RT. 95+75	10	
℄ EASTBOUND C-D LT. 95+75	30	
℄ EASTBOUND C-D RT. 104+22	14	
℄ RAMP G LT. 18+70	10	
℄ RAMP G RT. 19+00	5	
℄ RAMP H RT. 7+00	11	1
℄ RAMP H LT. 9+45	40	
℄ RAMP H RT. 10+45	12	
TOTALS	236	9

PIPE UNDERDRAINS 4" 60707600

LOCATION	LIN. FT.
℄ WESTBOUND C-D RT. 88+20 TO 91+70	350
℄ WESTBOUND C-D LT. 88+25 TO 91+00	275
℄ WESTBOUND C-D LT. 94+15 TO 98+02	387
℄ WESTBOUND C-D RT. 94+80 TO 98+68	388
℄ EASTBOUND C-D RT. 81+60 TO 85+07	347
℄ EASTBOUND C-D LT. 81+85 TO 85+20	335
℄ EASTBOUND C-D RT. 86+85 TO 92+05	520
℄ EASTBOUND C-D LT. 87+18 TO 101+14	1396
℄ EASTBOUND C-D RT. 95+20 TO 101+50	630
℄ EASTBOUND C-D RT. 104+22 TO 107+14	292
℄ RAMP G LT. 13+70 TO 18+70	500
℄ RAMP G RT. 14+00 TO 19+00	500
℄ RAMP H RT. 0+00 TO 10+55	1055
℄ RAMP H LT. 3+20 TO 10+55	740
TOTAL	7715

PAVED DITCH TYPE A-12 61615200

LOCATION	LIN. FT.
℄ WESTBOUND C-D RT. 94+95 TO 98+05	310
℄ EASTBOUND C-D LT. 94+40 TO 98+45	405
TOTALS	715

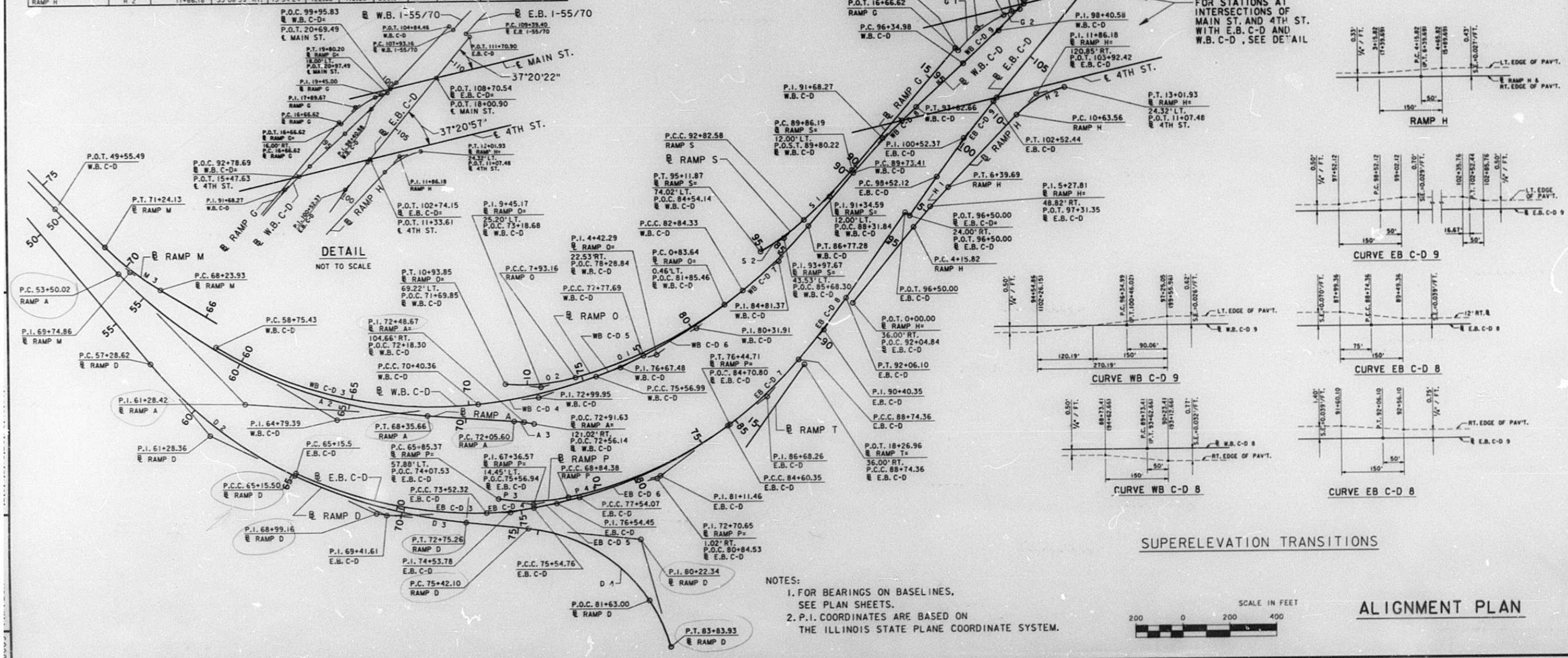
SCHEDULE OF QUANTITIES

F.A.I. RTE. 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. COORDINATES	
		P.I. STATION	Δ	D	T	R	L	E	S.E.	NORTH	EAST
W.B. I-55/70	WB ML 2	112+16.69	30°31'52" RT.	3°41'32"	423.53'	1551.83'	826.92'	56.76'	EXISTING	713603.33	500696.92
E.B. I-55/70	EB ML 2	118+84.59	69°00'37" RT.	4°10'01"	945.19'	1375.00'	1656.13'	293.54'	EXISTING	714131.90	500867.98
WESTBOUND C-D	WB C-D 3	64+79.39	37°18'32" LT.	3°12'10"	603.96'	1789.00'	1164.93'	99.20'	•0.080'/FT.	709735.09	498804.50
WESTBOUND C-D	WB C-D 4	72+99.95	13°53'57" LT.	2°41'25"	259.59'	2129.67'	516.63'	15.76'	•0.080'/FT.	710240.91	499504.79
WESTBOUND C-D	WB C-D 5	76+57.48	7°07'12" LT.	3°13'34"	110.49'	1776.00'	220.70'	3.43'	EXISTING	710523.39	499743.49
WESTBOUND C-D	WB C-D 6	80+31.91	11°49'09" LT.	2°19'58"	254.22'	2456.01'	506.64'	13.12'	EXISTING	710828.83	499942.79
WESTBOUND C-D	WB C-D 7	84+81.37	10°37'30" LT.	2°42'14"	197.04'	2118.99'	392.95'	9.14'	EXISTING	711249.25	500106.75
WESTBOUND C-D	WB C-D 8	91+68.27	6°51'03" RT.	1°45'36"	194.86'	3255.50'	389.25'	5.83'	0.032'/FT.	711925.36	500234.26
WESTBOUND C-D	WB C-D 9	98+40.58	3°50'11" LT.	0°56'00"	205.59'	6138.83'	411.04'	3.44'	0.026'/FT.	712566.89	500436.92
EASTBOUND C-D	EB C-D 3	69+41.61	26°38'13" LT.	3°10'59"	426.11'	1800.00'	836.82'	[illegible]	EXISTING	709481.83	499188.11
EASTBOUND C-D	EB C-D 4	74+53.78	9°36'57" LT.	4°45'00"	101.46'	1206.23'	202.44'	4.26'	•0.080'/FT.	709753.03	499640.94
EASTBOUND C-D	EB C-D 5	76+54.45	3°59'43" LT.	2°00'16"	99.69'	2858.27'	199.31'	1.74'	•0.080'/FT.	709883.80	499793.78
EASTBOUND C-D	EB C-D 6	81+11.46	21°37'50" LT.	3°03'45"	357.39'	1870.81'	706.28'	33.83'	EXISTING	710204.44	500119.54
EASTBOUND C-D	EB C-D 7	86+68.26	13°7'45" LT.	3°10'16"	207.92'	1806.76'	414.01'	11.92'	EXISTING	710721.59	500347.88
EASTBOUND C-D	EB C-D 8	90+40.35	5°25'25" LT.	1°38'06"	165.99'	3504.62'	331.74'	3.93'	0.039'/FT.	711089.00	500417.27
EASTBOUND C-D	EB C-D 9	100+52.37	4°16'40" RT.	1°04'07"	200.25'	5361.81'	400.32'	3.74'	0.029'/FT.	712094.78	500534.17
RAMP P	P 3	67+36.57	20°59'42" LT.	7°01'18"	151.20'	816.00'	299.01'	13.89'	EXISTING	709831.39	499710.28
RAMP P	P 4	72+70.65	24°55'00" LT.	3°16'38"	386.27'	1748.38'	760.33'	42.16'	EXISTING	710187.10	500113.19
RAMP M	M 3	69+74.86	14°40'33" RT.	4°53'19"	150.93'	1172.00'	300.20'	9.68'	EXISTING	709846.21	497737.94
RAMP D	D 2	61+28.36	24°52'53" RT.	3°09'43"	399.74'	1812.00'	786.88'	43.57'	EXISTING	709408.20	498365.56
RAMP D	D 3	68+99.16	19°41'11" LT.	2°35'28"	383.66'	2211.24'	759.76'	33.04'	EXISTING	709466.36	499146.80
RAMP D	D 4	80+22.34	68°54'17" RT.	8°11'06"	480.24'	700.00'	841.83'	148.90'	EXISTING	709925.27	500180.23
RAMP A	A 2	61+28.42	42°14'36" LT.	2°50'37"	778.40'	2015.00'	1485.64'	145.12'	EXISTING	709599.61	498429.90
RAMP A	A 3	72+48.67	7°02'31" RT.	8°11'06"	43.07'	700.00'	86.03'	1.32'	EXISTING	710119.57	499501.87
RAMP O	O 1	4+42.29	20°38'35" RT.	2°54'34"	358.65'	1969.33'	709.52'	32.39'	EXISTING	710647.13	499850.49
RAMP O	O 2	9+45.17	20°43'52" RT.	6°53'41"	152.00'	831.00'	300.60'	13.79'	EXISTING	710284.46	499491.00
RAMP S	S 1	91+34.59	7°28'26" RT.	2°31'18"	148.40'	2272.14'	296.39'	4.84'	EXISTING	711596.99	500160.12
RAMP S	S 2	93+97.67	12°22'13" RT.	5°23'42"	115.09'	1062.00'	229.29'	6.22'	EXISTING	711346.61	500078.02
RAMP G	G 1	17+89.67	22°48'36" RT.	9°23'34"	123.05	610.00'	242.85'	12.29'	EXISTING	712529.42	500352.26
RAMP G	G 2	19+45.00	13°23'52" RT.	18°56'30"	35.53'	302.49'	70.73'	2.08'	EXISTING	712661.67	500439.76
RAMP H	H 1	5+27.81	4°28'38" RT.	2°00'00"	111.39'	2864.93'	223.87'	2.19'	0.027'/FT.	711770.64	500553.29
RAMP H	H 2	11+86.18	33°08'59" RT.	13°54'24"	122.63'	412.00'	238.37'	17.86'	EXISTING	712410.25	500709.78

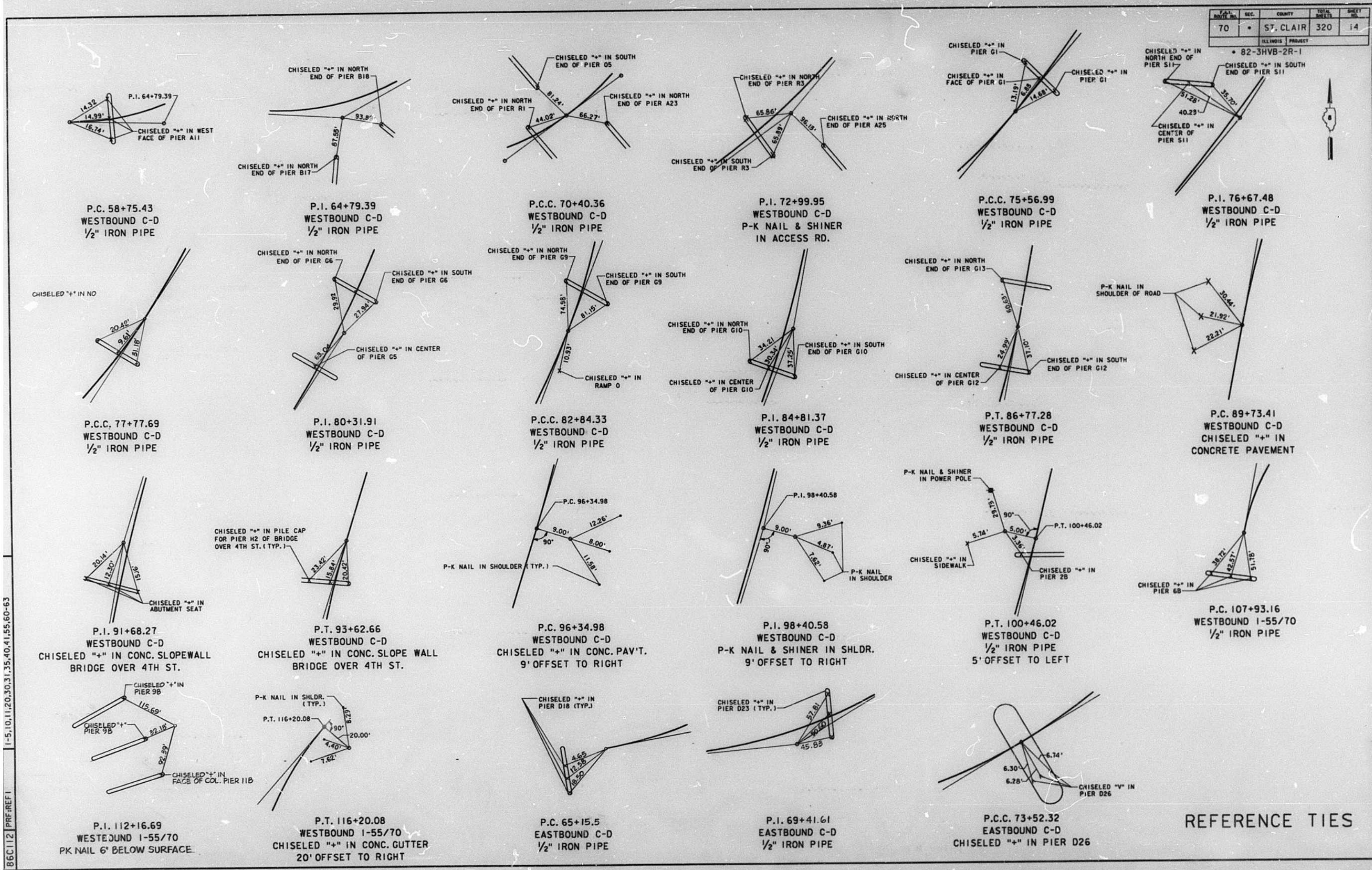
• MAXIMUM



NOTES:

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

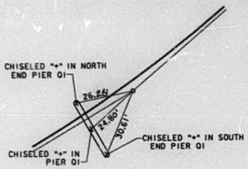
ALIGNMENT PLAN



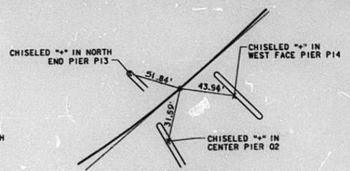
F.A.I. ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS | SHEET NO.
70 | • | ST. CLAIR | 320 | 14
ILLINOIS | PROJECT
• 82-3HVB-2R-1
P.C. 58+75.43
WESTBOUND C-D
1/2" IRON PIPE
P.I. 64+79.39
WESTBOUND C-D
1/2" IRON PIPE
P.C.C. 70+40.36
WESTBOUND C-D
1/2" IRON PIPE
P.I. 72+99.95
WESTBOUND C-D
P-K NAIL & SHINER
IN ACCESS RD.
P.C.C. 75+56.99
WESTBOUND C-D
1/2" IRON PIPE
P.I. 76+67.48
WESTBOUND C-D
1/2" IRON PIPE
P.C.C. 77+77.69
WESTBOUND C-D
1/2" IRON PIPE
P.I. 80+31.91
WESTBOUND C-D
1/2" IRON PIPE
P.C.C. 82+84.33
WESTBOUND C-D
1/2" IRON PIPE
P.I. 84+81.37
WESTBOUND C-D
1/2" IRON PIPE
P.T. 86+77.28
WESTBOUND C-D
1/2" IRON PIPE
P.C. 89+73.41
WESTBOUND C-D
CHISELED "+" IN
CONCRETE PAVEMENT
P.I. 91+68.27
WESTBOUND C-D
CHISELED "+" IN CONC. SLOPEWALL
BRIDGE OVER 4TH ST.
P.T. 93+62.66
WESTBOUND C-D
CHISELED "+" IN CONC. SLOPE WALL
BRIDGE OVER 4TH ST.
P.C. 96+34.98
WESTBOUND C-D
CHISELED "+" IN CONC. PAV'T.
9' OFFSET TO RIGHT
P.I. 98+40.58
WESTBOUND C-D
P-K NAIL & SHINER IN SHLDR.
9' OFFSET TO RIGHT
P.T. 100+46.02
WESTBOUND C-D
1/2" IRON PIPE
5' OFFSET TO LEFT
P.C. 107+93.16
WESTBOUND I-55/70
1/2" IRON PIPE
P.I. 112+16.69
WESTBOUND I-55/70
PK NAIL 6" BELOW SURFACE
P.T. 116+20.08
WESTBOUND I-55/70
CHISELED "+" IN CONC. GUTTER
20' OFFSET TO RIGHT
P.C. 65+15.5
EASTBOUND C-D
1/2" IRON PIPE
P.I. 69+41.61
EASTBOUND C-D
1/2" IRON PIPE
P.C.C. 73+52.32
EASTBOUND C-D
CHISELED "+" IN PIER D26
REFERENCE TIES
86C112 PRF:REF1
I-5,10,11,20,30,31,35,40,41,55,60-63

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	15
		ILLINOIS PROJECT		

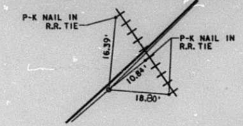
• 82-3HVB-2R-1



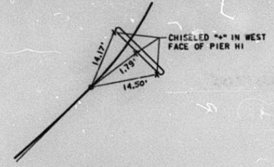
P.I. 74+53.78
EASTBOUND C-D
1/2" IRON PIPE



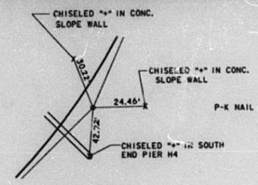
P.C.C. 75+54.76
EASTBOUND C-D
1/2" IRON PIPE



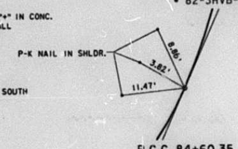
P.I. 76+54.45
EASTBOUND C-D
1/2" IRON PIPE



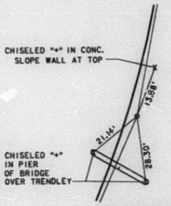
P.C.C. 77+54.07
EASTBOUND C-D
CHISELED "+" IN CONC.
FOOTING FOR PIER H1



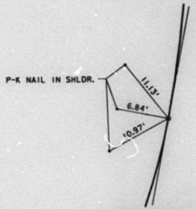
P.I. 81+11.46
EASTBOUND C-D
1/2" IRON PIPE



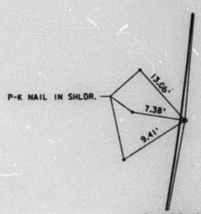
P.C.C. 84+60.35
EASTBOUND C-D
P-K NAIL & SHINER
IN PAVEMENT



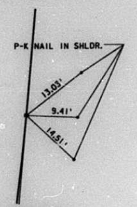
P.I. 86+68.26
EASTBOUND C-D
CHISELED "+" IN CONCRETE
SLOPE WALL



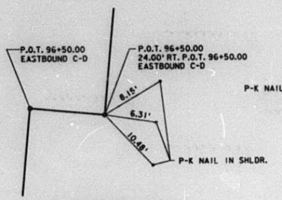
P.C.C. 88+74.36
EASTBOUND C-D
P-K NAIL & SHINER
AT EDGE OF CONC. ROAD



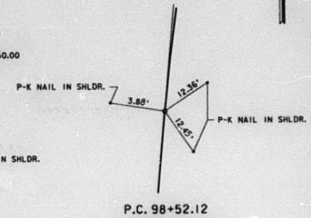
P.I. 90+40.35
EASTBOUND C-D
P-K NAIL & SHINER
AT EDGE OF CONC. ROAD
IN SHOULDER



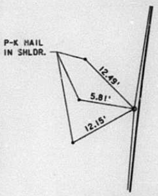
P.T. 92+06.10
EASTBOUND C-D
1/2" IRON PIPE



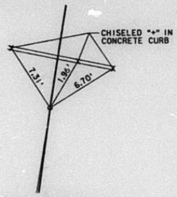
P.O.T. 96+50.00, 24.00' RT.
EASTBOUND C-D
P-K NAIL & SHINER
IN SHOULDER



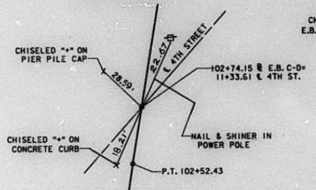
P.C. 98+52.12
EASTBOUND C-D
P-K NAIL & SHINER
IN SHOULDER



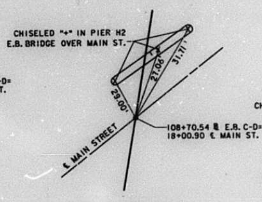
P.I. 100+52.37
EASTBOUND C-D
P-K NAIL & SHINER
IN SHOULDER



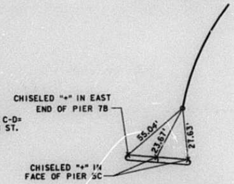
P.T. 102+52.44
EASTBOUND C-D
CHISELED "+" IN
CONCRETE CURB



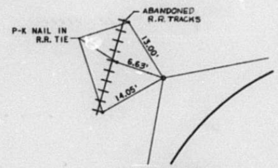
P.O.T. 102+74.15
EASTBOUND C-D
P-K NAIL & SHINER
IN ℄ 4TH STREET



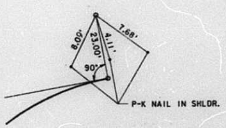
P.O.T. 108+70.54
EASTBOUND C-D
CHISELED "+" IN MAIN STREET



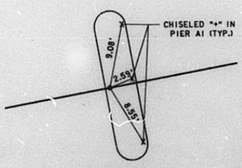
P.C. 109+39.40
EASTBOUND I-55/70
1/2" IRON PIPE



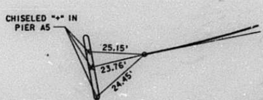
P.I. 118+84.59
EASTBOUND I-55/70
1/2" IRON PIPE



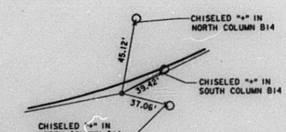
P.T. 125+95.53
EASTBOUND I-55/70
1/2" IRON PIPE
23' OFFSET TO LEFT



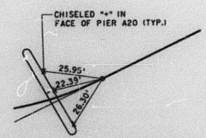
P.O.T. 49+55.40
RAMP A
CHISELED "+" ON
PILE CAP PIER A1



P.C. 53+50.02
RAMP A
1/2" IRON PIPE



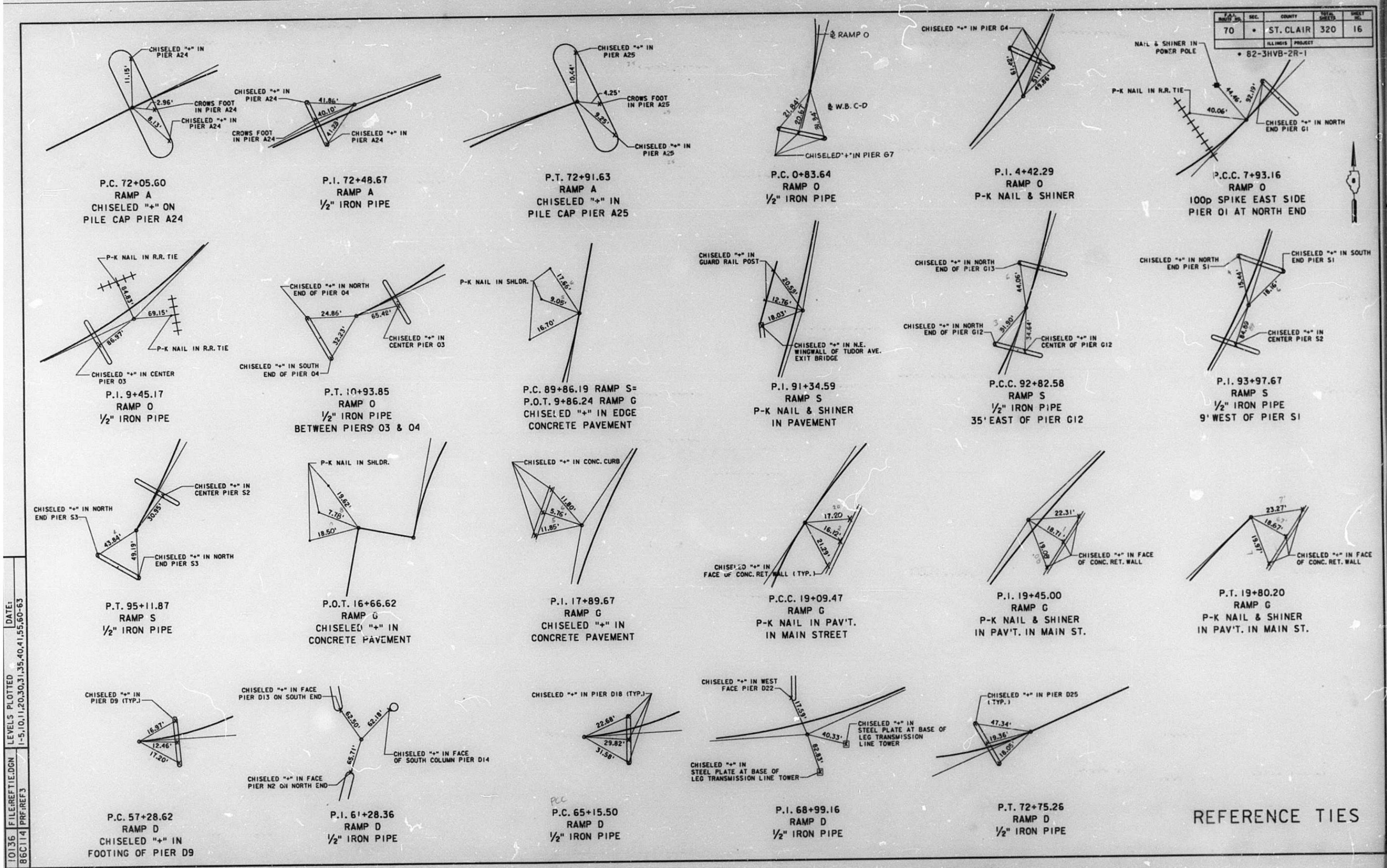
P.I. 61+28.42
RAMP A
1/2" IRON PIPE



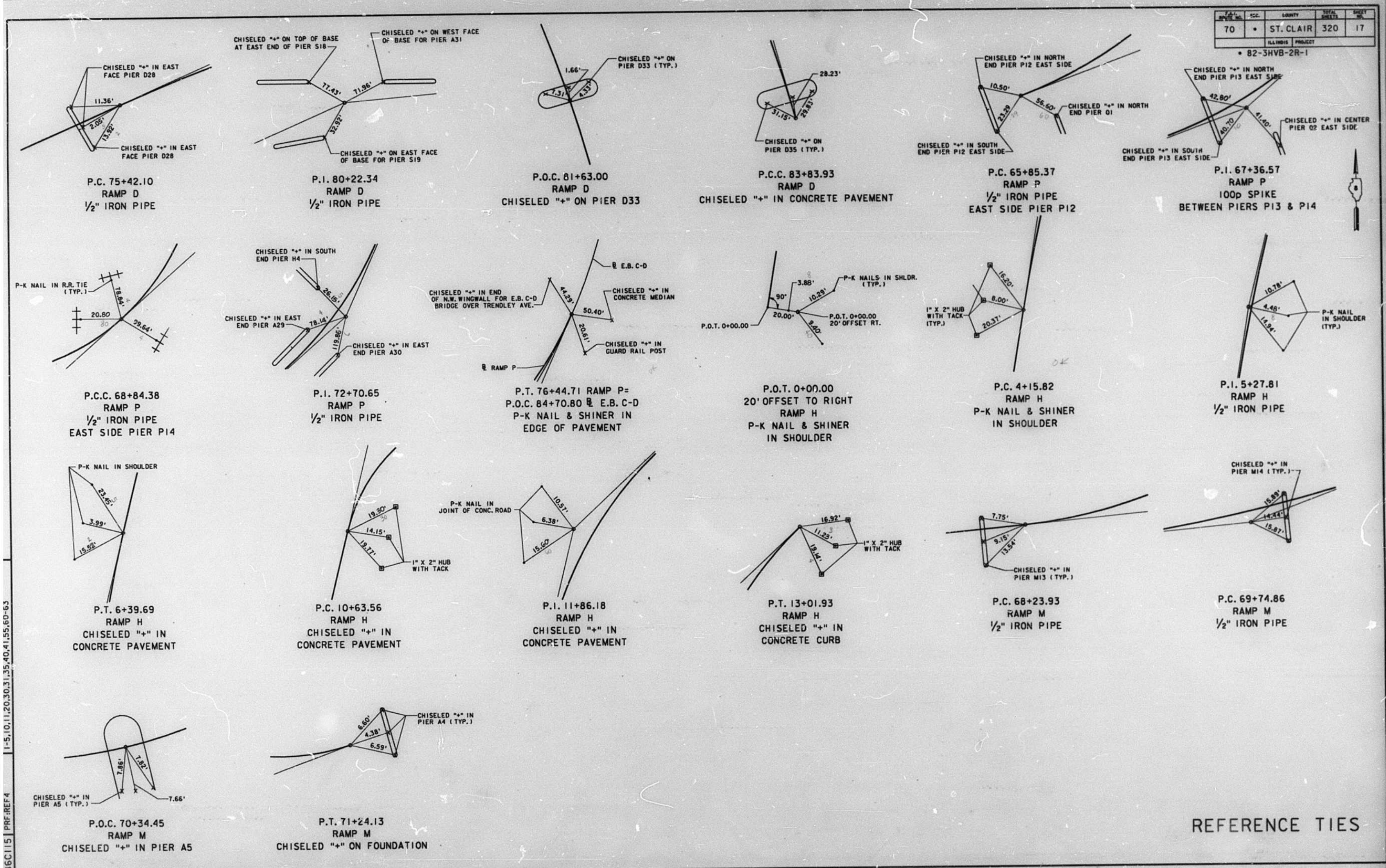
P.T. 68+35.66
RAMP A
1/2" IRON PIPE

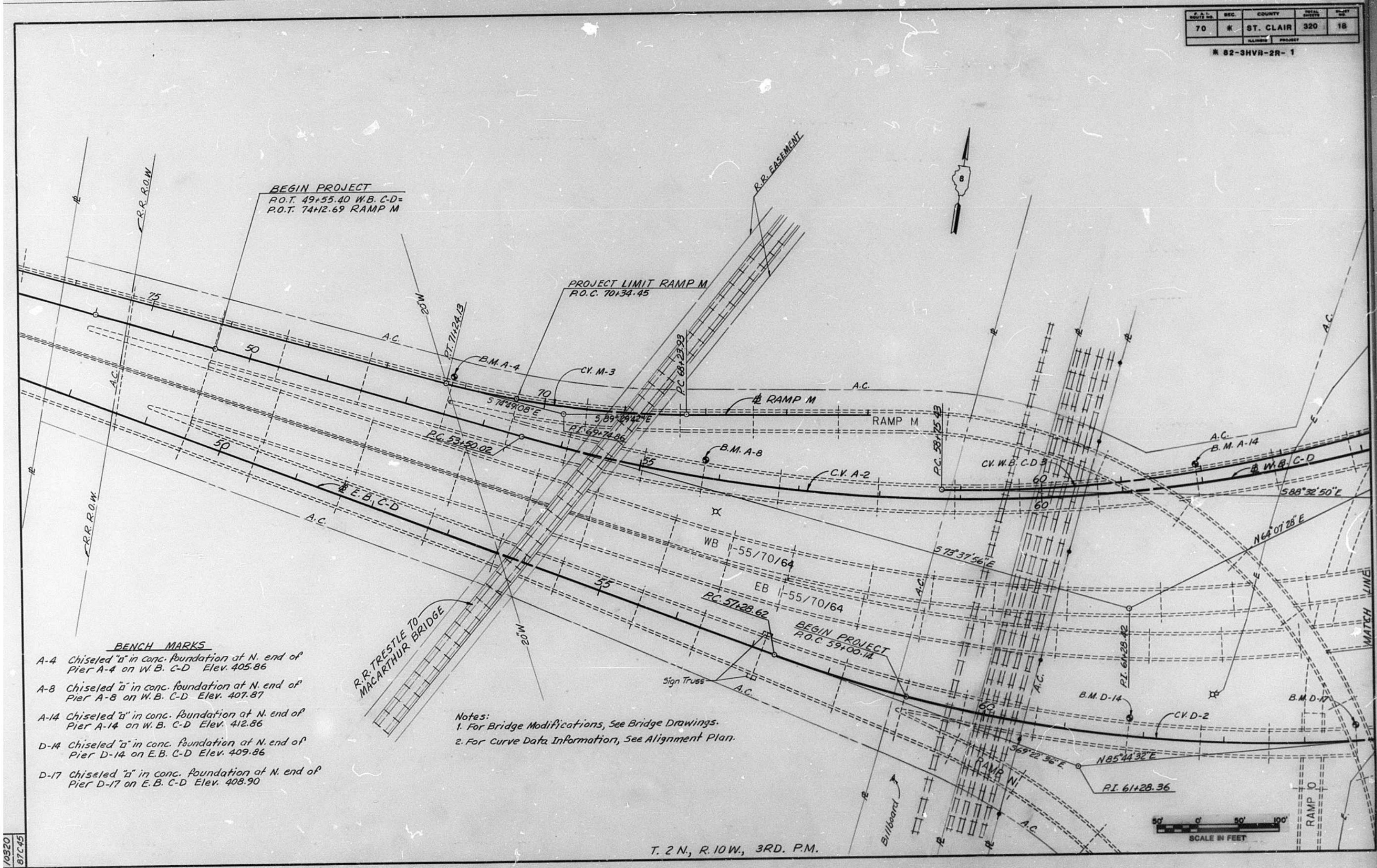
REFERENCE TIES

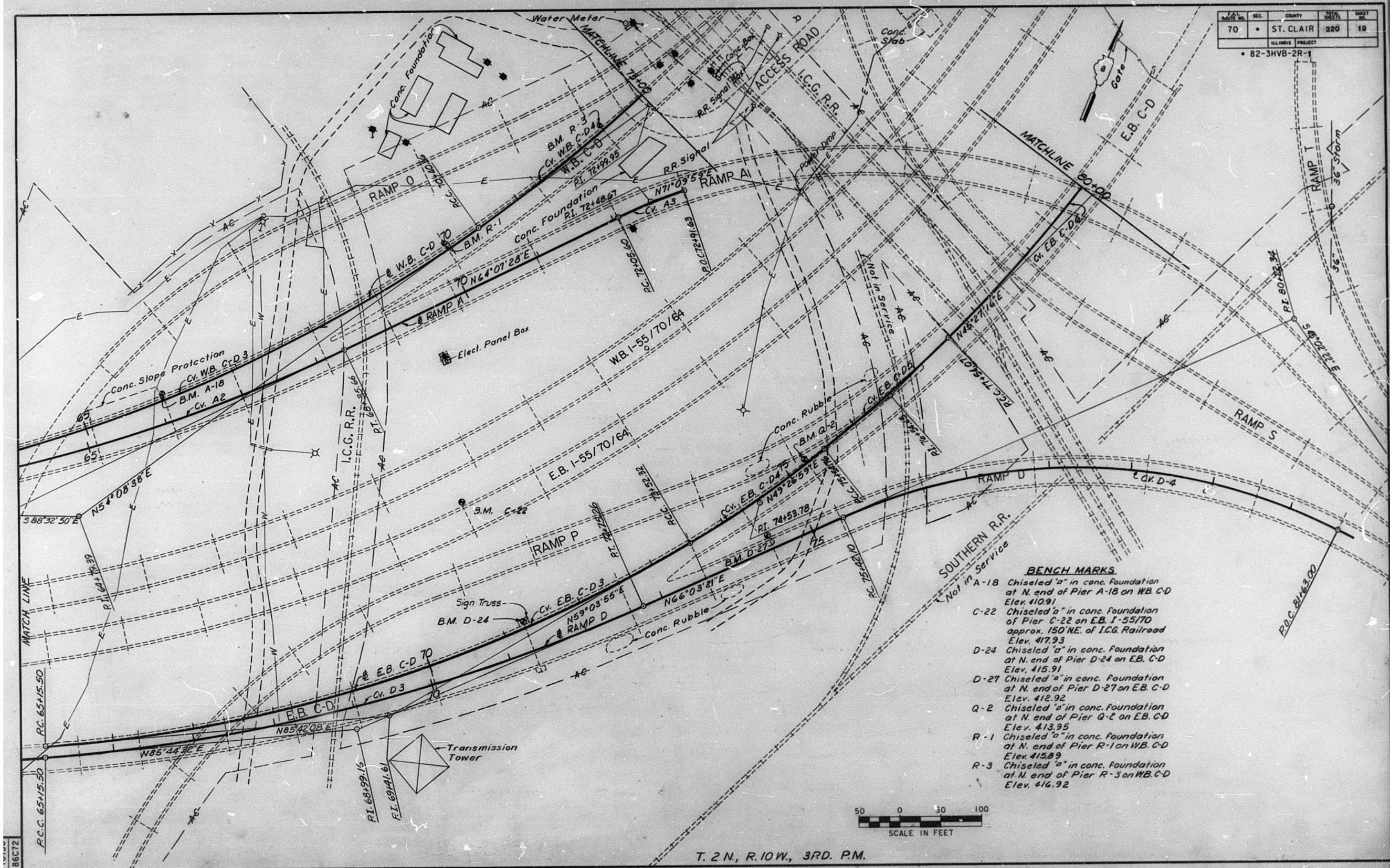
10136	FILE:REFTIE.DGN	LEVELS PLOTTED 1-5,10,11,20,30,31,35,40,41,55,60-63	DATE:
86C113	PRF:REF2		



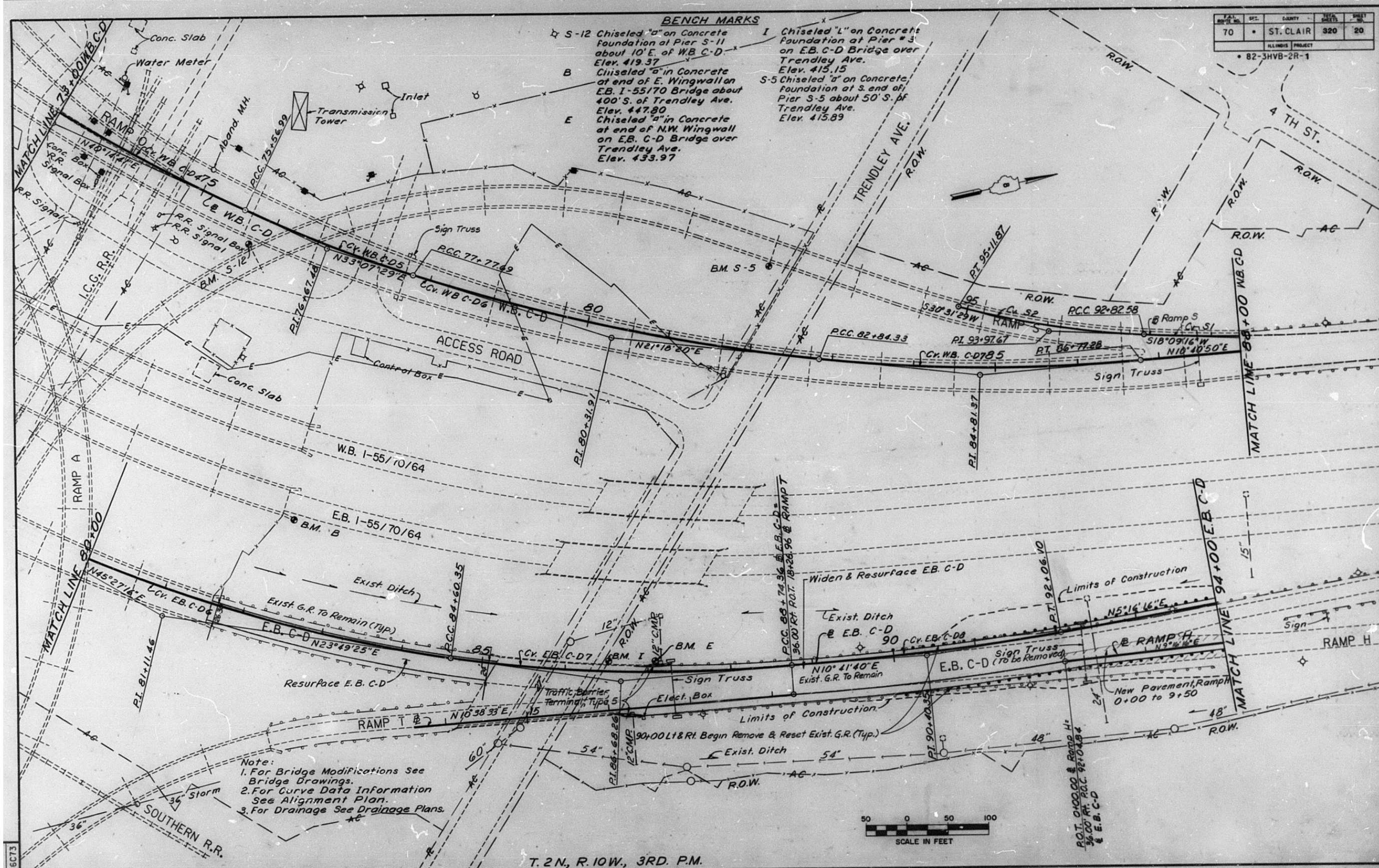
F.A.I. ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS | SHEET NO.
70 | • | ST. CLAIR | 320 | 16
ILLINOIS PROJECT
• 82-3HVB-2R-1
P.C. 72+05.60
RAMP A
CHISELED "+" ON
PILE CAP PIER A24
P.I. 72+48.67
RAMP A
1/2" IRON PIPE
P.T. 72+91.63
RAMP A
CHISELED "+" IN
PILE CAP PIER A25
P.C. 0+83.64
RAMP O
1/2" IRON PIPE
P.I. 4+42.29
RAMP O
P-K NAIL & SHINER
P.C.C. 7+93.16
RAMP O
100p SPIKE EAST SIDE
PIER O1 AT NORTH END
P.I. 9+45.17
RAMP O
1/2" IRON PIPE
P.T. 10+93.85
RAMP O
1/2" IRON PIPE
BETWEEN PIERS 03 & 04
P.C. 89+86.19 RAMP S=
P.O.T. 9+86.24 RAMP G
CHISELED "+" IN EDGE
CONCRETE PAVEMENT
P.I. 91+34.59
RAMP S
P-K NAIL & SHINER
IN PAVEMENT
P.C.C. 92+82.58
RAMP S
1/2" IRON PIPE
35' EAST OF PIER G12
P.I. 93+97.67
RAMP S
1/2" IRON PIPE
9' WEST OF PIER S1
P.T. 95+11.87
RAMP S
1/2" IRON PIPE
P.O.T. 16+66.62
RAMP G
CHISELED "+" IN
CONCRETE PAVEMENT
P.I. 17+89.67
RAMP G
CHISELED "+" IN
CONCRETE PAVEMENT
P.C.C. 19+09.47
RAMP G
P-K NAIL IN PAV'T.
IN MAIN STREET
P.I. 19+45.00
RAMP G
P-K NAIL & SHINER
IN PAV'T. IN MAIN ST.
P.T. 19+80.20
RAMP G
P-K NAIL & SHINER
IN PAV'T. IN MAIN ST.
P.C. 57+28.62
RAMP D
CHISELED "+" IN
FOOTING OF PIER D9
P.I. 61+28.36
RAMP D
1/2" IRON PIPE
PCC
P.C. 65+15.50
RAMP D
1/2" IRON PIPE
P.I. 68+99.16
RAMP D
1/2" IRON PIPE
P.T. 72+75.26
RAMP D
1/2" IRON PIPE
REFERENCE TIES
CHISELED "+" IN PIER A24
CROWS FOOT IN PIER A24
CHISELED "+" IN PIER A25
CROWS FOOT IN PIER A25
CHISELED "+" IN PIER G7
W.B. C-D
RAMP O
CHISELED "+" IN PIER G4
NAIL & SHINER IN POWER POLE
P-K NAIL IN R.R. TIE
CHISELED "+" IN NORTH END PIER G1
CHISELED "+" IN NORTH END OF PIER 04
CHISELED "+" IN SOUTH END OF PIER 04
CHISELED "+" IN CENTER PIER 03
P-K NAIL IN SHLDR.
CHISELED "+" IN GUARD RAIL POST
CHISELED "+" IN N.E. WINGWALL OF TUDOR AVE. EXIT BRIDGE
CHISELED "+" IN NORTH END OF PIER G13
CHISELED "+" IN NORTH END OF PIER G12
CHISELED "+" IN CENTER OF PIER G12
CHISELED "+" IN NORTH END PIER S1
CHISELED "+" IN SOUTH END PIER S1
CHISELED "+" IN CENTER PIER S2
CHISELED "+" IN NORTH END PIER S3
CHISELED "+" IN CONC. CURB
CHISELED "+" IN FACE OF CONC. RET. WALL (TYP.)
CHISELED "+" IN FACE OF CONC. RET. WALL
CHISELED "+" IN PIER D9 (TYP.)
CHISELED "+" IN FACE PIER D13 ON SOUTH END
CHISELED "+" IN FACE OF SOUTH COLUMN PIER D14
CHISELED "+" IN FACE PIER N2 ON NORTH END
CHISELED "+" IN PIER D18 (TYP.)
CHISELED "+" IN WEST FACE PIER D22
CHISELED "+" IN STEEL PLATE AT BASE OF LEG TRANSMISSION LINE TOWER
CHISELED "+" IN PIER D25 (TYP.)
10136 | FILE:REFTIE.DGN | LEVELS PLOTTED | DATE:
86C114 | PRF:REF3 | 1-5,10,11,20,30,31,35,40,41,55,60-63


70
ST. CLAIR
320
17
ILLINOIS PROJECT
• 82-3HVB-2R-1
P.C. 75+42.10
RAMP D
1/2" IRON PIPE
P.I. 80+22.34
RAMP D
1/2" IRON PIPE
P.O.C. 81+63.00
RAMP D
CHISELED "+" ON PIER D33
P.C.C. 83+83.93
RAMP D
CHISELED "+" IN CONCRETE PAVEMENT
P.C. 65+85.37
RAMP P
1/2" IRON PIPE
EAST SIDE PIER P12
P.I. 67+36.57
RAMP P
100p SPIKE
BETWEEN PIERS P13 & P14
P.C.C. 68+84.38
RAMP P
1/2" IRON PIPE
EAST SIDE PIER P14
P.I. 72+70.65
RAMP P
1/2" IRON PIPE
P.T. 76+44.71 RAMP P=
P.O.C. 84+70.80 ℄ E.B. C-D
P-K NAIL & SHINER IN
EDGE OF PAVEMENT
P.O.T. 0+00.00
20' OFFSET TO RIGHT
RAMP H
P-K NAIL & SHINER
IN SHOULDER
P.C. 4+15.82
RAMP H
P-K NAIL & SHINER
IN SHOULDER
P.I. 5+27.81
RAMP H
1/2" IRON PIPE
P.T. 6+39.69
RAMP H
CHISELED "+" IN
CONCRETE PAVEMENT
P.C. 10+63.56
RAMP H
CHISELED "+" IN
CONCRETE PAVEMENT
P.I. 11+86.18
RAMP H
CHISELED "+" IN
CONCRETE PAVEMENT
P.T. 13+01.93
RAMP H
CHISELED "+" IN
CONCRETE CURB
P.C. 68+23.93
RAMP M
1/2" IRON PIPE
P.C. 69+74.86
RAMP M
1/2" IRON PIPE
P.O.C. 70+34.45
RAMP M
CHISELED "+" IN PIER A5
P.T. 71+24.13
RAMP M
CHISELED "+" ON FOUNDATION
REFERENCE TIES
86C115 PRF:REF4
1-5,10,11,20,30,31,35,40,41,55,60-63

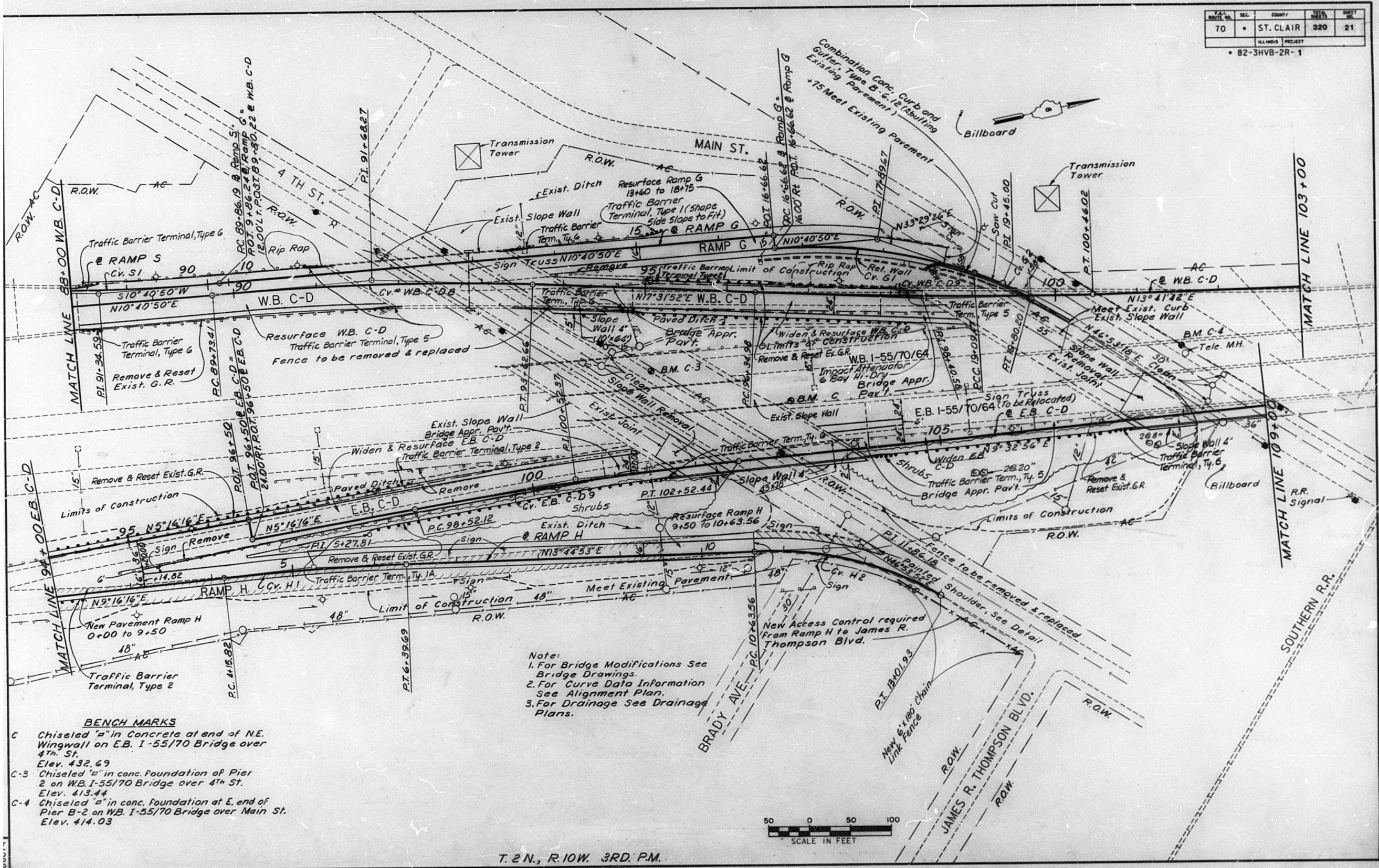

F.A.I. ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS | SHEET NO.
70 | * | ST. CLAIR | 320 | 18
ILLINOIS PROJECT
* 82-3HVB-2R- 1
BEGIN PROJECT
P.O.T. 49+55.40 W.B. C-D=
P.O.T. 74+12.69 RAMP M
R.R. EASEMENT
PROJECT LIMIT RAMP M
P.O.C. 70+34.45
R.R. R.O.W.
20'W
P.T. 71+24.13
B.M. A-4
CV. M-3
S 78°49'08"E
S 89°29'42"E
P.T. 69+74.86
P.C. 68+23.93
℄ RAMP M
RAMP M
P.C. 53+50.02
B.M. A-8
C.V. A-2
P.C. 58+75.43
CV. W.B. C-D 3
B.M. A-14
℄ W.B. C-D
S 88°32'50"E
N 64°01'28"E
℄ E.B. C-D
S 73°37'56"E
WB I-55/70/64
EB I-55/70/64
P.C. 57+28.62
BEGIN PROJECT
P.O.C. 59+00.14
P.I. 61+28.42
R.R. TRESTLE TO MACARTHUR BRIDGE
Sign Truss
B.M. D-14
CV. D-2
B.M. D-17
S 69°22'36"E
N 85°44'32"E
P.I. 61+28.36
RAMP N
RAMP O
MATCH LINE
Billboard
A.C.
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.
50' 0' 50' 100'
SCALE IN FEET
T. 2 N., R. 10 W., 3RD. P.M.
10320
87C45



F.A.I. ROUTE NO. 70
SEC. •
COUNTY ST. CLAIR
TOTAL SHEETS 320
SHEET NO. 19
ILLINOIS PROJECT
• 82-3HVB-2R-1
Water Meter
MATCHLINE 73+00
Conc. Foundation
ACCESS ROAD
I.C.G. R.R.
Conc. Slab
Gate
R.R. Signal
RAMP O
RAMP A1
W.B. C-D
BM R-3
Cv. W.B. C-D 4
P.T. 72+99.95
BM. R-1
Conc. Foundation
P.I. 72+48.67
N71°03'59"E
Cv. A3
N64°07'28"E
W.B. C-D 70
RAMP A
Elect. Panel Box
W.B. I-55/70/64
E.B. I-55/70/64
MATCHLINE 80+00
E.B. C-D
Cv. E.B. C-D 6
N48°27'16"E
Not in Service
RAMP T
36" Storm
P.T. 80+22.34
RAMP S
Conc. Slope Protection
Cv. W.B. C-D 3
BM. A-18
Cv. A2
I.C.G. R.R.
Conc. Rubble
BM. Q-2
Cv. E.B. C-D 5
Cv. E.B. C-D 4
N49°26'59"E
P.T. 74+53.78
RAMP D
Cv. D-4
S88°32'50"E
N54°08'38"E
B.M. C-22
RAMP P
BM. D-27
N66°03'21"E
SOUTHERN R.R.
Not in Service
MATCH LINE
Sign Truss
Cv. E.B. C-D 3
B.M. D-24
N59°03'55"E
RAMP D
Conc. Rubble
E.B. C-D 70
Cv. D3
E.B. C-D
N85°42'08"E
W85°44'32"E
Transmission Tower
P.C. 65+15.50
P.C.C. 65+15.50
P.I. 68+99.16
P.I. 69+41.61
P.O.C. 81+63.00
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' N.E. 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. 415.89
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.



70
ST. CLAIR
320
20
ILLINOIS PROJECT
• 82-3HVB-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 "L" 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
MATCH LINE 73+00 W.B. C-D
MATCH LINE 88+00 W.B. C-D
MATCH LINE 80+00
MATCH LINE 94+00 E.B. C-D
TRENDLEY AVE.
4 TH ST.
R.O.W.
ACCESS ROAD
W.B. I-55/70/64
E.B. I-55/70/64
I.C.G. R.R.
SOUTHERN R.R.
RAMP A
RAMP S
RAMP H
RAMP T
Conc. Slab
Water Meter
Transmission Tower
Inlet
Aband. M.H.
Sign Truss
Control Box
Elect. Box
B.M. S-5
B.M. S-12
B.M. B
B.M. E
B.M. I
Exist. Ditch
Exist. G.R. To Remain (Typ.)
Widen & Resurface E.B. C-D
Resurface E.B. C-D
Limits of Construction
New Pavement, Ramp H 0+00 to 9+50
90+00 Lt & Rt. Begin Remove & Reset Exist. G.R. (Typ.)
Traffic Barrier Terminal, Type 5
Sign Truss (To be Removed)
Note:
1. For Bridge Modifications See Bridge Drawings.
2. For Curve Data Information See Alignment Plan.
3. For Drainage See Drainage Plans.
SCALE IN FEET
T. 2 N., R. 10 W., 3RD. P.M.
86C73



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

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

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

BADCOPY

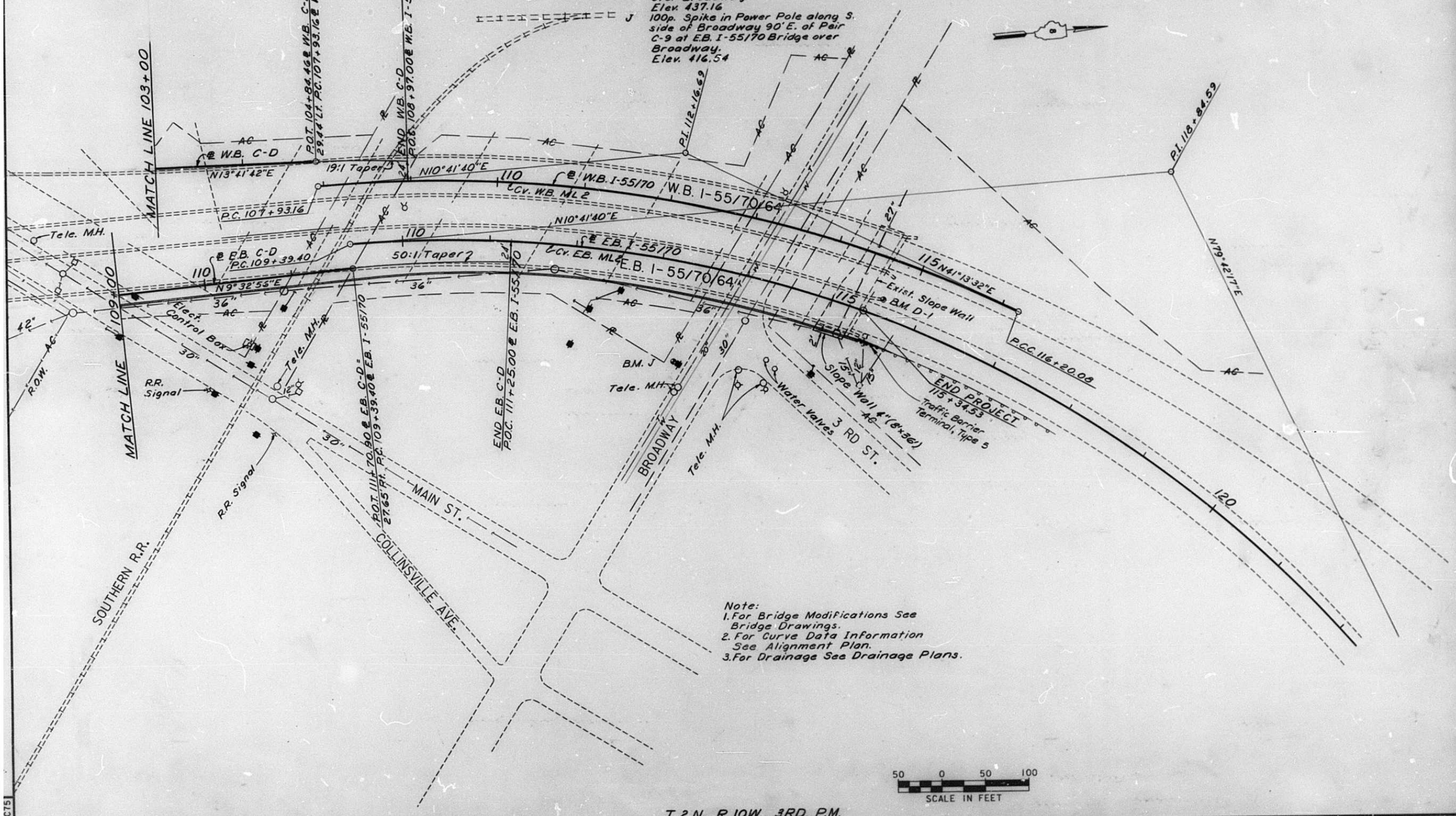
F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	22
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

BENCH MARKS

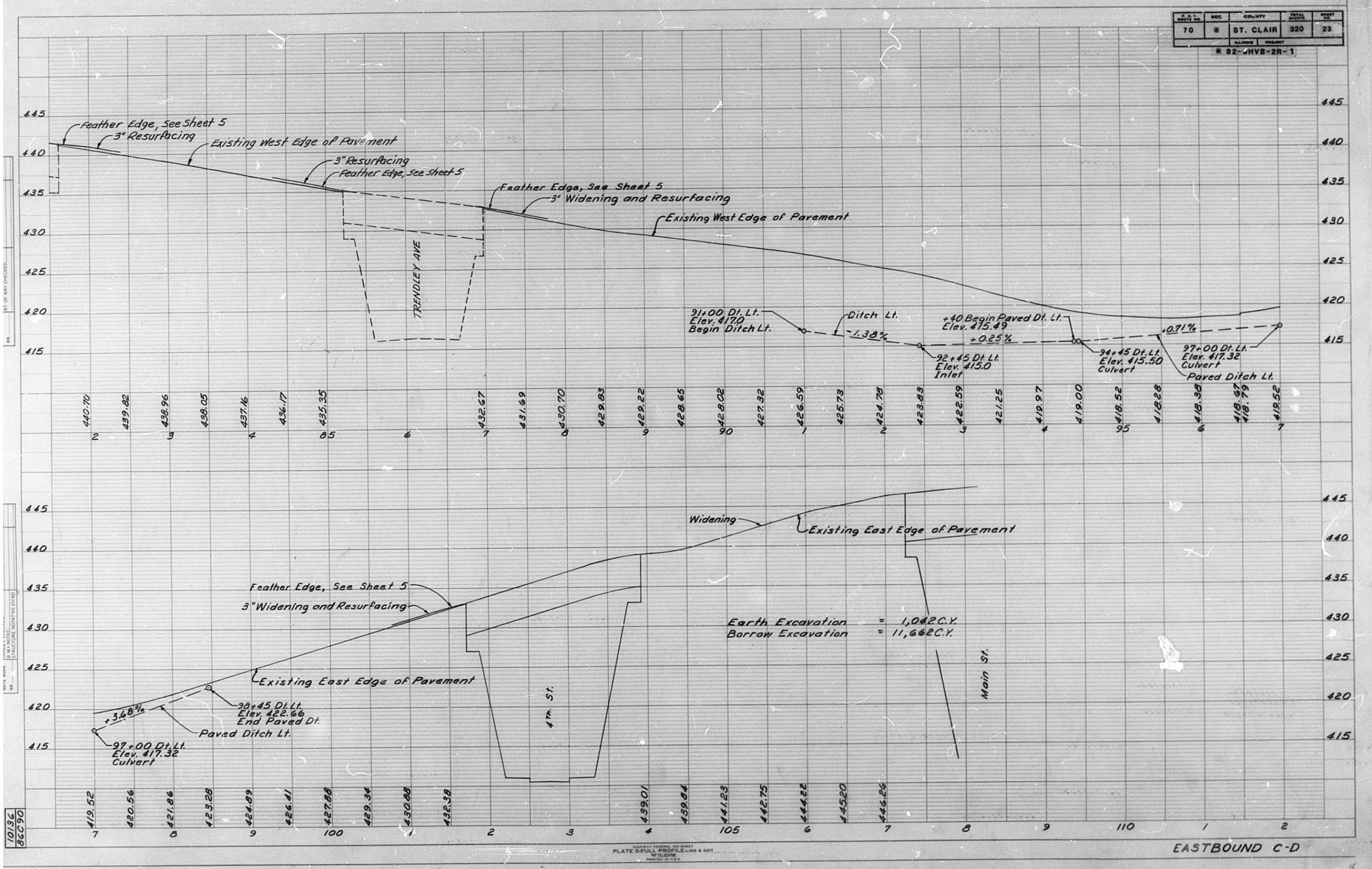
D-1 Chiseled "a" in concrete at end of N.W. Wingwall on E.B. I-55/70 Bridge over Broadway. Elev. 437.16

J 100p. Spike in Power Pole along S. side of Broadway 90' E. of Peir C-9 at E.B. I-55/70 Bridge over Broadway. Elev. 416.54

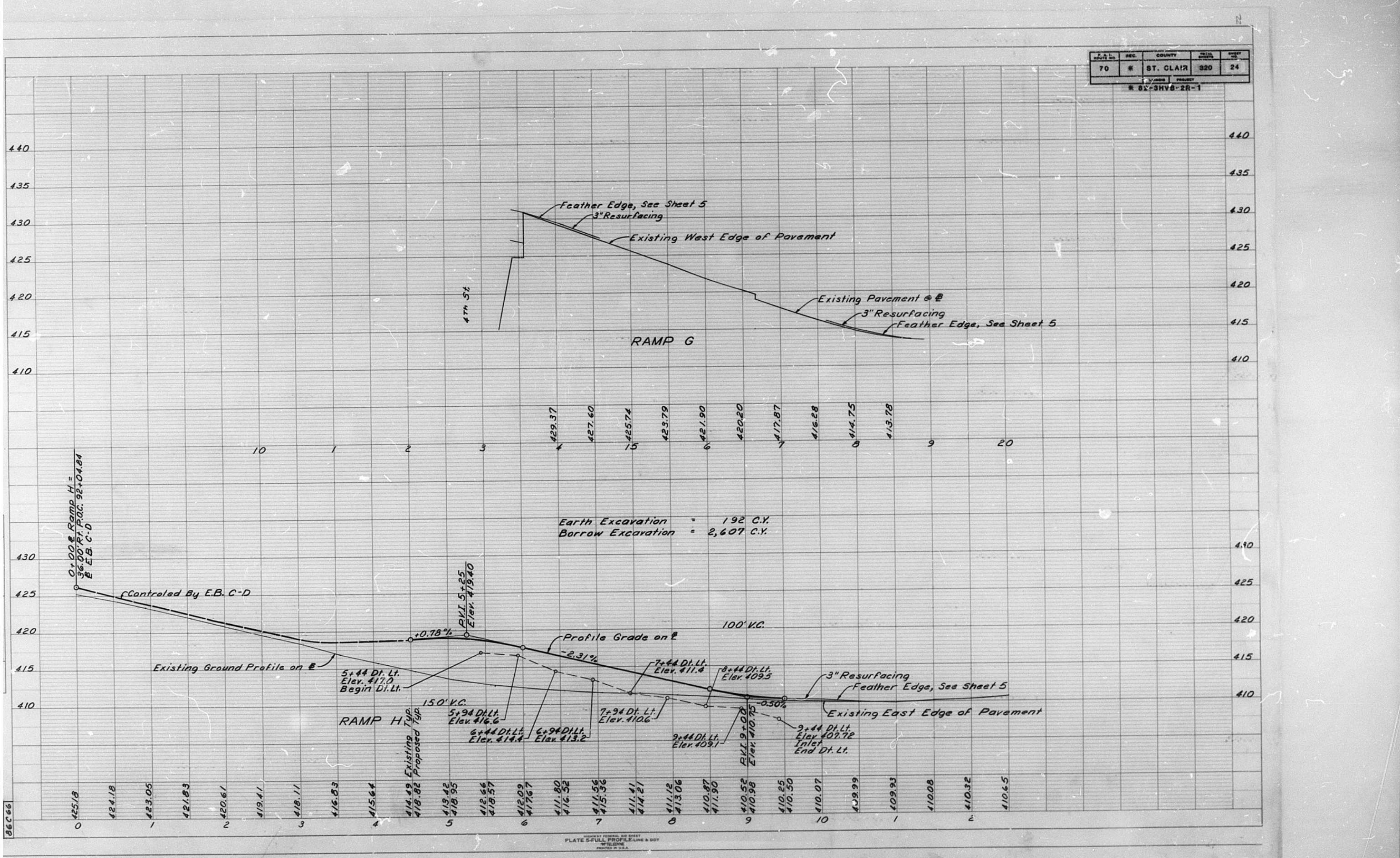


Note:
1. For Bridge Modifications See Bridge Drawings.
2. For Curve Data Information See Alignment Plan.
3. For Drainage See Drainage Plans.

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



F.A.I. ROUTE NO. 70
SEC. *
COUNTY ST. CLAIR
TOTAL SHEETS 320
SHEET NO. 23
ILLINOIS PROJECT
Feather Edge, See Sheet 5
3" Resurfacing
Existing West Edge of Pavement
3" Resurfacing
Feather Edge, See Sheet 5
Feather Edge, See Sheet 5
3" Widening and Resurfacing
Existing West Edge of Pavement
TRENDLEY AVE
91+00 Dt. Lt.
Elev. 417.0
Begin Ditch Lt.
Ditch Lt.
-1.38%
92+45 Dt. Lt.
Elev. 415.0
Inlet
+40 Begin Paved Dt. Lt.
Elev. 415.49
+0.25%
94+45 Dt. Lt.
Elev. 415.50
Culvert
+0.71%
97+00 Dt. Lt.
Elev. 417.32
Culvert
Paved Ditch Lt.
440.70
439.82
438.96
438.05
437.16
436.17
435.35
432.67
431.69
430.70
429.83
429.22
428.65
428.02
427.32
426.59
425.73
424.78
423.83
422.59
421.25
419.97
419.00
418.52
418.28
418.38
418.67
418.79
419.52
Widening
Existing East Edge of Pavement
Feather Edge, See Sheet 5
3" Widening and Resurfacing
Earth Excavation = 1,042 C.Y.
Borrow Excavation = 11,662 C.Y.
Existing East Edge of Pavement
4th St.
Main St.
+3.68%
98+45 Dt. Lt.
Elev. 422.66
End Paved Dt.
Paved Ditch Lt.
97+00 Dt. Lt.
Elev. 417.32
Culvert
419.52
420.56
421.86
423.28
424.89
426.41
427.88
429.34
430.88
432.38
439.01
439.84
441.23
442.75
444.22
445.20
446.26
PLATE 5-FULL PROFILE-LINE & DOT
EASTBOUND C-D
10136
86C90

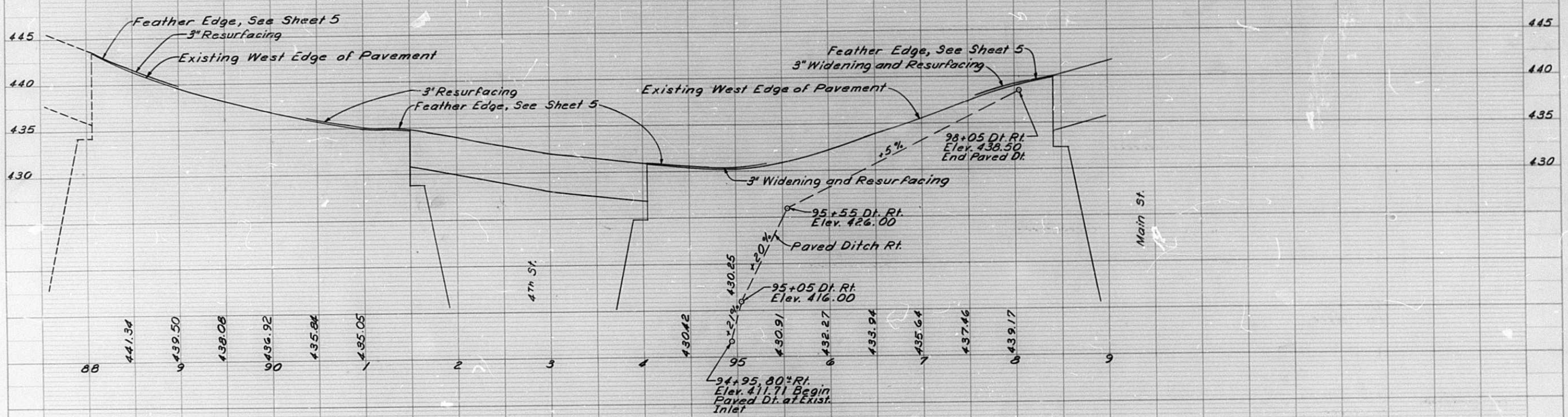


F.A.I. ROUTE NO. 70 | SEC. * | COUNTY ST. CLAIR | TOTAL SHEETS 320 | SHEET NO. 24
* 82-3HVB-2R-1
RAMP G
4th St.
Feather Edge, See Sheet 5
3" Resurfacing
Existing West Edge of Pavement
Existing Pavement @ ℄
3" Resurfacing
Feather Edge, See Sheet 5
429.37 427.60 425.74 423.79 421.90 420.20 417.87 416.28 414.75 413.78
10 1 2 3 4 15 6 7 8 9 20
Earth Excavation = 192 C.Y.
Borrow Excavation = 2,607 C.Y.
0+00 ℄ Ramp H = 36.00' Rt. P.O.C. 92+04.84 ℄ E.B. C-D
Controled By E.B. C-D
P.V.I. 5+25 Elev. 419.40
+0.78%
Profile Grade on ℄
-2.31%
100' V.C.
150' V.C.
Existing Ground Profile on ℄
5+44 Dt. Lt. Elev. 417.0 Begin Dt. Lt.
5+94 Dt. Lt. Elev. 416.6
6+44 Dt. Lt. Elev. 414.4
6+94 Dt. Lt. Elev. 413.2
7+44 Dt. Lt. Elev. 411.4
7+94 Dt. Lt. Elev. 410.6
8+44 Dt. Lt. Elev. 409.5
9+44 Dt. Lt. Elev. 409.1
P.V.I. 9+00 Elev. 410.75
-0.50%
9+44 Dt. Lt. Elev. 407.72 Inlet End Dt. Lt.
3" Resurfacing
Feather Edge, See Sheet 5
Existing East Edge of Pavement
RAMP H
Existing Typ.
Proposed Typ.
425.18 424.18 423.05 421.83 420.61 419.41 418.11 416.83 415.64 414.49 418.82 413.42 418.95 412.66 418.57 412.09 417.67 411.80 416.52 411.56 415.36 411.41 414.21 411.12 413.06 410.87 411.90 410.52 410.98 410.25 410.50 410.07 409.99 409.93 410.08 410.32 410.65
0 1 2 3 4 5 6 7 8 9 10 1 2
440 435 430 425 420 415 410
430 425 420 415 410
86C66
PLATE 5-FULL PROFILE LINE & DOT

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	25
		ILLINOIS	PROJECT	

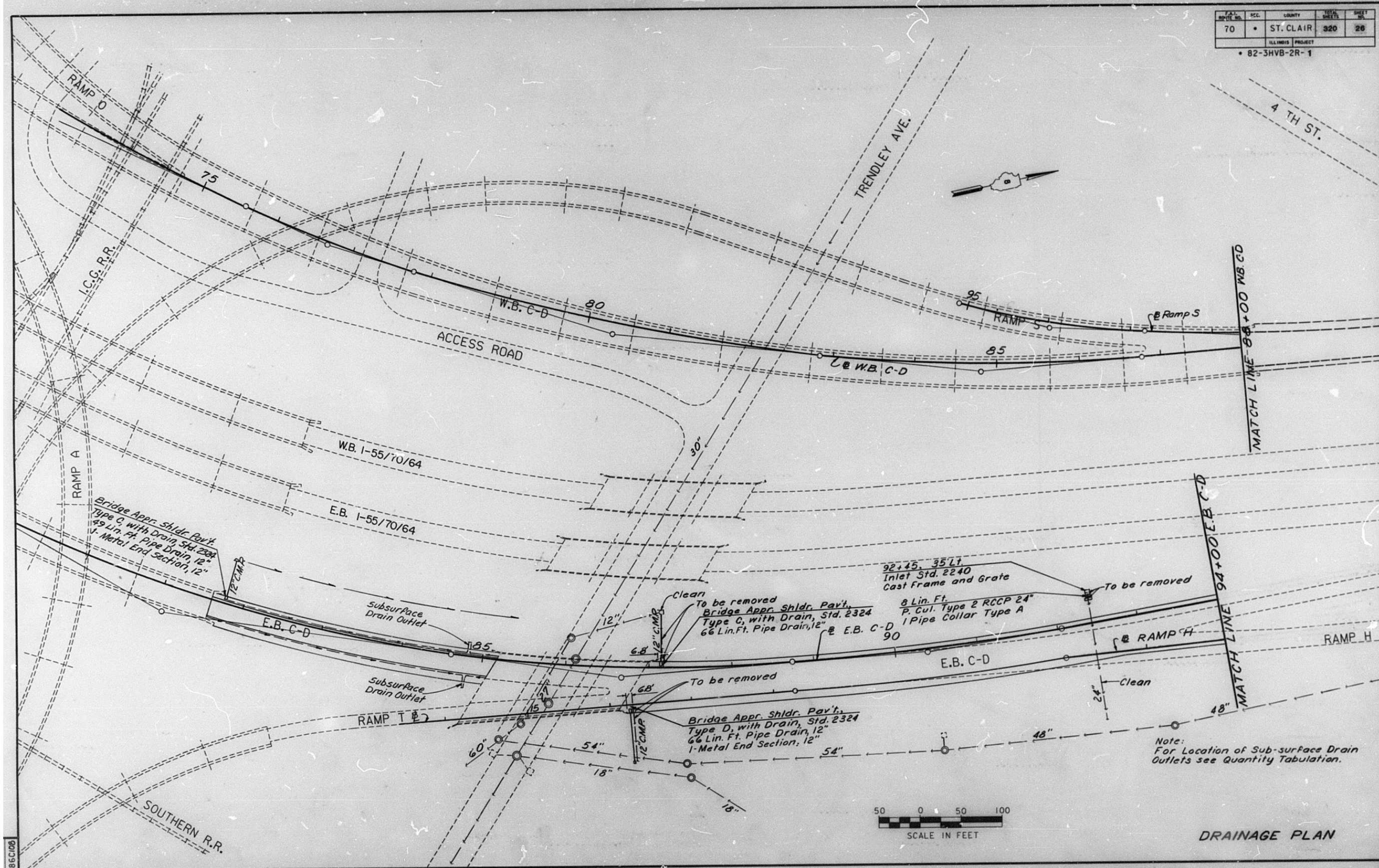
* 82-3HVB-2R-1

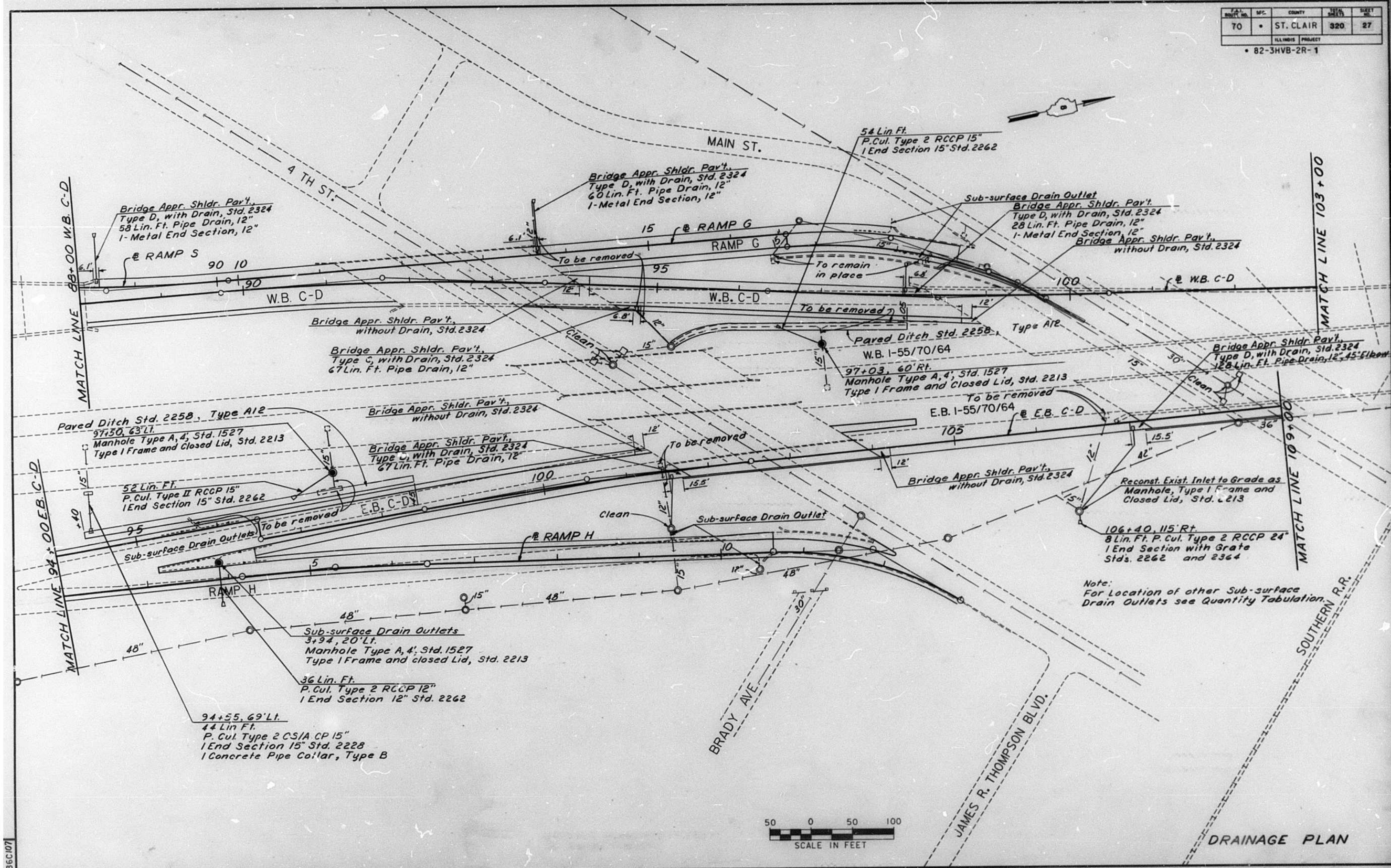
Earth Excavation = 196 C.Y.
Borrow Excavation = 766 C.Y.



WESTBOUND C-D

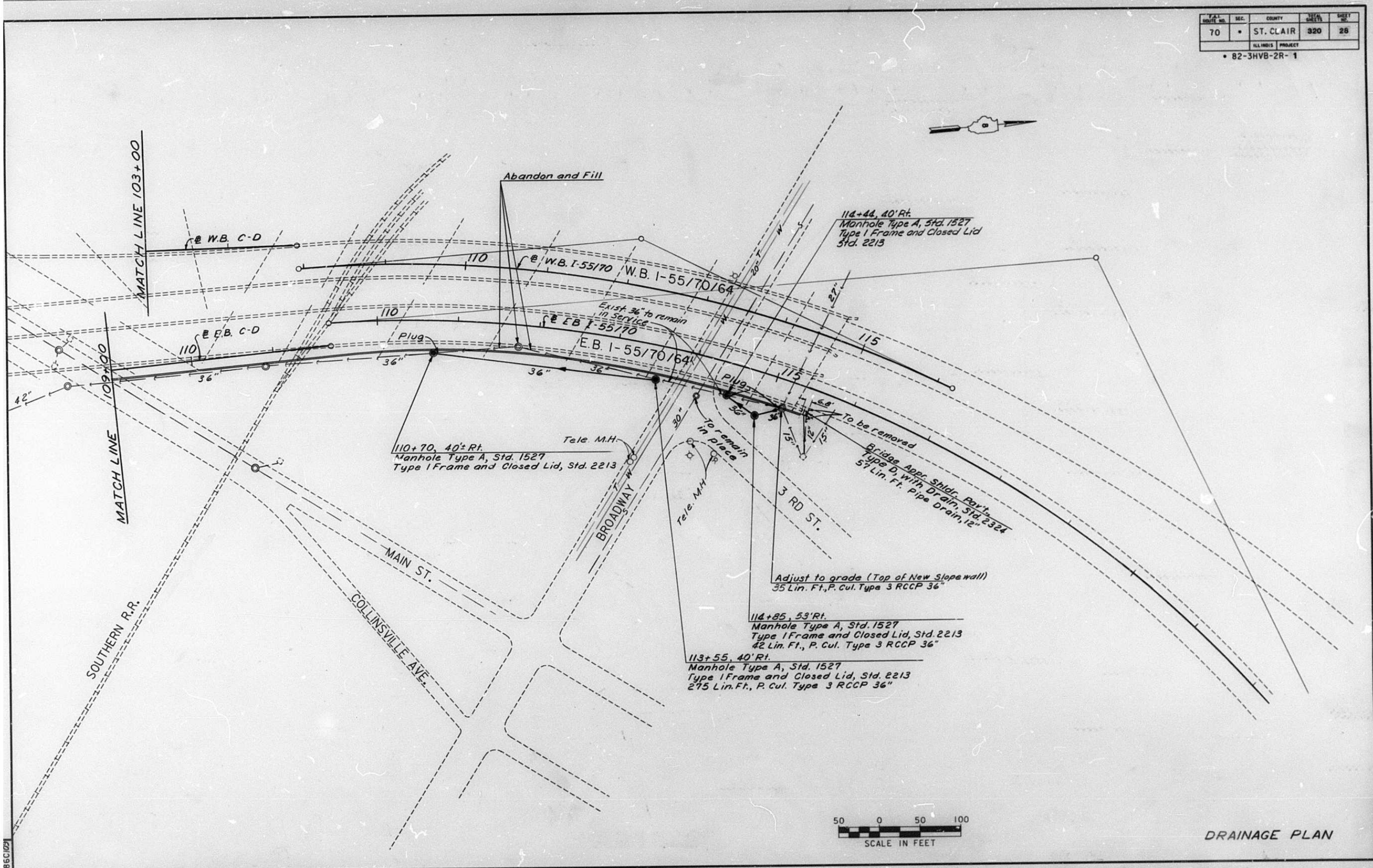
HIGHWAY FEDERAL AID SHEET
PLATE 5-FULL PROFILE-LINE & DOT
TELEDYNE
PRINTED IN U.S.A.


F.A.I. ROUTE NO. 70
SEC. •
COUNTY ST. CLAIR
TOTAL SHEETS 320
SHEET NO. 26
ILLINOIS PROJECT
• 82-3HVB-2R-1
4 TH ST.
TRENDLEY AVE.
RAMP D
75
I.C.G. R.R.
W.B. C-D
80
ACCESS ROAD
95
RAMP S
℄ Ramp S
85
℄ W.B. C-D
MATCH LINE 88+00 W.B. C-D
30"
W.B. I-55/70/64
E.B. I-55/70/64
RAMP A
Bridge Appr. Shldr. Pav't.
Type C, with Drain Std. 2324
49 Lin. Ft. Pipe Drain, 12"
1- Metal End Section, 12"
12" C.M.P.
Subsurface Drain Outlet
E.B. C-D
85
12"
Clean
To be removed
Bridge Appr. Shldr. Pav't.
Type C, with Drain, Std. 2324
66 Lin. Ft. Pipe Drain, 12"
12" C.M.P.
6.8'
℄ E.B. C-D
90
92+45, 35' Lt.
Inlet Std. 2240
Cast Frame and Grate
8 Lin. Ft.
P. Cul. Type 2 RCCP 24"
1 Pipe Collar Type A
To be removed
℄ RAMP H
RAMP H
E.B. C-D
MATCH LINE 94+00 E.B. C-D
Subsurface Drain Outlet
To be removed
6.8'
RAMP T ℄
15"
Bridge Appr. Shldr. Pav't.
Type D, with Drain, Std. 2324
66 Lin. Ft. Pipe Drain, 12"
1-Metal End Section, 12"
12" C.M.P.
24"
Clean
48"
48"
60"
54"
54"
18"
18"
Note:
For Location of Sub-surface Drain Outlets see Quantity Tabulation.
SOUTHERN R.R.
50 0 50 100
SCALE IN FEET
DRAINAGE PLAN
86C08



F.A.I. ROUTE NO. 70
SEC. •
COUNTY ST. CLAIR
TOTAL SHEETS 320
SHEET NO. 27
ILLINOIS PROJECT
• 82-3HVB-2R-1
MAIN ST.
4 TH ST.
MATCH LINE 88+00 W.B. C-D
MATCH LINE 94+00 E.B. C-D
MATCH LINE 103+00
MATCH LINE 109+00
℄ RAMP S
℄ RAMP G
RAMP G
℄ RAMP H
RAMP H
W.B. C-D
℄ W.B. C-D
E.B. C-D
℄ E.B. C-D
W.B. I-55/70/64
E.B. I-55/70/64
Bridge Appr. Shldr. Pav't., Type D, with Drain, Std. 2324, 58 Lin. Ft. Pipe Drain, 12", 1-Metal End Section, 12"
Bridge Appr. Shldr. Pav't., Type D, with Drain, Std. 2324, 60 Lin. Ft. Pipe Drain, 12", 1-Metal End Section, 12"
54 Lin. Ft. P. Cul. Type 2 RCCP 15", 1 End Section 15" Std. 2262
Sub-surface Drain Outlet
Bridge Appr. Shldr. Pav't., Type D, with Drain, Std. 2324, 28 Lin. Ft. Pipe Drain, 12", 1-Metal End Section, 12"
Bridge Appr. Shldr. Pav't. without Drain, Std. 2324
To be removed
To remain in place
Bridge Appr. Shldr. Pav't. without Drain, Std. 2324
Bridge Appr. Shldr. Pav't., Type C, with Drain, Std. 2324, 67 Lin. Ft. Pipe Drain, 12"
Paved Ditch Std. 2258
Type A12
97+03, 60' Rt. Manhole Type A, 4', Std. 1527, Type 1 Frame and Closed Lid, Std. 2213
Bridge Appr. Shldr. Pav't., Type D, with Drain, Std. 2324, 128 Lin. Ft. Pipe Drain, 12", 45° Elbow
Clean
Paved Ditch Std. 2258, Type A12
97+50, 63' Lt. Manhole Type A, 4', Std. 1527, Type 1 Frame and Closed Lid, Std. 2213
Bridge Appr. Shldr. Pav't. without Drain, Std. 2324
Bridge Appr. Shldr. Pav't., Type C, with Drain, Std. 2324, 67 Lin. Ft. Pipe Drain, 12"
52 Lin. Ft. P. Cul. Type II RCCP 15", 1 End Section 15" Std. 2262
Bridge Appr. Shldr. Pav't. without Drain, Std. 2324
Reconst. Exist. Inlet to Grade as Manhole, Type 1 Frame and Closed Lid, Std. 2213
106+40, 115' Rt. 8 Lin. Ft. P. Cul. Type 2 RCCP 24", 1 End Section with Grate Stds. 2262 and 2364
Sub-surface Drain Outlets
Sub-surface Drain Outlets 3+94, 20' Lt. Manhole Type A, 4', Std. 1527, Type 1 Frame and closed Lid, Std. 2213
36 Lin. Ft. P. Cul. Type 2 RCCP 12", 1 End Section 12" Std. 2262
94+55, 69' Lt. 44 Lin. Ft. P. Cul. Type 2 CS/A CP 15", 1 End Section 15" Std. 2228, 1 Concrete Pipe Collar, Type B
Note: For Location of other Sub-surface Drain Outlets see Quantity Tabulation.
BRADY AVE.
JAMES R. THOMPSON BLVD.
SOUTHERN R.R.
50 0 50 100
SCALE IN FEET
DRAINAGE PLAN

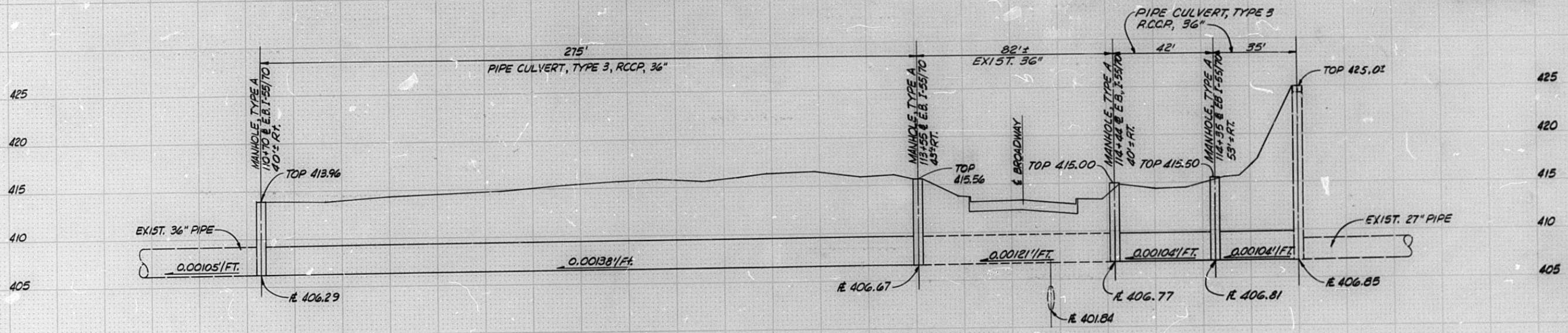
86C107



F.A.I. ROUTE NO. 70
SEC. •
COUNTY ST. CLAIR
TOTAL SHEETS 320
SHEET NO. 28
ILLINOIS PROJECT
• 82-3HVB-2R-1
MATCH LINE 103+00
MATCH LINE 109+00
Abandon and Fill
℄ W.B. C-D
℄ W.B. I-55/70
W.B. I-55/70/64
℄ E.B. C-D
℄ E.B. I-55/70
E.B. I-55/70/64
Exist. 36" to remain in Service
Plug
114+44, 40' Rt.
Manhole Type A, Std. 1527
Type I Frame and Closed Lid
Std. 2213
To be removed
Bridge Appr. Shldr. Pavt.
Type D, with Drain, Std. 2324
57 Lin. Ft. Pipe Drain, 12"
110+70, 40' Rt.
Manhole Type A, Std. 1527
Type I Frame and Closed Lid, Std. 2213
Tele. M.H.
To remain in place
BROADWAY
3 RD ST.
MAIN ST.
COLLINSVILLE AVE.
SOUTHERN R.R.
Adjust to grade (Top of New Slopewall)
35 Lin. Ft., P. Cul. Type 3 RCCP 36"
114+85, 53' Rt.
Manhole Type A, Std. 1527
Type I Frame and Closed Lid, Std. 2213
42 Lin. Ft., P. Cul. Type 3 RCCP 36"
113+55, 40' Rt.
Manhole Type A, Std. 1527
Type I Frame and Closed Lid, Std. 2213
275 Lin. Ft., P. Cul. Type 3 RCCP 36"
50 0 50 100
SCALE IN FEET
DRAINAGE PLAN

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	29
		ILLINOIS	PROJECT	

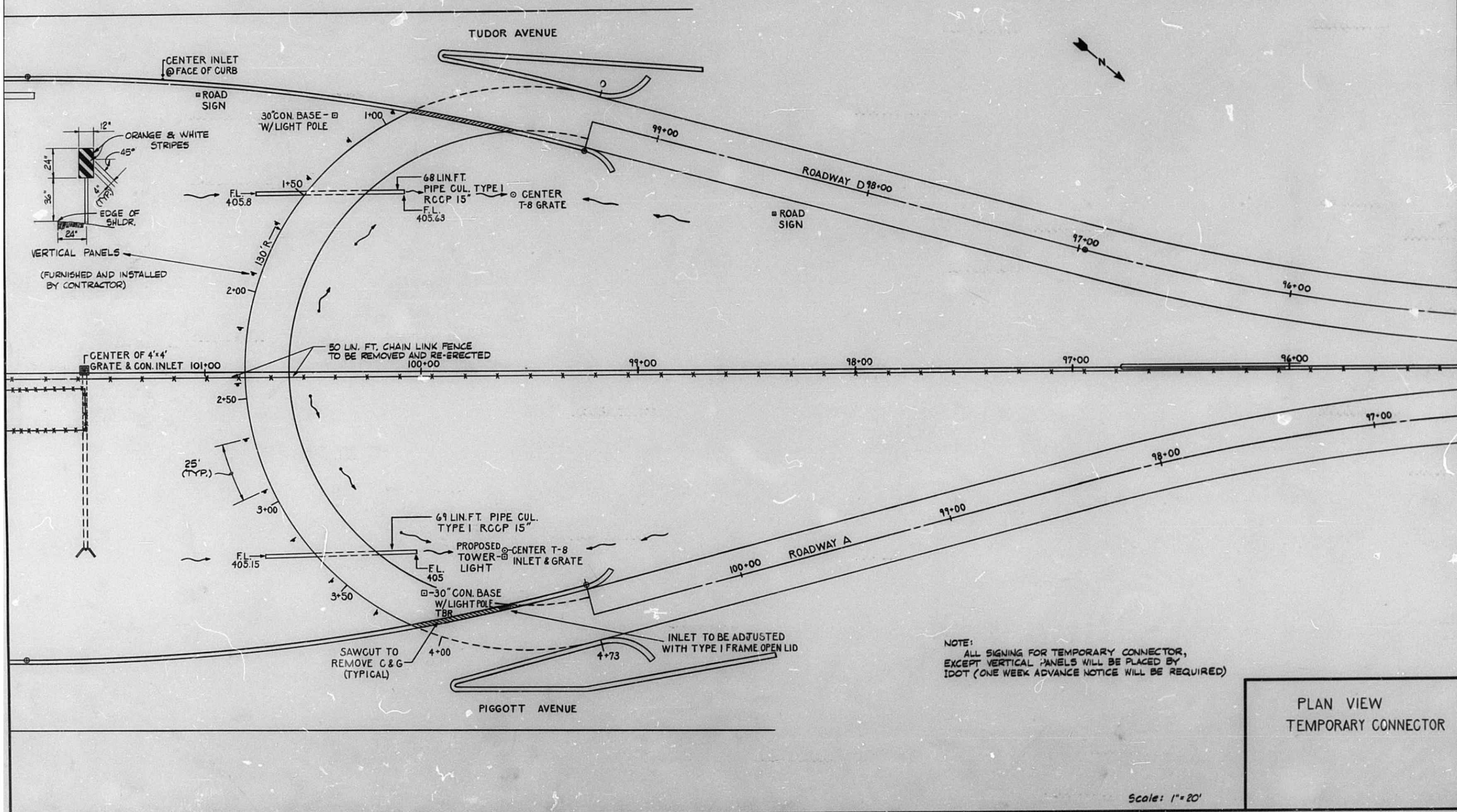
• 82-3HVB-2R-1



SCALE: 1" = 20' HOR.
1" = 5' VERT.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 70	*	ST. CLAIR	320	30

* 82-3HVB-2R-1



NOTE:
ALL SIGNING FOR TEMPORARY CONNECTOR, EXCEPT VERTICAL PANELS WILL BE PLACED BY IDOT (ONE WEEK ADVANCE NOTICE WILL BE REQUIRED)

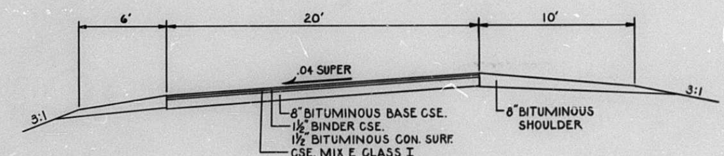
PLAN VIEW
TEMPORARY CONNECTOR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 70	*	ST. CLAIR	320	31

* 82-3HVB-2R-1

SUMMARY OF QUANTITIES

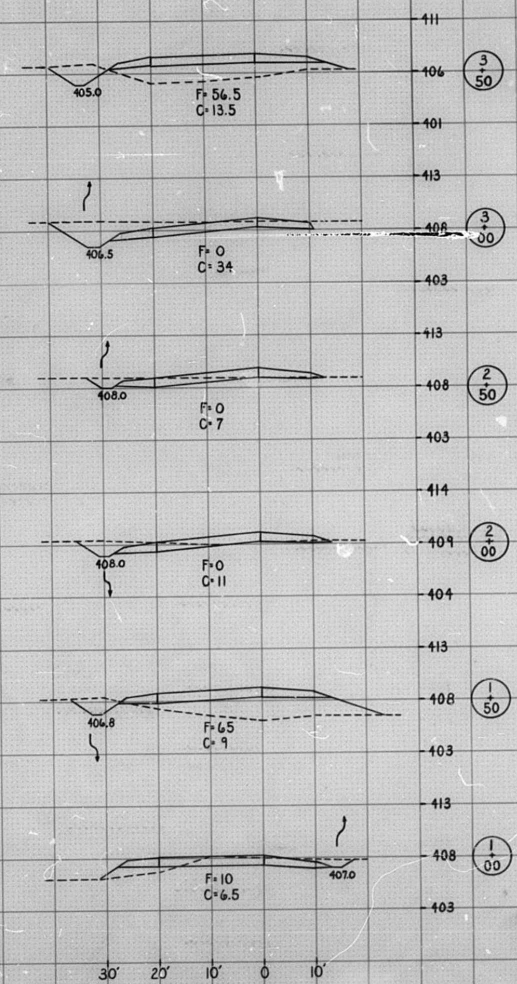
20200100	144.9 CU.YDS.	EARTH EXCAVATION
20400100	194.5 CU.YDS.	BORROW EXCAVATION
21900600	584.1 SQ.YDS.	BITUMINOUS SHOULDERS 8"
30800500	746.6 SQ.YDS.	BITUMINOUS BASE COURSE 8"
40600700	62.7 TONS	BITUMINOUS CONCRETE BINDER COURSE, 1½"
40601400	62.7 TONS	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE E, 1½"
51100430	137 LIN. FT.	PIPE CULVERT RCCP 15"
61260300	EACH	INLETS TO BE ADJUSTED WITH NEW TYPE 1 FRAME, OPEN LID
61260900	1 EACH	INLETS TO BE ADJUSTED WITH NEW TYPE 6 FRAME & GRATE
61605100	88 LIN. FT.	COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24 (ABUTTING EXISTING PAVEMENT)
61700900	746.6 SQ.YDS.	BITUMINOUS CONCRETE REMOVAL
61700920	584.1 SQ.YDS.	BITUMINOUS CONCRETE SHOULDER REMOVAL
61701800	88 LIN. FT.	CONCRETE CURB & GUTTER REMOVAL
62910400	50 LIN. FT.	CHAIN LINK FENCE TO BE REMOVED AND RE-ERECTED
73020200	679 LIN. FT.	PAINT PAVEMENT MARKING LINE 4"
Z0040500	137 LIN. FT.	PIPE CULVERT REMOVAL



TEMPORARY CONNECTOR
STA. 0+85 to 3+95
SUPERELEVATION ATTAINED
0+85 to 1+85
2+95 to 3+95

SCHEDULE OF QUANTITIES & TYPICAL SECTION FOR TEMPORARY CONNECTOR

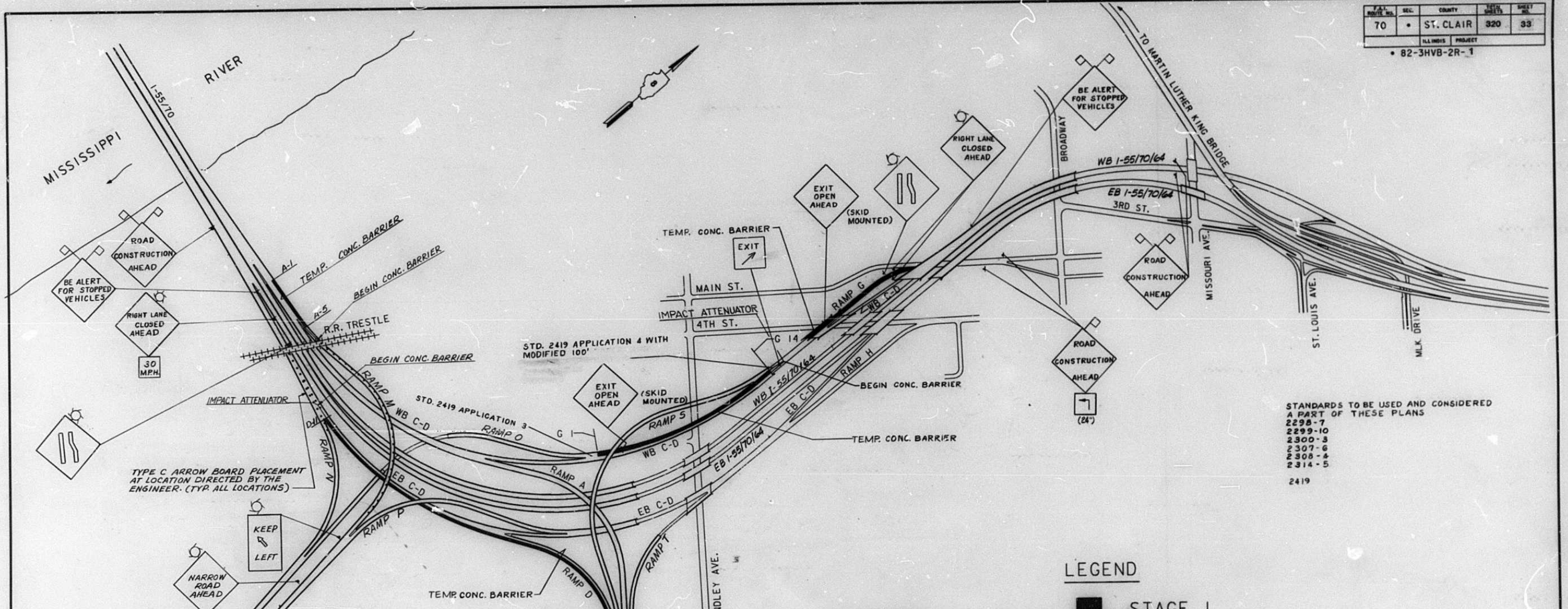
			SHEET NO.
FED. ROAD DIST. NO. 7	ILLINOIS	320	32



HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-LINE & DOT
PRINTED IN U.S.A.

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

TUDOR AVE.
PIGGOTT AVE.

LEGEND

STAGE I

GENERAL NOTES

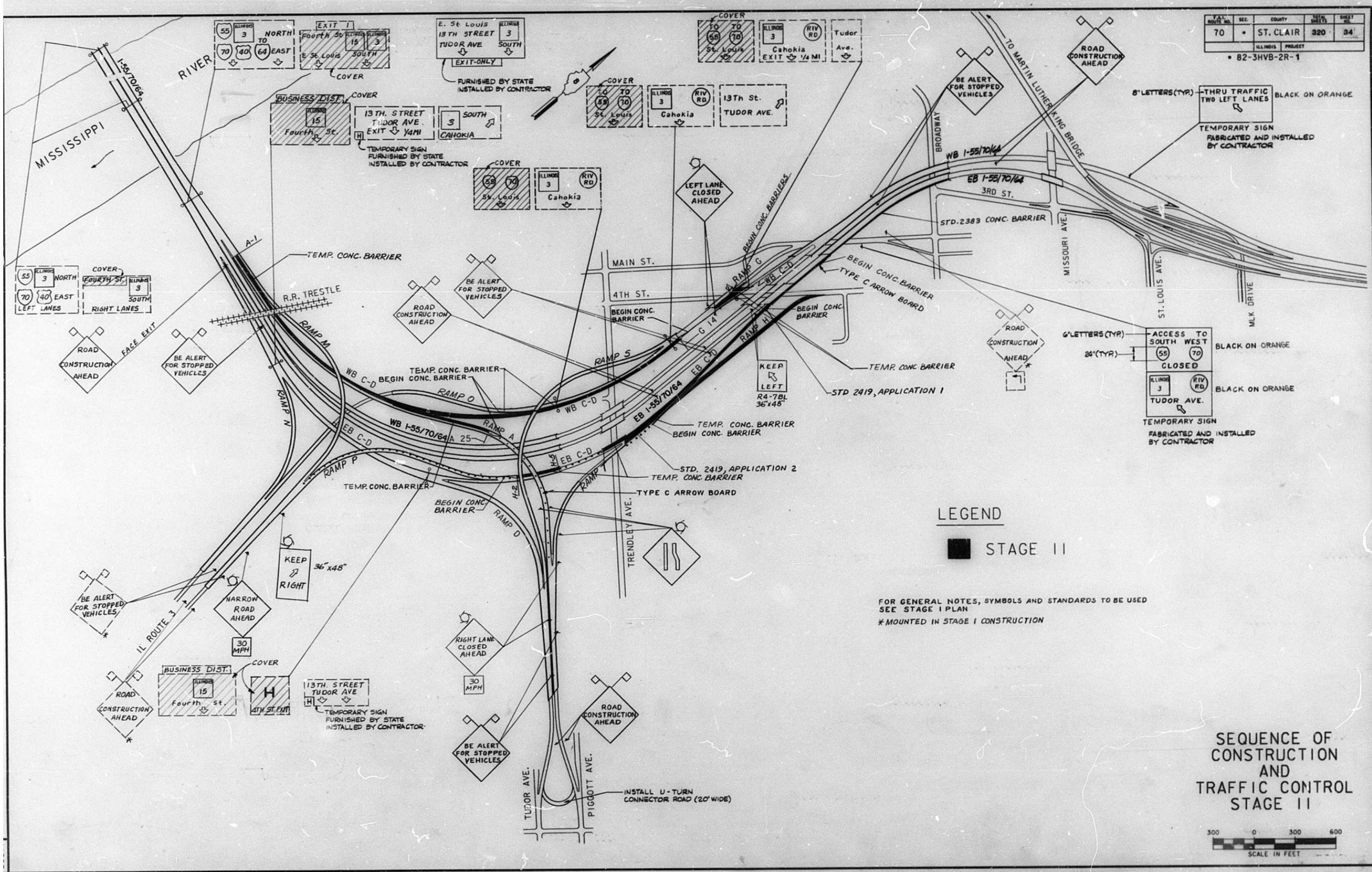
1. Locate temporary concrete barrier 2 ft. minimum from edge of traveled lane. Minimum lane width = 12'
2. Place concrete barrier along all construction on structures.
3. Flagman and flagmen signs will be posted during construction periods to slow or stop traffic when men and equipment are in the traveled 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

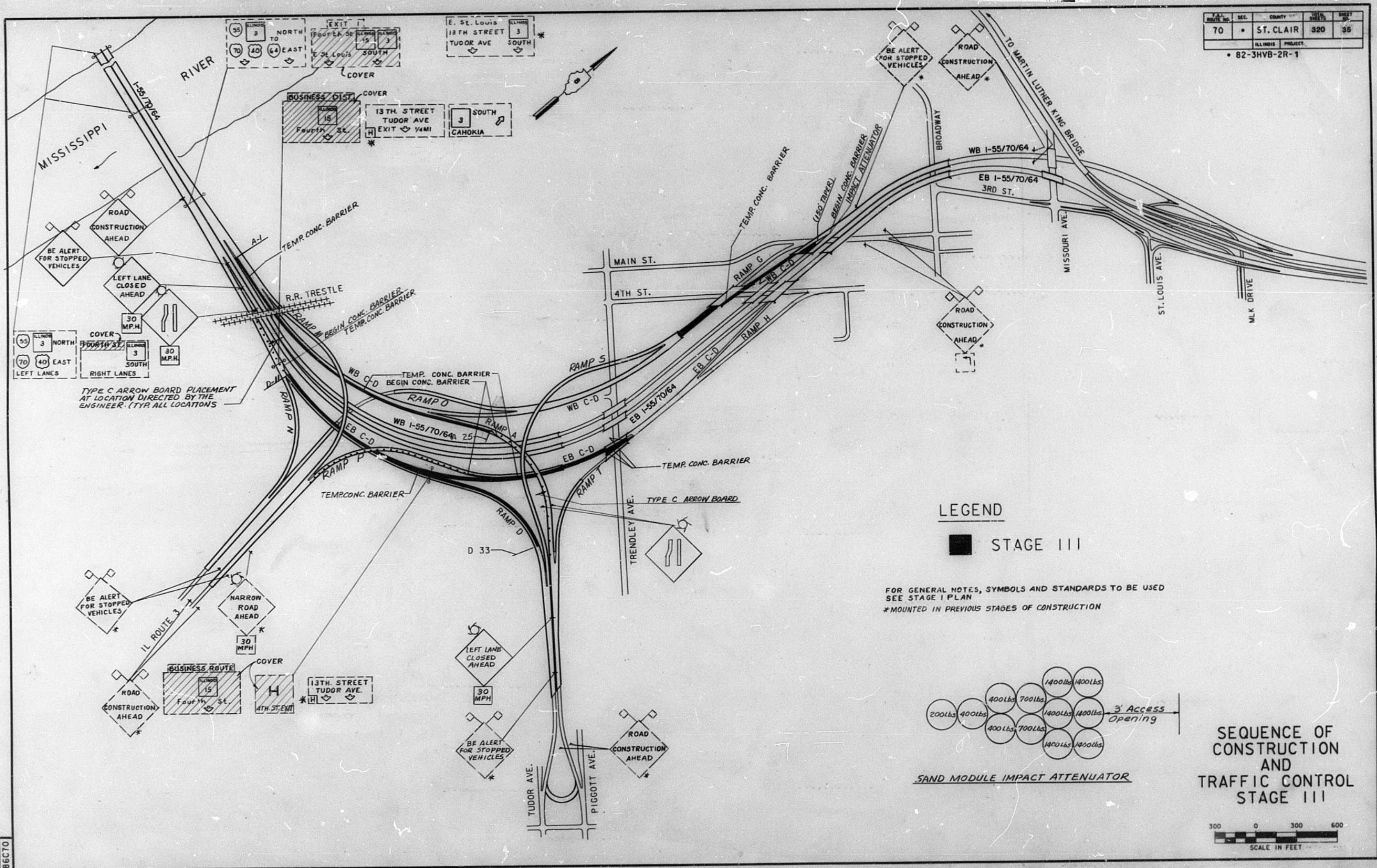
300 0 300 600
SCALE IN FEET.

Rev. 11-18-88

10136
86C69

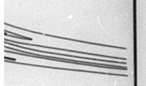


F.A.I. ROUTE NO. 70 SEC. • COUNTY ST. CLAIR TOTAL SHEETS 320 SHEET NO. 34
ILLINOIS PROJECT
• 82-3HVB-2R-1
MISSISSIPPI RIVER
I-55/70/64
A-1
TEMP. CONC. BARRIER
R.R. TRESTLE
RAMP M
RAMP N
RAMP P
RAMP O
RAMP S
RAMP A
RAMP D
RAMP G
RAMP H
RAMP T
WB C-D
EB C-D
WB I-55/70/64
EB I-55/70/64
MAIN ST.
4TH ST.
3RD ST.
BROADWAY
MISSOURI AVE.
ST. LOUIS AVE.
MLK DRIVE
TRENDLEY AVE.
TUDOR AVE.
PIGGOTT AVE.
IL ROUTE 3
TO MARTIN LUTHER KING BRIDGE
BEGIN CONC. BARRIER
TYPE C ARROW BOARD
STD. 2383 CONC. BARRIER
STD 2419, APPLICATION 1
STD. 2419, APPLICATION 2
TEMP. CONC. BARRIER
INSTALL U-TURN CONNECTOR ROAD (20' WIDE)
ROAD CONSTRUCTION AHEAD
BE ALERT FOR STOPPED VEHICLES
LEFT LANE CLOSED AHEAD
RIGHT LANE CLOSED AHEAD
NARROW ROAD AHEAD
30 MPH
KEEP RIGHT 36"x48"
KEEP LEFT R4-7BL 36"x48"
FACE EXIT
COVER
BUSINESS DIST. 15 Fourth St.
13TH STREET TUDOR AVE. EXIT 1/4 MI
TEMPORARY SIGN FURNISHED BY STATE INSTALLED BY CONTRACTOR
E. St Louis 13 TH STREET TUDOR AVE 3 SOUTH EXIT-ONLY
FURNISHED BY STATE INSTALLED BY CONTRACTOR
55 3 NORTH TO 70 40 64 EAST
EXIT 1 Fourth St. E. St. Louis 15 3 SOUTH
TO 55 TO 70 St. Louis
3 RIV RD Cahokia EXIT 1/4 MI
Tudor Ave.
13Th St. TUDOR AVE.
3 SOUTH CAHOKIA
55 3 NORTH 70 40 EAST LEFT LANES
Fourth St. 3 SOUTH RIGHT LANES
8" LETTERS (TYP.) THRU TRAFFIC TWO LEFT LANES BLACK ON ORANGE
TEMPORARY SIGN FABRICATED AND INSTALLED BY CONTRACTOR
6" LETTERS (TYP.) ACCESS TO SOUTH WEST 55 70 CLOSED 24" (TYP.) BLACK ON ORANGE
3 RIV RD TUDOR AVE. BLACK ON ORANGE
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


F.A.I. ROUTE NO. 70
SEC. •
COUNTY ST. CLAIR
TOTAL SHEETS 320
SHEET NO. 35
ILLINOIS PROJECT
• 82-3HVB-2R-1
MISSISSIPPI
RIVER
I-55/70/64
TO MARTIN LUTHER KING BRIDGE
BE ALERT FOR STOPPED VEHICLES
ROAD CONSTRUCTION AHEAD
LEFT LANE CLOSED AHEAD
30 M.P.H.
NARROW ROAD AHEAD
NORTH TO EAST
EXIT
COVER
E. St. Louis
13TH STREET
TUDOR AVE
SOUTH
BUSINESS DIST.
Fourth St.
13TH. STREET TUDOR AVE EXIT 1/4 MI
CAHOKIA
LEFT LANES
RIGHT LANES
BUSINESS ROUTE
4TH ST. EXIT
13TH. STREET TUDOR AVE.
TEMP. CONC. BARRIER
BEGIN CONC. BARRIER
IMPACT ATTENUATOR
(150' TAPER)
R.R. TRESTLE
TYPE C ARROW BOARD PLACEMENT AT LOCATION DIRECTED BY THE ENGINEER. (TYP. ALL LOCATIONS
TYPE C ARROW BOARD
RAMP M
RAMP N
RAMP O
RAMP P
RAMP A
RAMP S
RAMP T
RAMP D
RAMP G
RAMP H
WB C-D
EB C-D
WB I-55/70/64
EB I-55/70/64
A-1
D-11
A 25
D 33
MAIN ST.
4TH ST.
3RD ST.
BROADWAY
MISSOURI AVE.
ST. LOUIS AVE.
MLK DRIVE
TRENDLEY AVE.
TUDOR AVE.
PIGGOTT AVE.
IL ROUTE 3
LEGEND
STAGE III
FOR GENERAL NOTES, SYMBOLS AND STANDARDS TO BE USED SEE STAGE I PLAN
*MOUNTED IN PREVIOUS STAGES OF CONSTRUCTION
200Lbs 400Lbs 400Lbs 700Lbs 1400Lbs
3' Access Opening
SAND MODULE IMPACT ATTENUATOR
SEQUENCE OF CONSTRUCTION AND TRAFFIC CONTROL STAGE III
300 0 300 600
SCALE IN FEET
10136
86C70

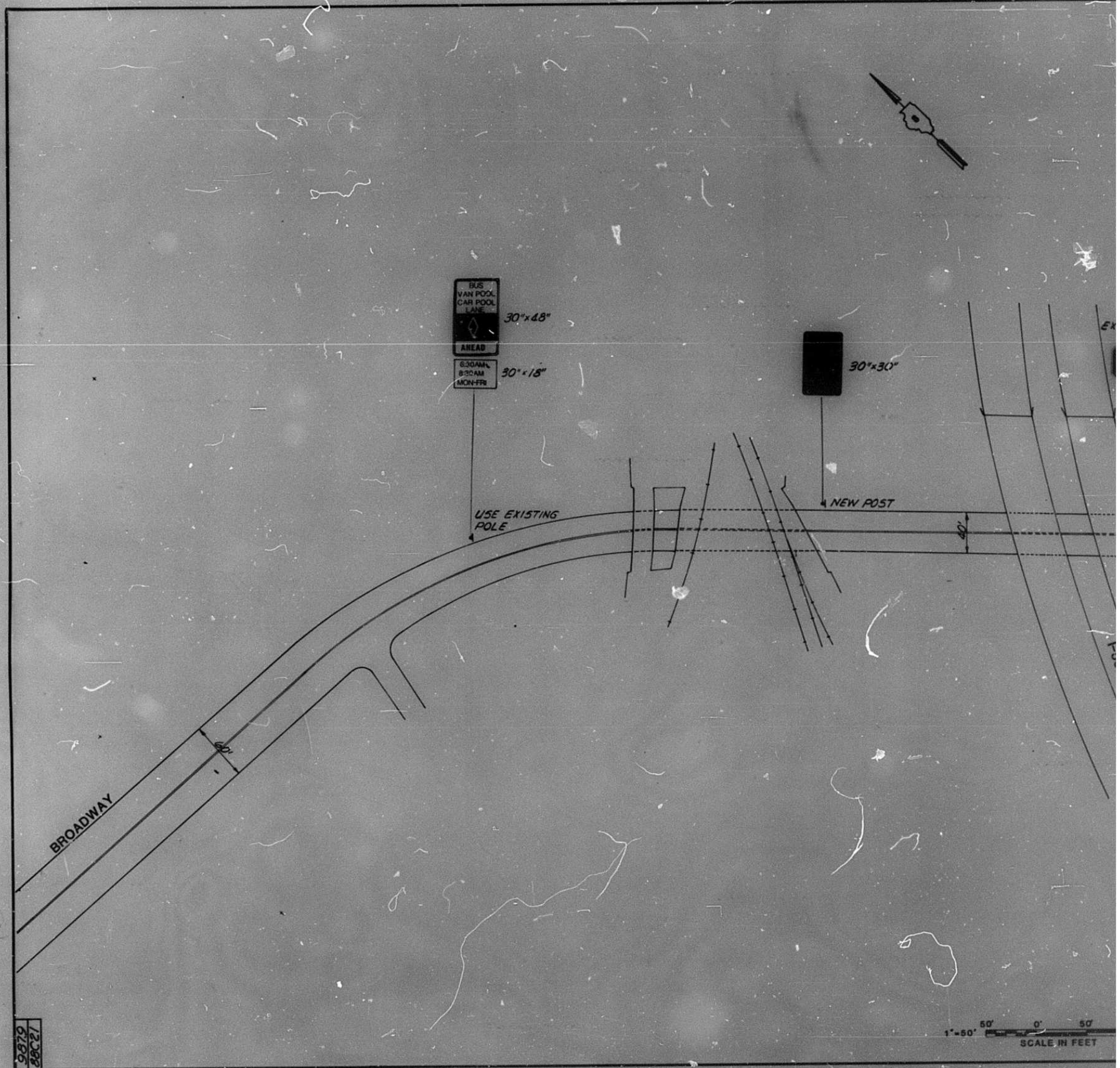
CLAIR	320	16
PROJECT		

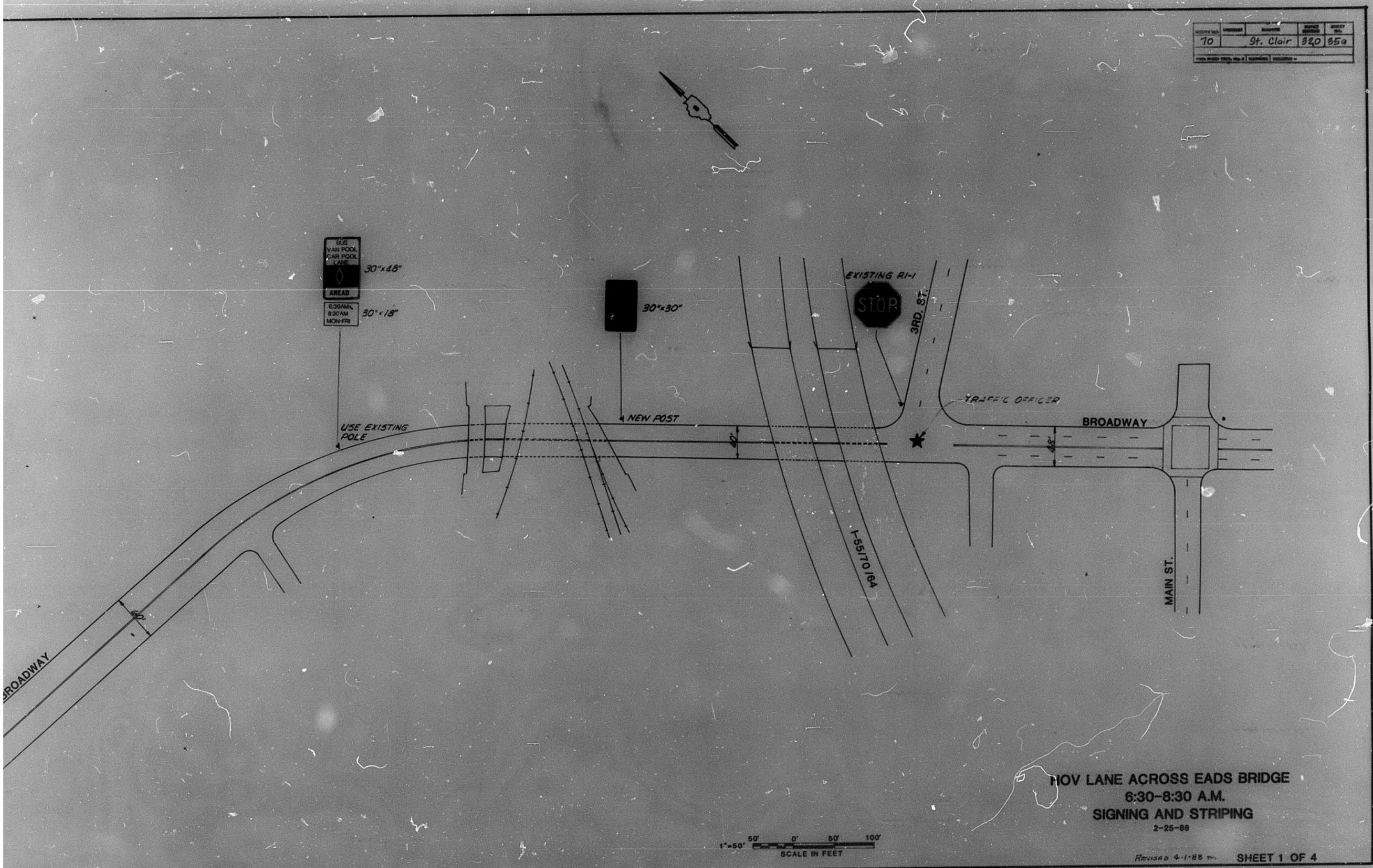
-2R-1

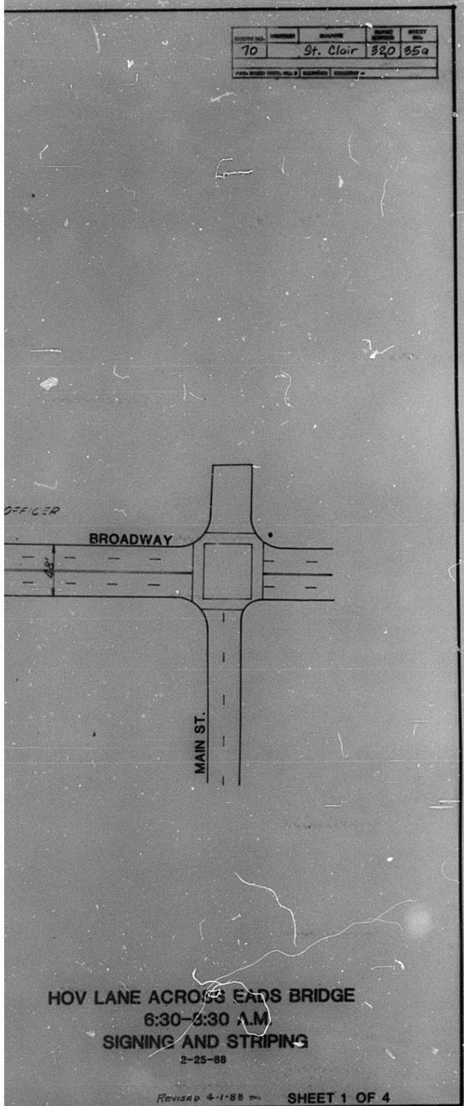


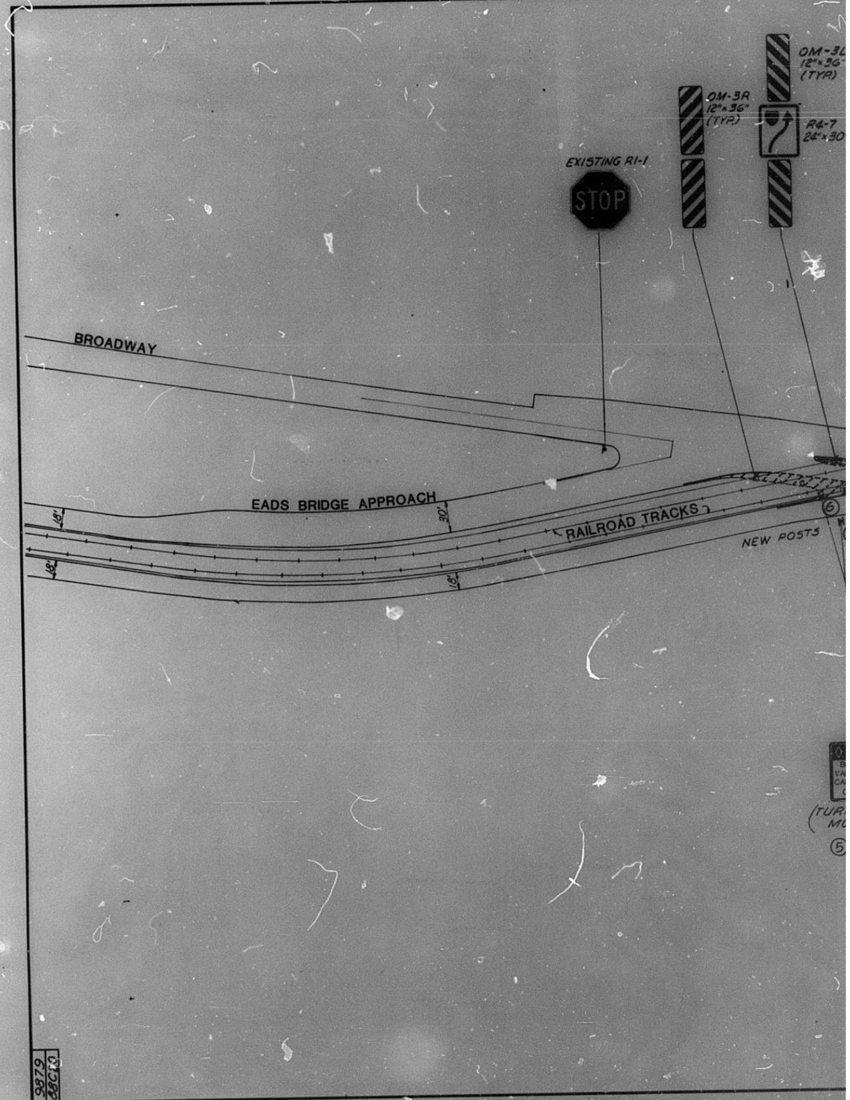
NCE OF
RUCTION
ND
CONTROL
GE III

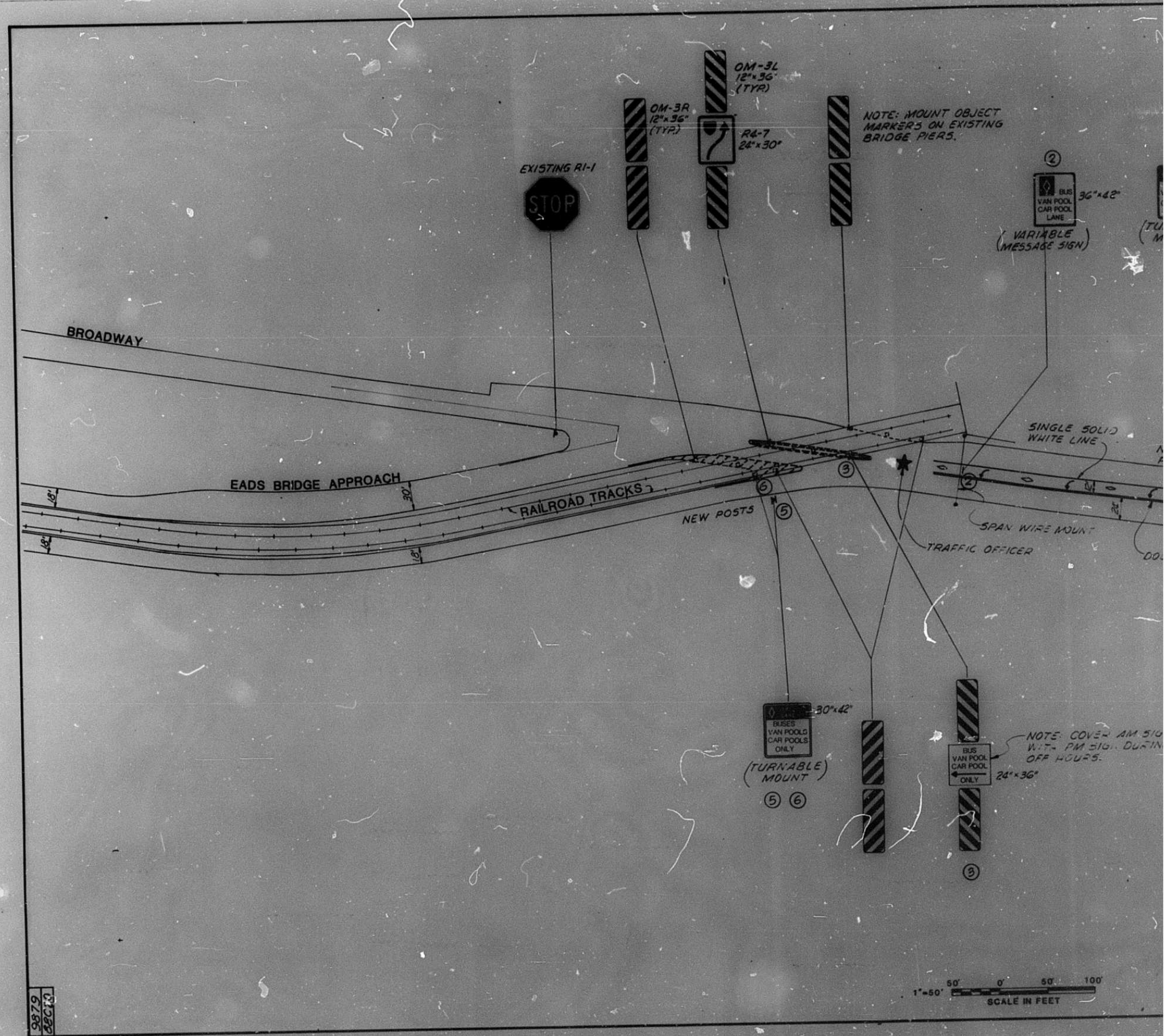
300 600
IN FEET



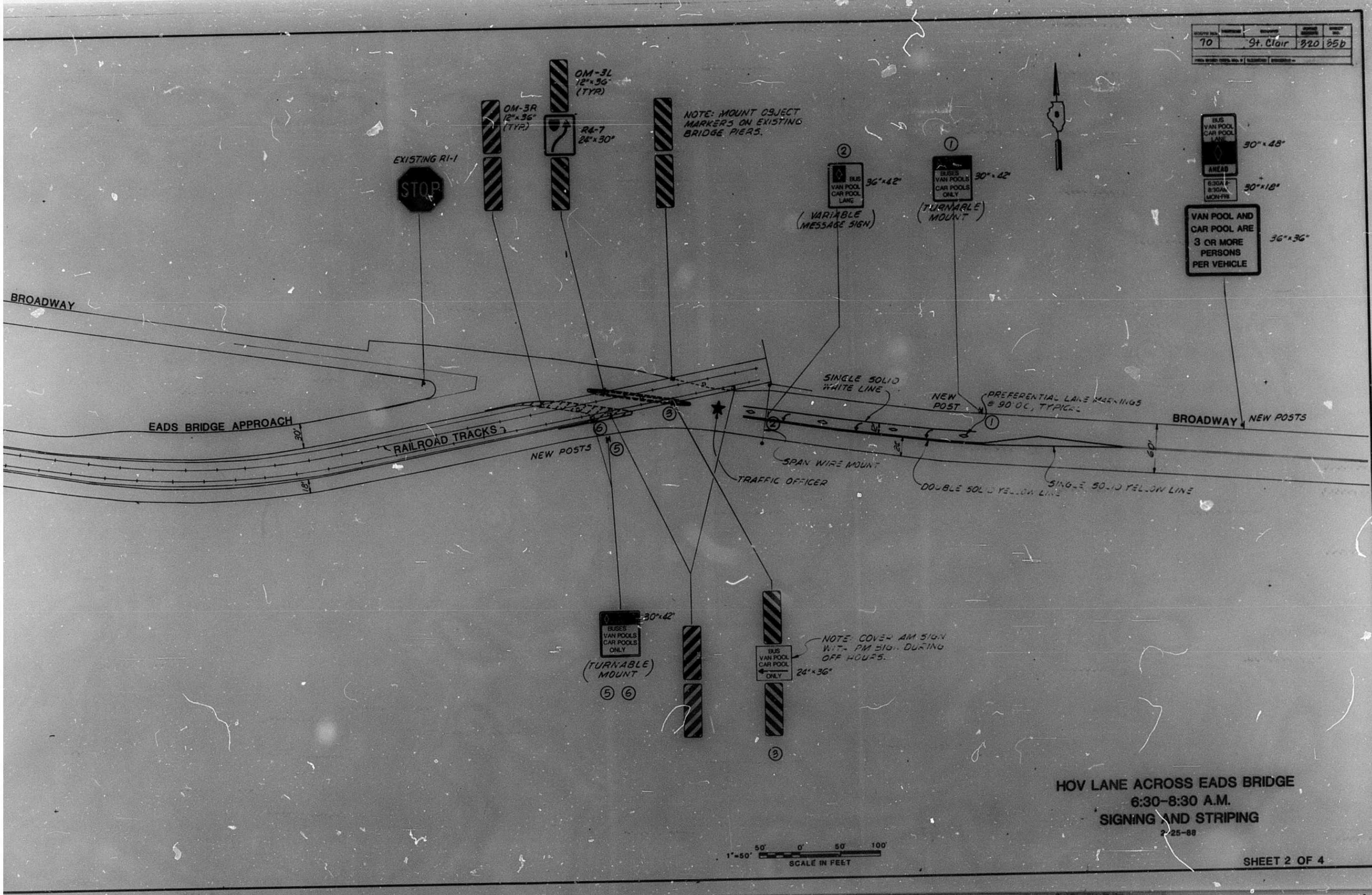

70
St. Clair
320
35a
BUS
VAN POOL
CAR POOL
LANE
AHEAD
30"×48"
6:30AM
8:30AM
MON-FRI
30"×18"
30"×30"
EXISTING R1-1
STOP
3RD. ST.
USE EXISTING
POLE
NEW POST
TRAFFIC OFFICER
BROADWAY
MAIN ST.
I-55/70/64
BROADWAY
40'
48'
60'
HOV LANE ACROSS EADS BRIDGE
6:30-8:30 A.M.
SIGNING AND STRIPING
2-25-88
1"=50'
50' 0' 50' 100'
SCALE IN FEET
Revised 4-1-88
SHEET 1 OF 4

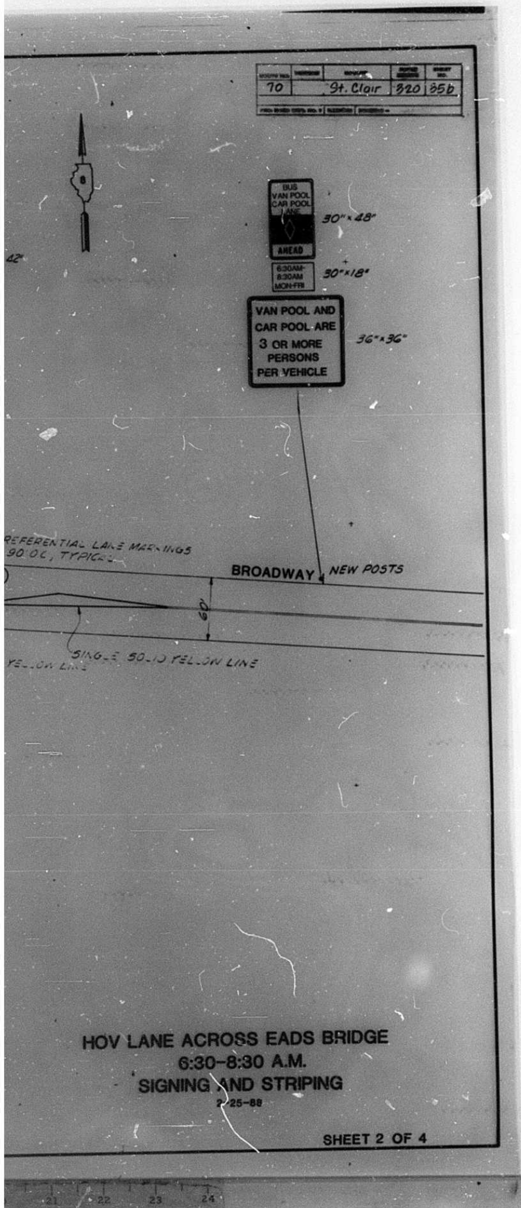

70
St. Clair
320
35a
OFFICER
BROADWAY
MAIN ST.
HOV LANE ACROSS EADS BRIDGE
6:30-8:30 A.M.
SIGNING AND STRIPING
2-25-88
Revised 4-1-88
SHEET 1 OF 4


OM-3R
12"x36"
(TYP.)
R4-7
EXISTING R1-1
STOP
BROADWAY
EADS BRIDGE APPROACH
RAILROAD TRACKS
NEW POSTS
30'
18'
18'

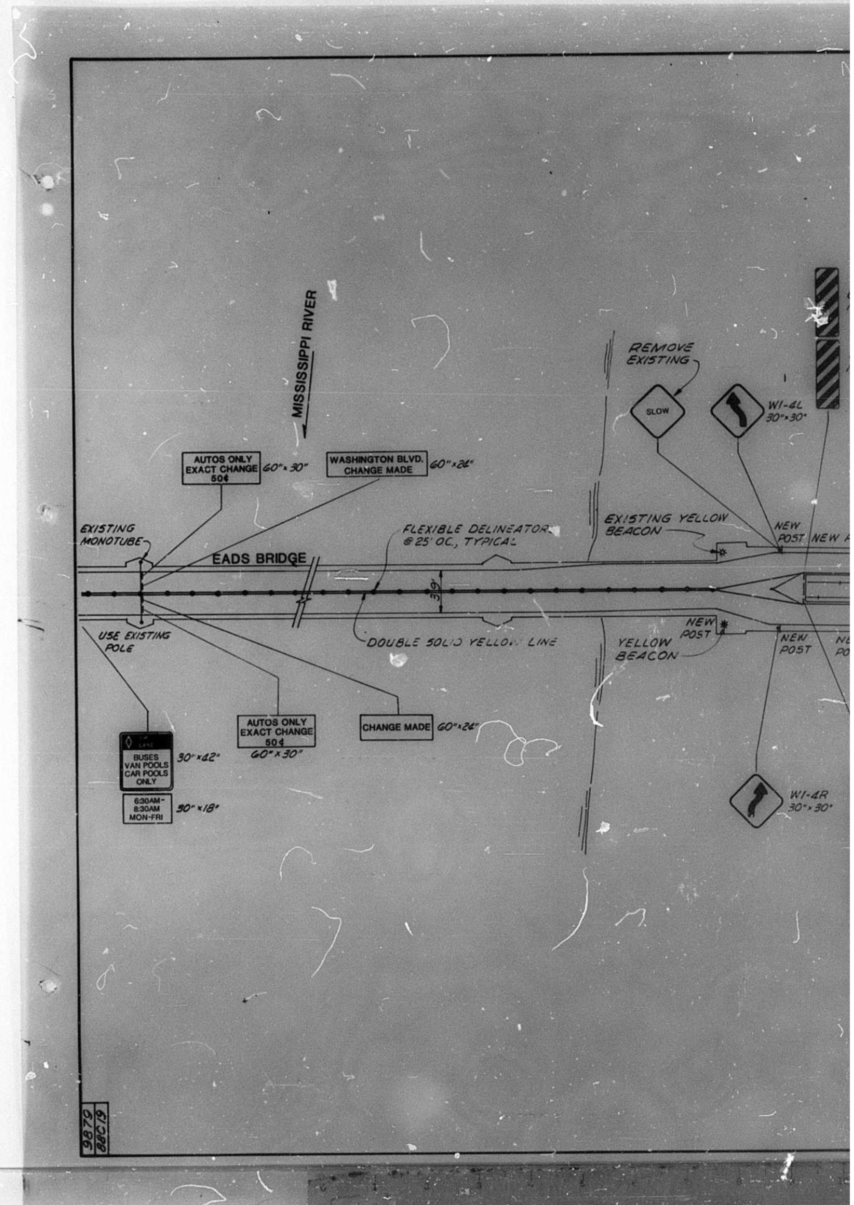


OM-3L
12"×36"
(TYP.)
OM-3R
12"×36"
(TYP.)
R4-7
24"×30"
NOTE: MOUNT OBJECT MARKERS ON EXISTING BRIDGE PIERS.
EXISTING R1-1
STOP
BUS
VAN POOL
CAR POOL
LANE
36"×42"
(VARIABLE MESSAGE SIGN)
BROADWAY
EADS BRIDGE APPROACH
RAILROAD TRACKS
NEW POSTS
SINGLE SOLID WHITE LINE
SPAN WIRE MOUNT
TRAFFIC OFFICER
BUSES
VAN POOLS
CAR POOLS
ONLY
30"×42"
(TURNABLE MOUNT)
BUS
VAN POOL
CAR POOL
ONLY
24"×36"
1"=50'
50' 0' 50' 100'
SCALE IN FEET

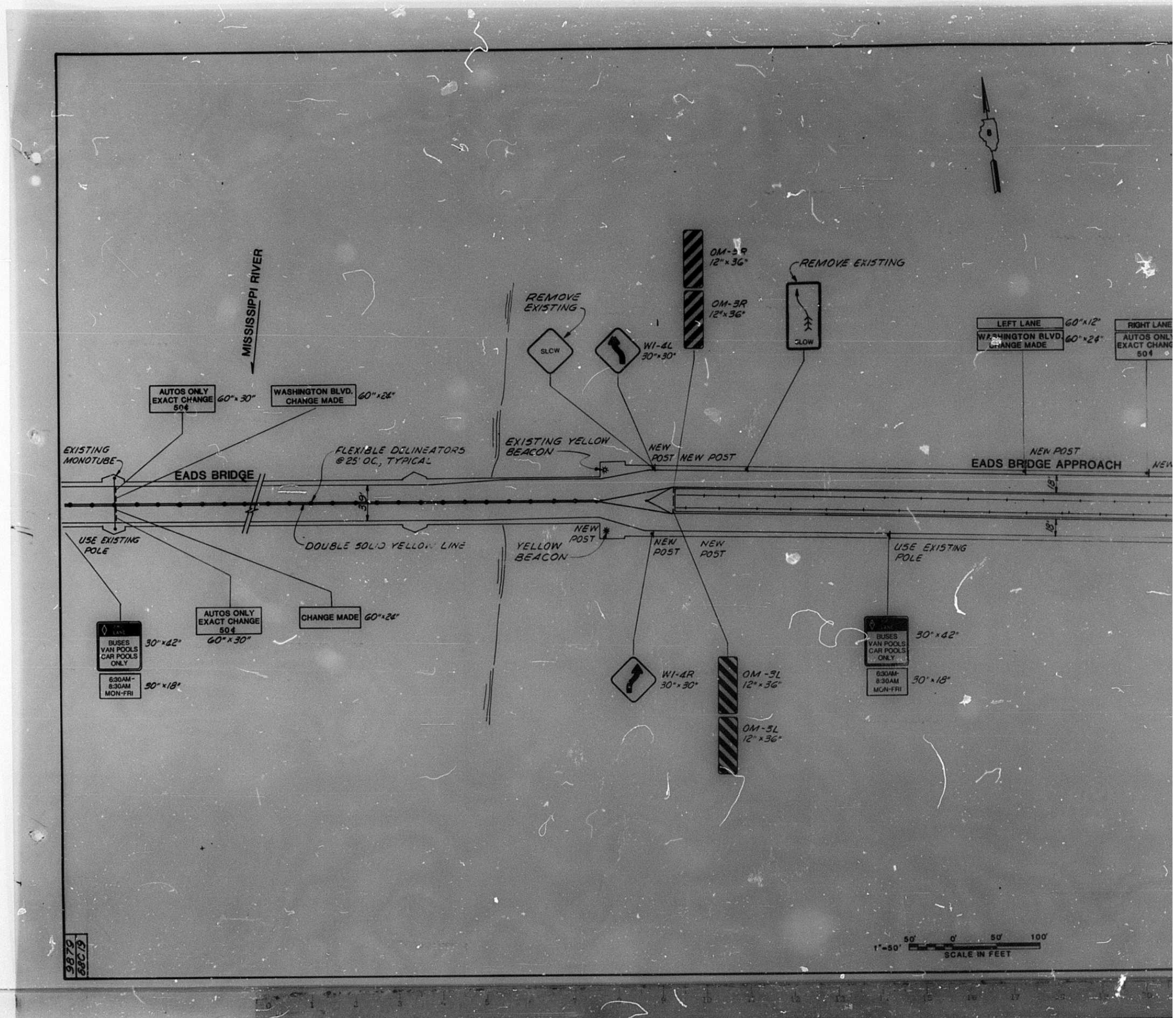

70 St. Clair 320 35b
OM-3L 12"x36" (TYP)
OM-3R 12"x36" (TYP)
R4-7 24"x30"
NOTE: MOUNT OBJECT MARKERS ON EXISTING BRIDGE PIERS.
EXISTING R1-1
STOP
BUS VAN POOL CAR POOL LANE
36"x42"
(VARIABLE MESSAGE SIGN)
BUSES VAN POOLS CAR POOLS ONLY
30"x42"
(TURNABLE MOUNT)
BUS VAN POOL CAR POOL LANE AHEAD
30"x48"
6:30A-8:30A MON-FRI
30"x18"
VAN POOL AND CAR POOL ARE 3 OR MORE PERSONS PER VEHICLE
36"x36"
BROADWAY
EADS BRIDGE APPROACH
RAILROAD TRACKS
NEW POSTS
SINGLE SOLID WHITE LINE
NEW POST
PREFERENTIAL LANE MARKINGS @ 90' OC, TYPICAL
BROADWAY
NEW POSTS
SPAN WIRE MOUNT
TRAFFIC OFFICER
DOUBLE SOLID YELLOW LINE
SINGLE SOLID YELLOW LINE
30'
18'
26'
60'
BUSES VAN POOLS CAR POOLS ONLY
30"x42"
(TURNABLE MOUNT)
NOTE: COVER AM SIGN WITH PM SIGN DURING OFF HOURS.
BUS VAN POOL CAR POOL ONLY
24"x36"
HOV LANE ACROSS EADS BRIDGE
6:30-8:30 A.M.
SIGNING AND STRIPING
2-25-88
1"=50'
50' 0' 50' 100'
SCALE IN FEET
SHEET 2 OF 4



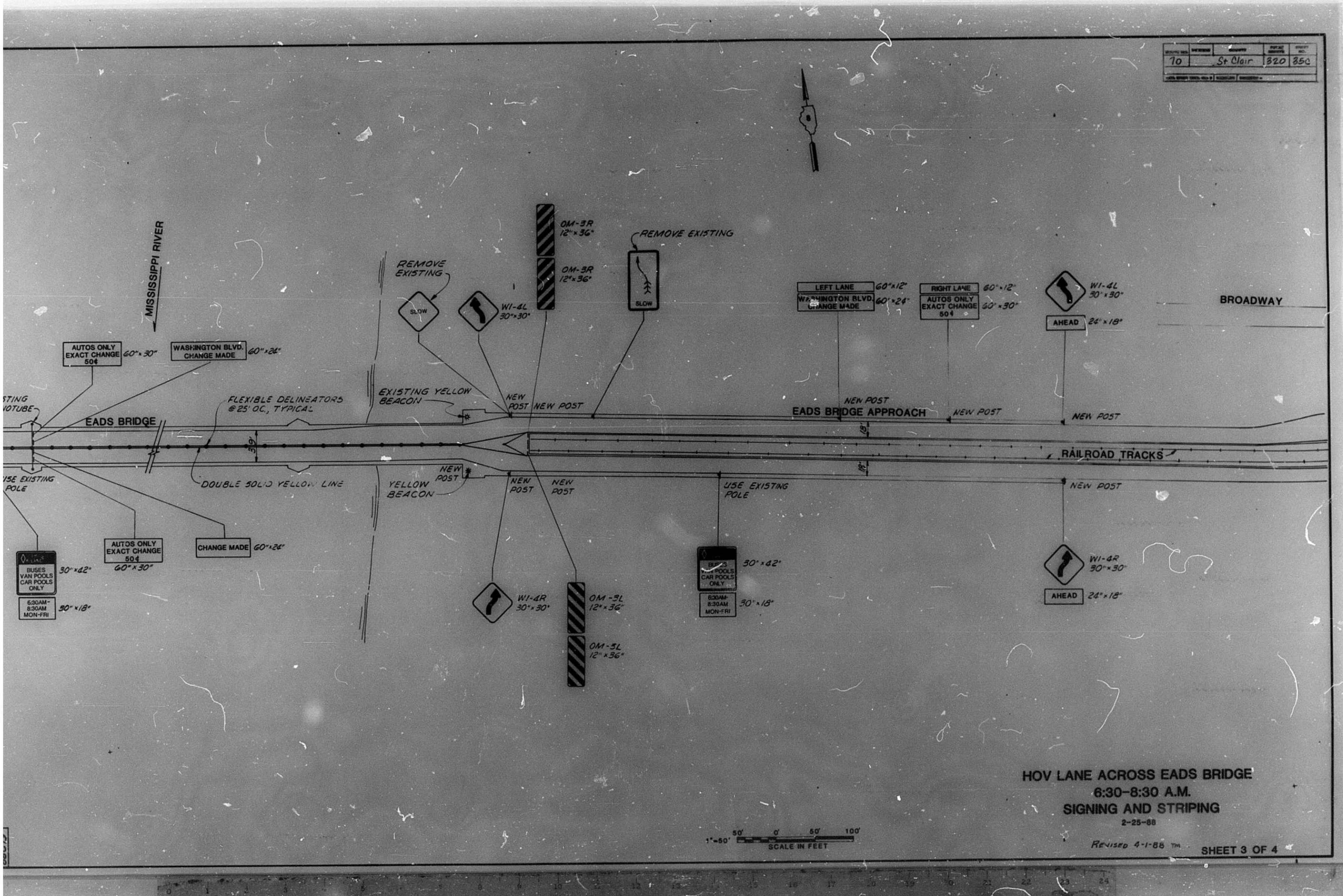
70
St. Clair
320
85b
BUS
VAN POOL
CAR POOL
LANE
AHEAD
30" x 48"
6:30AM-
8:30AM
MON-FRI
30" x 18"
VAN POOL AND
CAR POOL ARE
3 OR MORE
PERSONS
PER VEHICLE
36" x 36"
PREFERENTIAL LANE MARKINGS
@ 90' O.C. TYPICAL
BROADWAY
NEW POSTS
60'
SINGLE SOLID YELLOW LINE
YELLOW LINE
HOV LANE ACROSS EADS BRIDGE
6:30-8:30 A.M.
SIGNING AND STRIPING
2-25-88
SHEET 2 OF 4



MISSISSIPPI RIVER
AUTOS ONLY
EXACT CHANGE
50¢
60" x 30"
WASHINGTON BLVD.
CHANGE MADE
60" x 24"
REMOVE
EXISTING
SLOW
W1-4L
30" x 30"
EXISTING
MONOTUBE
EADS BRIDGE
FLEXIBLE DELINEATORS
@ 25' O.C., TYPICAL
EXISTING YELLOW
BEACON
NEW
POST
NEW
39'
USE EXISTING
POLE
DOUBLE SOLID YELLOW LINE
YELLOW
BEACON
NEW
POST
NEW
POST
BUSES
VAN POOLS
CAR POOLS
ONLY
30" x 42"
6:30AM-
8:30AM
MON-FRI
30" x 18"
AUTOS ONLY
EXACT CHANGE
50¢
60" x 30"
CHANGE MADE
60" x 24"
W1-4R
30" x 30"
3870
88C19

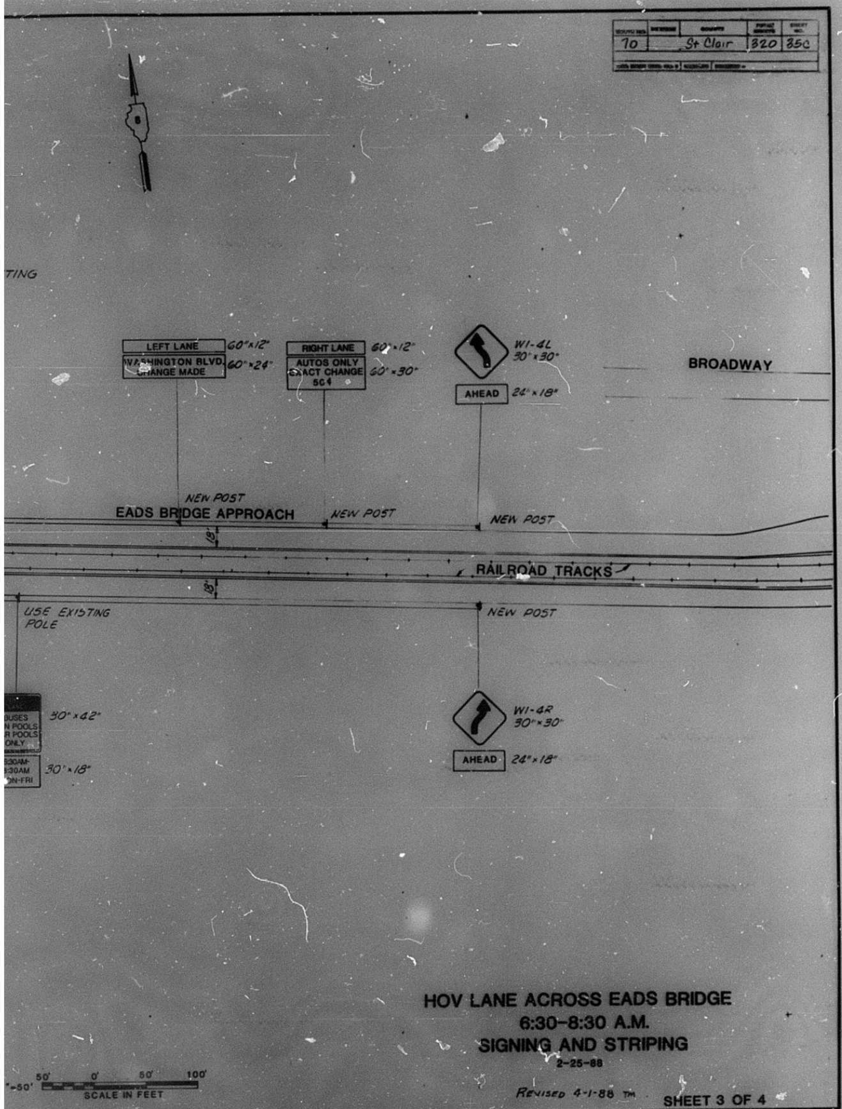

MISSISSIPPI RIVER
AUTOS ONLY EXACT CHANGE 50¢ 60" × 30"
WASHINGTON BLVD. CHANGE MADE 60" × 24"
EXISTING MONOTUBE
EADS BRIDGE
FLEXIBLE DELINEATORS @ 25' OC, TYPICAL
USE EXISTING POLE
DOUBLE SOLID YELLOW LINE
AUTOS ONLY EXACT CHANGE 50¢ 60" × 30"
CHANGE MADE 60" × 24"
BUSES VAN POOLS CAR POOLS ONLY 30" × 42"
6:30AM-8:30AM MON-FRI 30" × 18"
REMOVE EXISTING
SLOW
W1-4L 30" × 30"
OM-3R 12" × 36"
OM-3R 12" × 36"
REMOVE EXISTING
SLOW
EXISTING YELLOW BEACON
NEW POST
NEW POST
YELLOW BEACON
NEW POST
NEW POST
NEW POST
W1-4R 30" × 30"
OM-3L 12" × 36"
OM-3L 12" × 36"
LEFT LANE 60" × 12"
WASHINGTON BLVD. CHANGE MADE 60" × 24"
RIGHT LANE
AUTOS ONLY EXACT CHANG 50¢
NEW POST
EADS BRIDGE APPROACH
USE EXISTING POLE
BUSES VAN POOLS CAR POOLS ONLY 30" × 42"
6:30AM-8:30AM MON-FRI 30" × 18"
1" = 50'
50' 0' 50' 100'
SCALE IN FEET
9879
68C19

BADCOPY

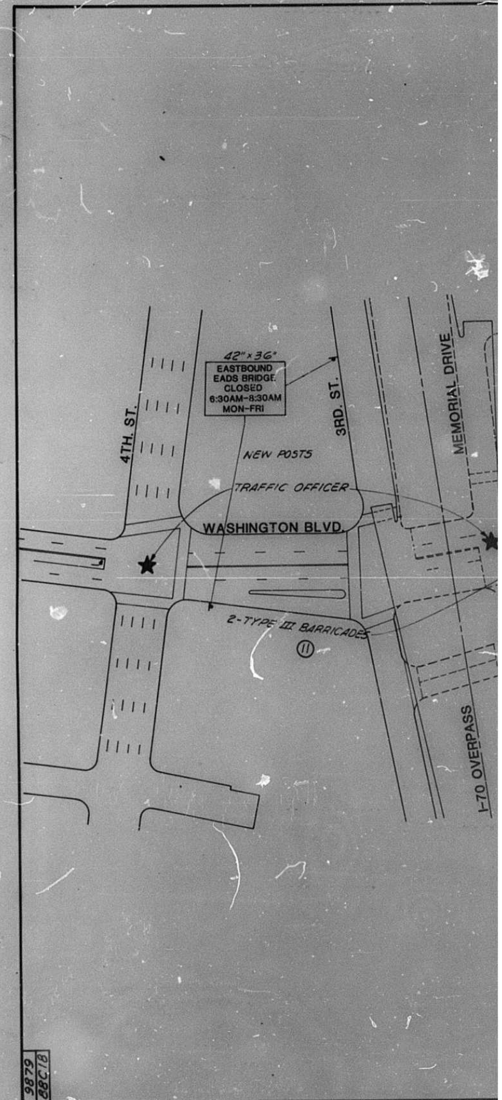


70
St Clair
320
85C
MISSISSIPPI RIVER
REMOVE EXISTING
SLOW
W1-4L
30"×30"
OM-3R
12"×36"
OM-3R
12"×36"
REMOVE EXISTING
SLOW
LEFT LANE
60"×12"
WASHINGTON BLVD. CHANGE MADE
60"×24"
RIGHT LANE
60"×12"
AUTOS ONLY EXACT CHANGE 50¢
60"×30"
W1-4L
30"×30"
AHEAD
24"×18"
BROADWAY
AUTOS ONLY EXACT CHANGE 50¢
60"×30"
WASHINGTON BLVD. CHANGE MADE
60"×24"
FLEXIBLE DELINEATORS @25' O.C., TYPICAL
EXISTING YELLOW BEACON
NEW POST
NEW POST
NEW POST
EADS BRIDGE APPROACH
NEW POST
NEW POST
EADS BRIDGE
RAILROAD TRACKS
USE EXISTING POLE
DOUBLE SOLID YELLOW LINE
YELLOW BEACON
NEW POST
NEW POST
NEW POST
USE EXISTING POLE
NEW POST
BUSES VAN POOLS CAR POOLS ONLY
30"×42"
6:30AM-8:30AM MON-FRI
30"×18"
AUTOS ONLY EXACT CHANGE 50¢
60"×30"
CHANGE MADE
60"×24"
W1-4R
30"×30"
OM-3L
12"×36"
OM-3L
12"×36"
30"×42"
6:30AM-8:30AM MON-FRI
30"×18"
W1-4R
30"×30"
AHEAD
24"×18"
HOV LANE ACROSS EADS BRIDGE
6:30-8:30 A.M.
SIGNING AND STRIPING
2-25-88
1"=50'
50' 0' 50' 100'
SCALE IN FEET
Revised 4-1-88
SHEET 3 OF 4

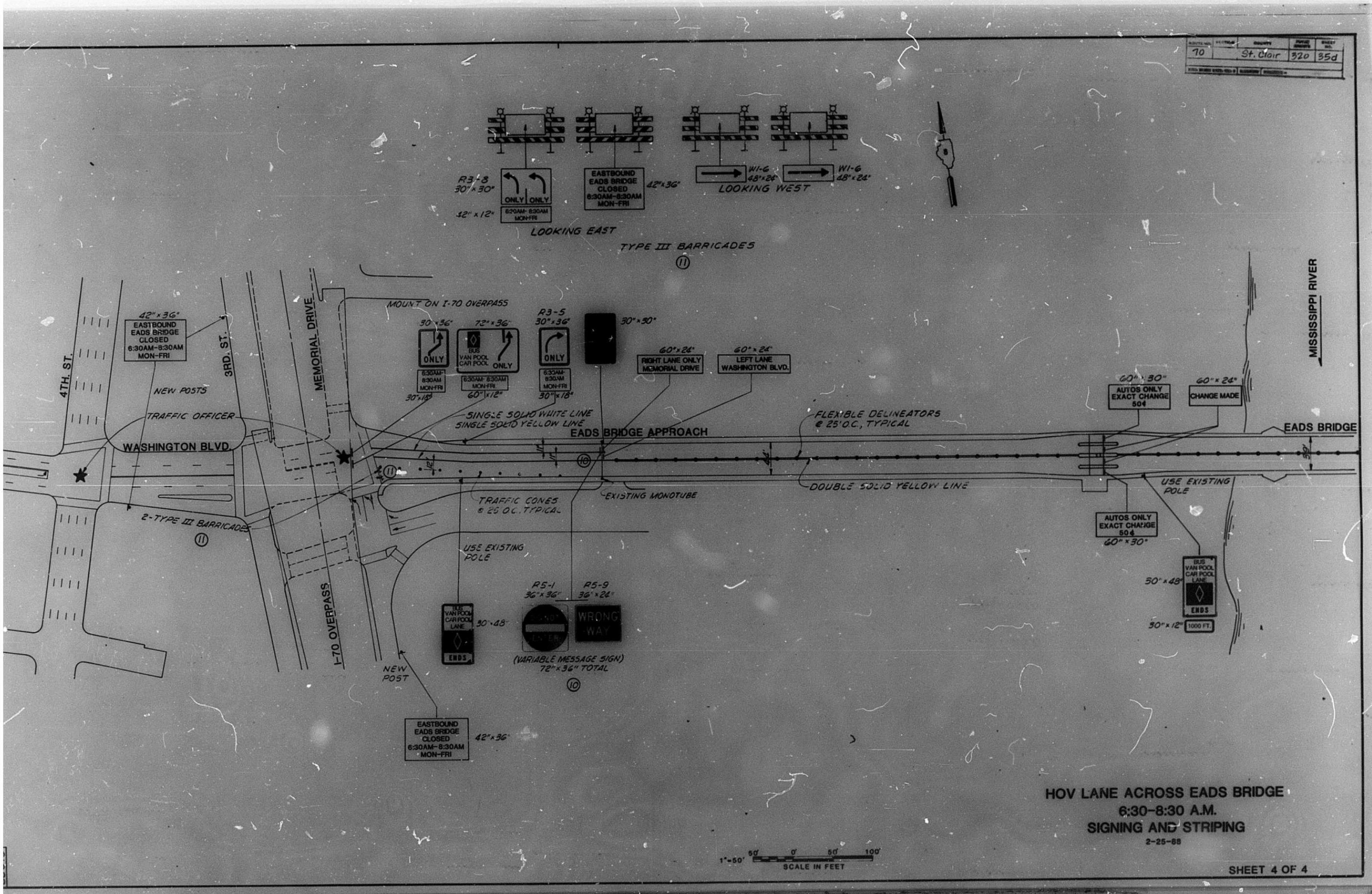
BADCOPY



70 St Clair 320 35C
TING
LEFT LANE 60"×12"
WASHINGTON BLVD. CHANGE MADE 60"×24"
RIGHT LANE 60"×12"
AUTOS ONLY EXACT CHANGE 50¢ 60"×30"
W1-4L 30"×30"
AHEAD 24"×18"
BROADWAY
NEW POST
EADS BRIDGE APPROACH
NEW POST
NEW POST
RAILROAD TRACKS
USE EXISTING POLE
NEW POST
30"×42"
30"×18"
W1-4R 30"×30"
AHEAD 24"×18"
HOV LANE ACROSS EADS BRIDGE
6:30-8:30 A.M.
SIGNING AND STRIPING
2-25-88
Revised 4-1-88
SHEET 3 OF 4
SCALE IN FEET

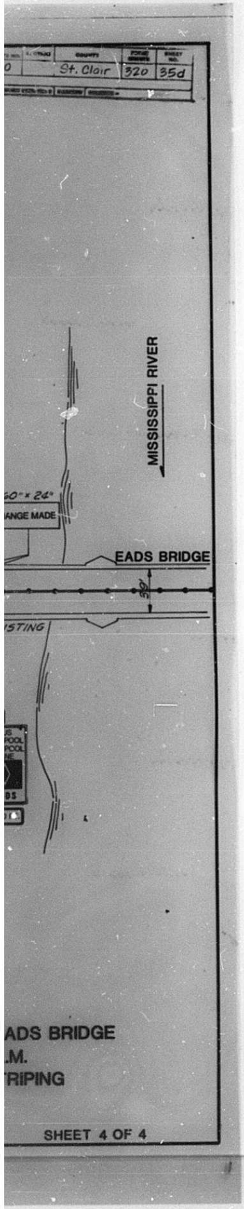


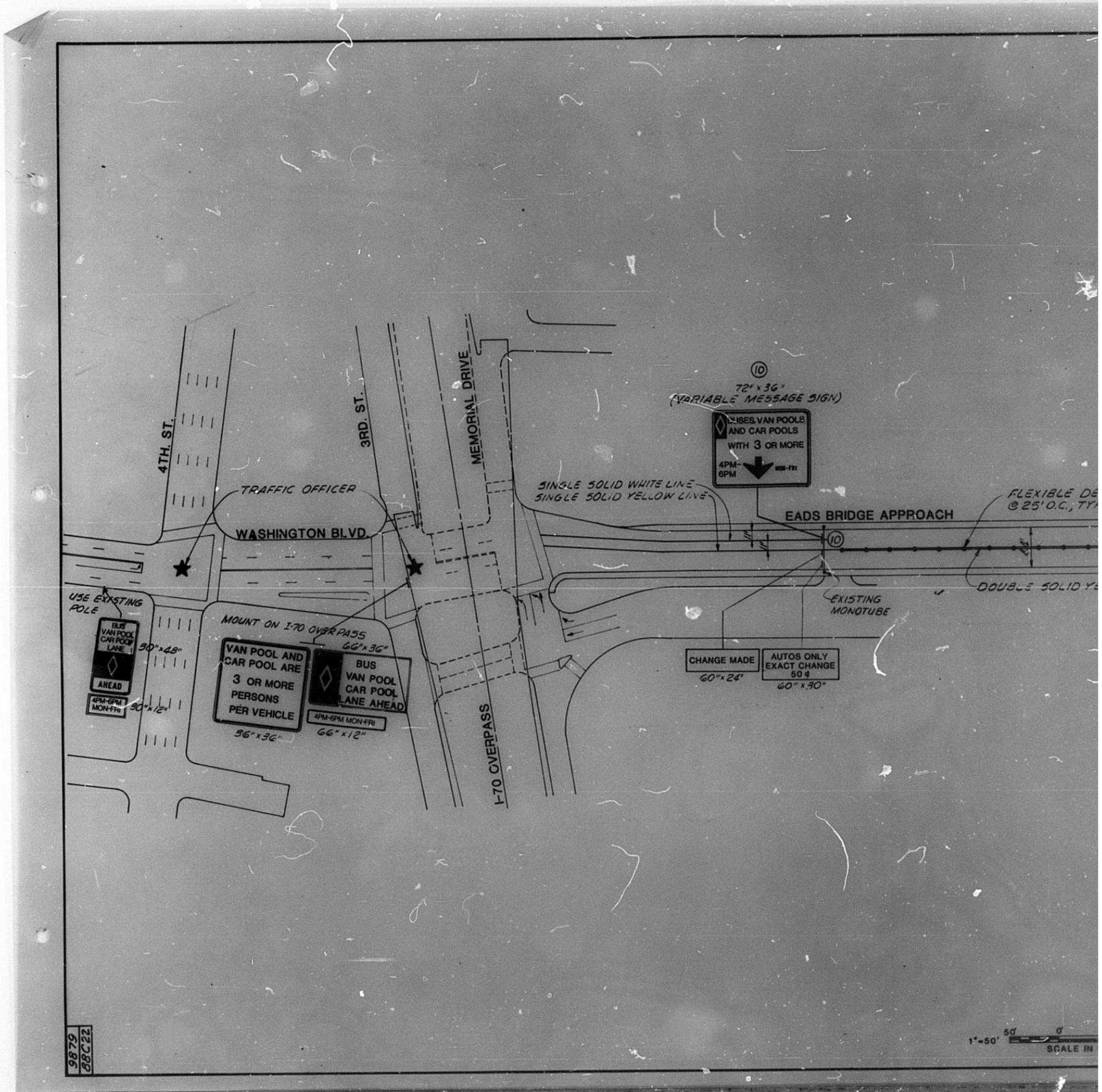
42"×36"
EASTBOUND EADS BRIDGE CLOSED 6:30AM-8:30AM MON-FRI
4TH. ST.
3RD. ST.
MEMORIAL DRIVE
NEW POSTS
TRAFFIC OFFICER
WASHINGTON BLVD.
2-TYPE III BARRICADES
I-70 OVERPASS
9879 88C18



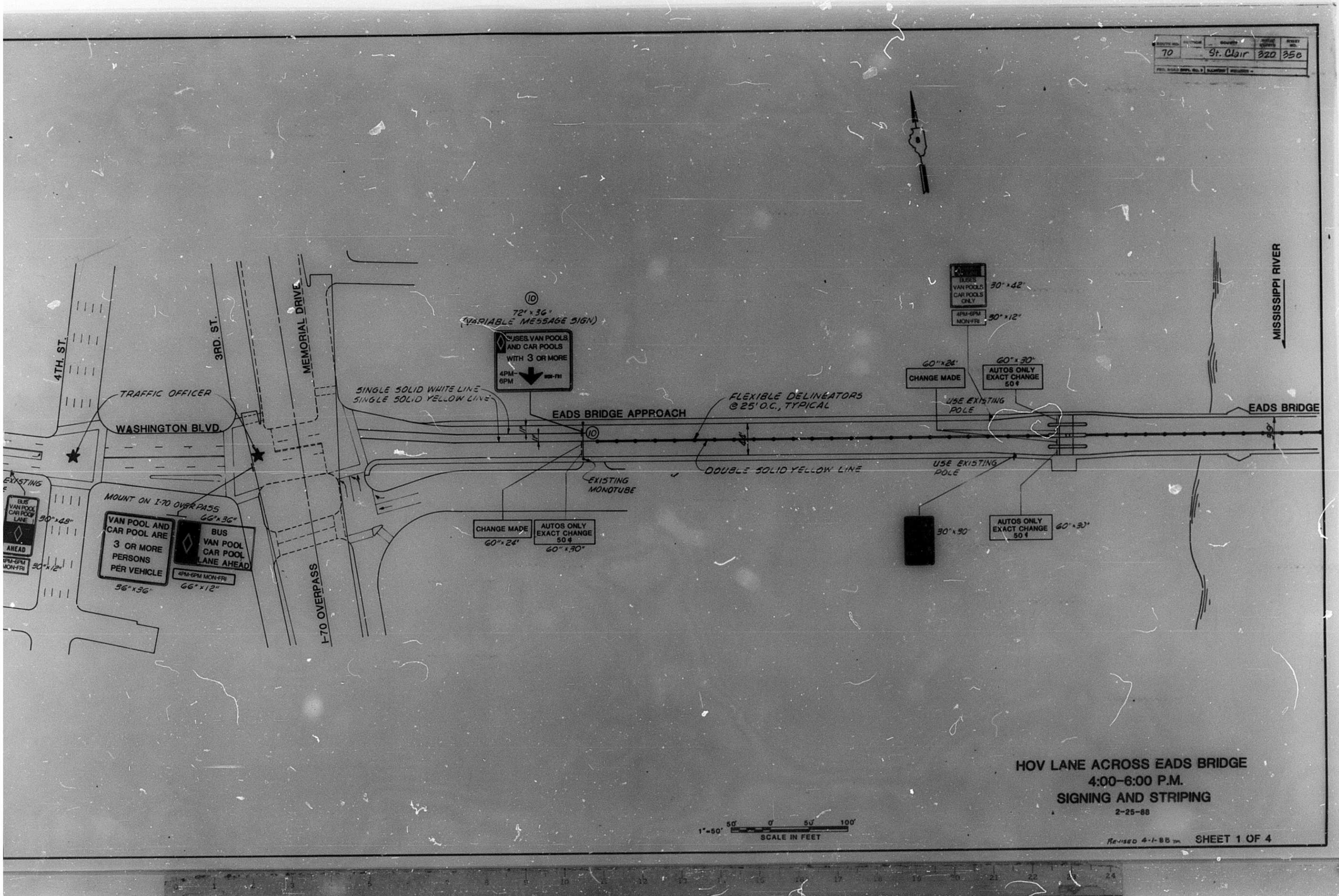
70
St. Clair
320
35d
R3-8
30" x 30"
ONLY
ONLY
6:30AM- 8:30AM
MON-FRI
32" x 12"
EASTBOUND
EADS BRIDGE
CLOSED
6:30AM-8:30AM
MON-FRI
42" x 36"
W1-6
48" x 24"
W1-6
48" x 24"
LOOKING WEST
LOOKING EAST
TYPE III BARRICADES
11
MISSISSIPPI RIVER
42" x 36"
EASTBOUND
EADS BRIDGE
CLOSED
6:30AM-8:30AM
MON-FRI
4TH. ST.
3RD. ST.
MEMORIAL DRIVE
MOUNT ON I-70 OVERPASS
30" x 36"
72" x 36"
R3-5
30" x 36"
30" x 30"
ONLY
BUS
VAN POOL
CAR POOL
ONLY
ONLY
6:30AM-
8:30AM
MON-FRI
6:30AM- 8:30AM
MON-FRI
30" x 18"
60" x 12"
30" x 18"
60" x 24"
RIGHT LANE ONLY
MEMORIAL DRIVE
60" x 24"
LEFT LANE
WASHINGTON BLVD.
60" x 30"
AUTOS ONLY
EXACT CHANGE
50¢
60" x 24"
CHANGE MADE
NEW POSTS
TRAFFIC OFFICER
SINGLE SOLID WHITE LINE
SINGLE SOLID YELLOW LINE
FLEXIBLE DELINEATORS
@ 25' O.C. TYPICAL
EADS BRIDGE APPROACH
EADS BRIDGE
WASHINGTON BLVD.
11
10
TRAFFIC CONES
@ 25' O.C. TYPICAL
EXISTING MONOTUBE
DOUBLE SOLID YELLOW LINE
USE EXISTING
POLE
2-TYPE III BARRICADES
11
AUTOS ONLY
EXACT CHANGE
50¢
60" x 30"
USE EXISTING
POLE
BUS
VAN POOL
CAR POOL
LANE
ENDS
50" x 48"
30" x 12"
1000 FT.
R5-1
36" x 36"
R5-9
36" x 24"
WRONG
WAY
30" x 48"
BUS
VAN POOL
CAR POOL
LANE
ENDS
I-70 OVERPASS
(VARIABLE MESSAGE SIGN)
72" x 36" TOTAL
10
NEW
POST
EASTBOUND
EADS BRIDGE
CLOSED
6:30AM-8:30AM
MON-FRI
42" x 36"
HOV LANE ACROSS EADS BRIDGE
6:30-8:30 A.M.
SIGNING AND STRIPING
2-25-88
1" = 50'
50' 0' 50' 100'
SCALE IN FEET
SHEET 4 OF 4

BADCOPY


St. Clair
320
35d
MISSISSIPPI RIVER
60" x 24"
EADS BRIDGE
30'
ADS BRIDGE
.M.
TRIPING
SHEET 4 OF 4

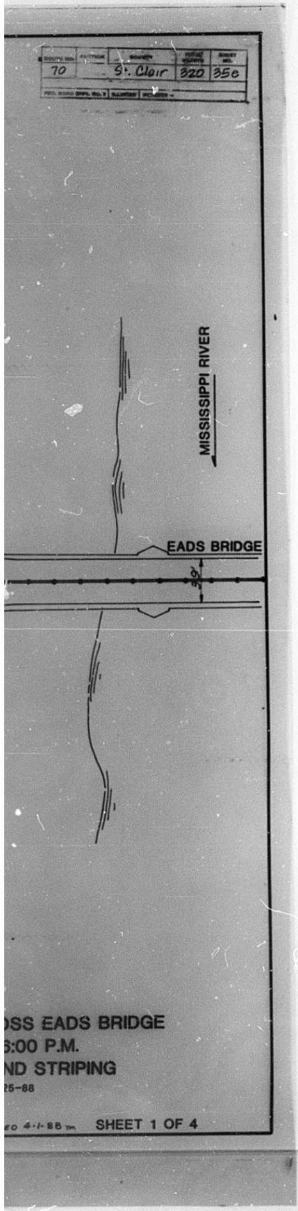

4TH. ST.
3RD. ST.
MEMORIAL DRIVE
10
72" x 36"
(VARIABLE MESSAGE SIGN)
BUSES VAN POOLS AND CAR POOLS WITH 3 OR MORE
4PM-6PM
MON-FRI
TRAFFIC OFFICER
SINGLE SOLID WHITE LINE
SINGLE SOLID YELLOW LINE
WASHINGTON BLVD.
EADS BRIDGE APPROACH
USE EXISTING POLE
BUS VAN POOL CAR POOL LANE AHEAD
30" x 48"
4PM-6PM MON-FRI
30" x 12"
MOUNT ON I-70 OVERPASS
VAN POOL AND CAR POOL ARE 3 OR MORE PERSONS PER VEHICLE
36" x 36"
66" x 36"
BUS VAN POOL CAR POOL LANE AHEAD
4PM-6PM MON-FRI
66" x 12"
I-70 OVERPASS
EXISTING MONOTUBE
CHANGE MADE
60" x 24"
AUTOS ONLY EXACT CHANGE 50¢
60" x 30"
9879
08C22
1"=50'
SCALE IN

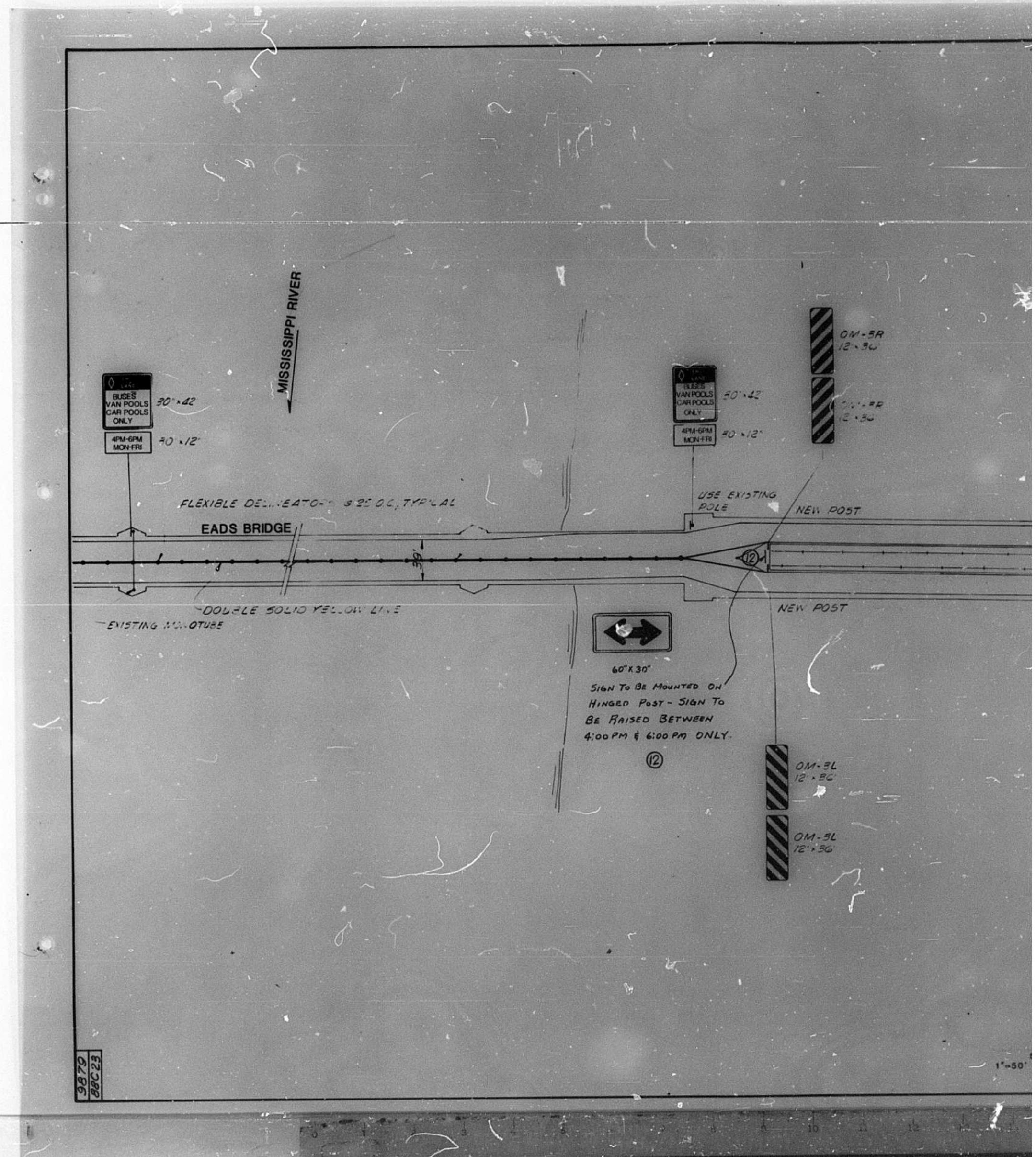
BAD COPY



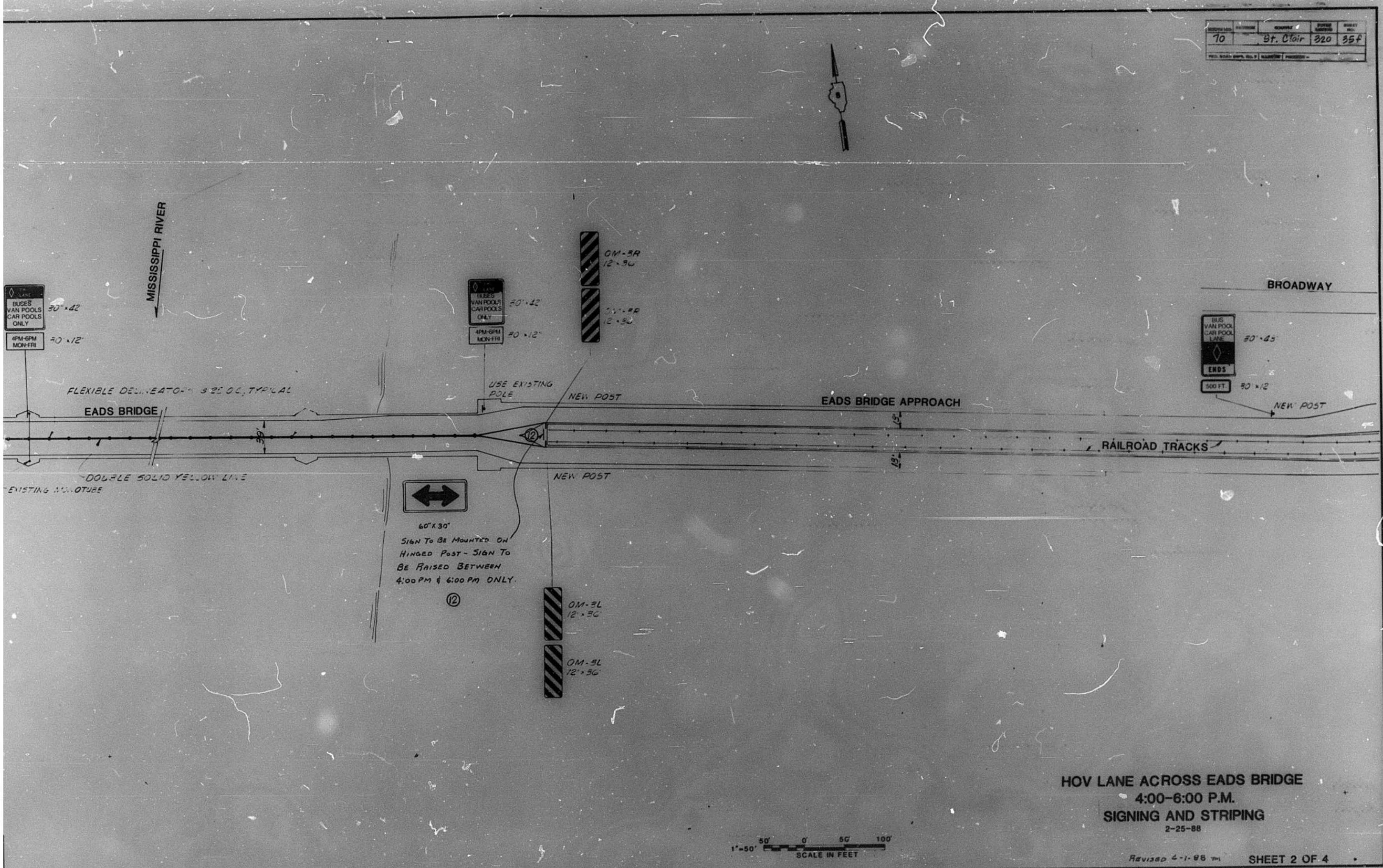
70
St. Clair
320
350
MISSISSIPPI RIVER
EADS BRIDGE
EADS BRIDGE APPROACH
4TH. ST.
3RD. ST.
MEMORIAL DRIVE
WASHINGTON BLVD.
I-70 OVERPASS
TRAFFIC OFFICER
72" x 36" (VARIABLE MESSAGE SIGN)
BUSES, VAN POOLS AND CAR POOLS WITH 3 OR MORE
4PM-6PM MON-FRI
SINGLE SOLID WHITE LINE
SINGLE SOLID YELLOW LINE
FLEXIBLE DELINEATORS @ 25' O.C., TYPICAL
DOUBLE SOLID YELLOW LINE
EXISTING MONOTUBE
USE EXISTING POLE
USE EXISTING POLE
BUSES VAN POOLS CAR POOLS ONLY
30" x 42"
4PM-6PM MON-FRI
30" x 12"
CHANGE MADE
60" x 24"
AUTOS ONLY EXACT CHANGE 50¢
60" x 30"
30" x 30"
MOUNT ON I-70 OVERPASS
VAN POOL AND CAR POOL ARE 3 OR MORE PERSONS PER VEHICLE
56" x 36"
BUS VAN POOL CAR POOL LANE AHEAD
66" x 36"
4PM-6PM MON-FRI
66" x 12"
BUS VAN POOL CAR POOL LANE AHEAD
30" x 48"
4PM-6PM MON-FRI
30" x 12"
EXISTING
HOV LANE ACROSS EADS BRIDGE
4:00-6:00 P.M.
SIGNING AND STRIPING
2-25-88
1" = 50'
SCALE IN FEET
REVISED 4-1-88
SHEET 1 OF 4

BADCOPY

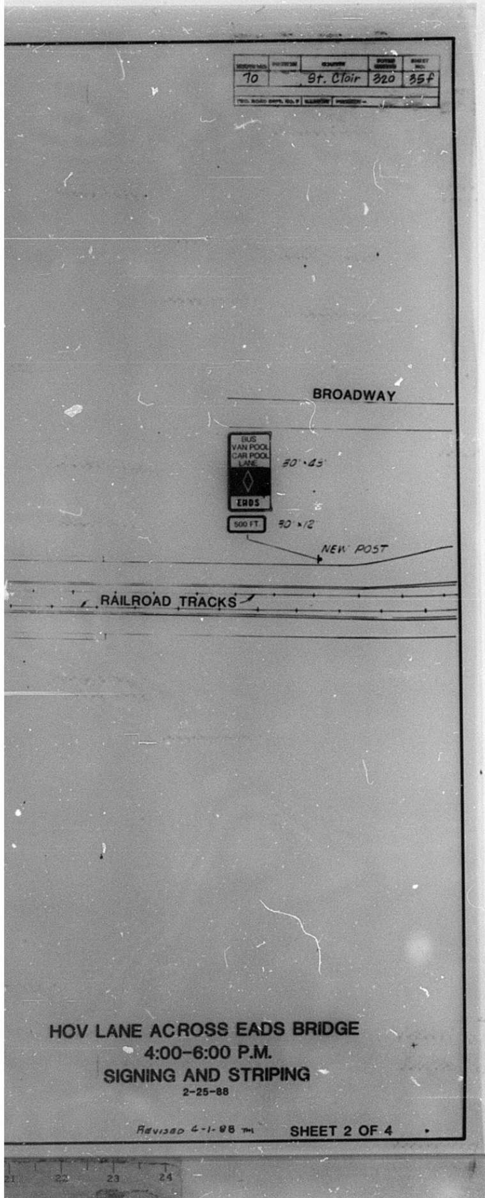

70
St. Clair
320
35e
MISSISSIPPI RIVER
EADS BRIDGE
30'
OSS EADS BRIDGE
6:00 P.M.
ND STRIPING
25-88
4-1-88
SHEET 1 OF 4


MISSISSIPPI RIVER
BUSES
VAN POOLS
CAR POOLS
ONLY
30" x 42"
4PM-6PM
MON-FRI
30" x 12"
OM-3R
12" x 36"
USE EXISTING
POLE
NEW POST
EADS BRIDGE
30'
12
DOUBLE SOLID YELLOW LINE
EXISTING MONOTUBE
NEW POST
60" X 30"
SIGN TO BE MOUNTED ON
HINGED POST - SIGN TO
BE RAISED BETWEEN
4:00 PM & 6:00 PM ONLY.
12
OM-3L
12" x 36"
9870
88C23
1"-50'

BAD COPY

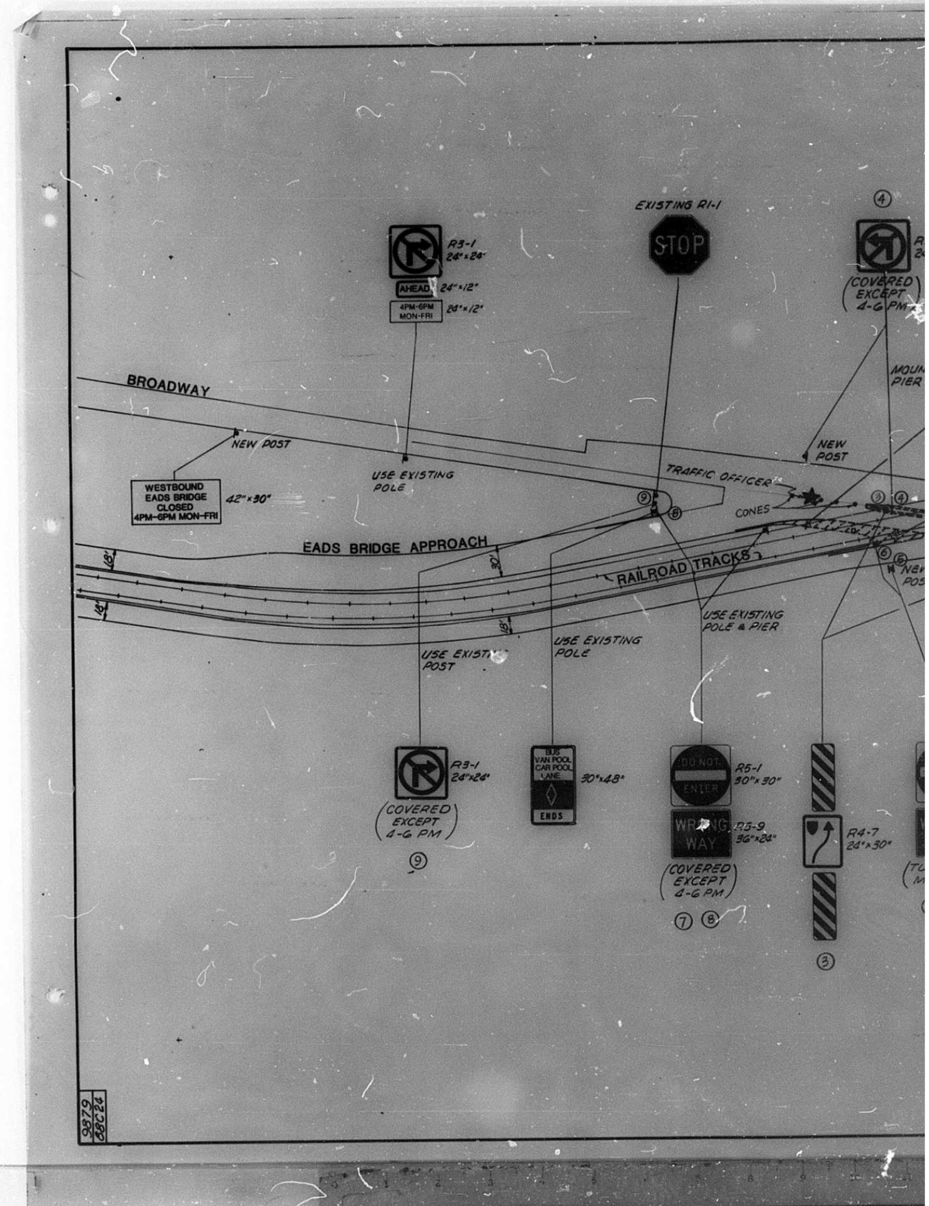

70
St. Clair
320
35f
MISSISSIPPI RIVER
BUSES
VAN POOLS
CAR POOLS
ONLY
4PM-6PM
MON-FRI
30" x 42"
30" x 12"
OM-3R
12" x 36"
BROADWAY
BUS
VAN POOL
CAR POOL
LANE
ENDS
500 FT
FLEXIBLE DELINEATORS @ 25' O.C. TYPICAL
USE EXISTING POLE
NEW POST
EADS BRIDGE
EADS BRIDGE APPROACH
RAILROAD TRACKS
DOUBLE SOLID YELLOW LINE
EXISTING MONOTUBE
60" X 30"
SIGN TO BE MOUNTED ON HINGED POST - SIGN TO BE RAISED BETWEEN 4:00 PM & 6:00 PM ONLY.
12
OM-3L
12" x 36"
HOV LANE ACROSS EADS BRIDGE
4:00-6:00 P.M.
SIGNING AND STRIPING
2-25-88
1"=50'
SCALE IN FEET
Revised 4-1-88
SHEET 2 OF 4

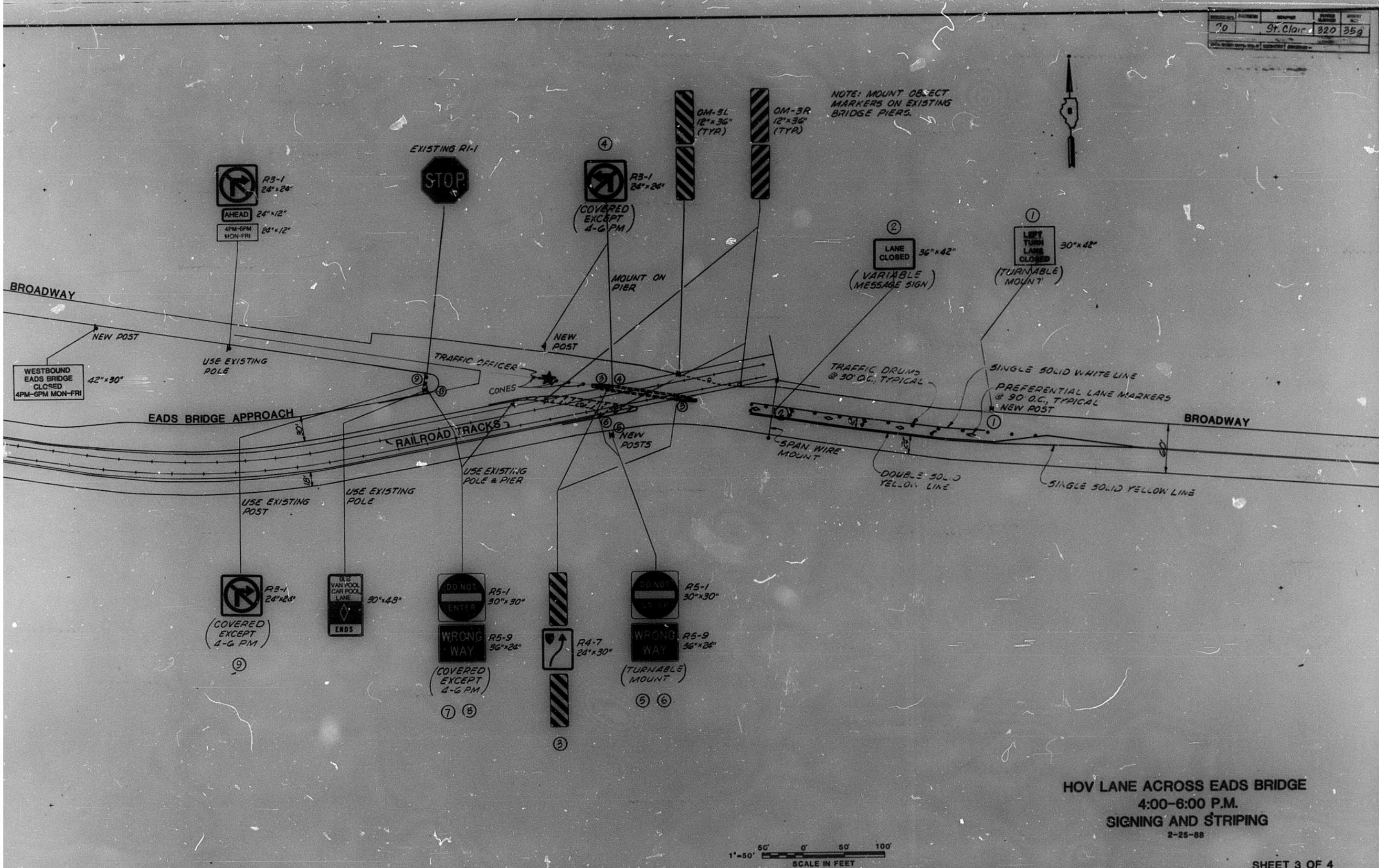
BADCOPY



HOV LANE ACROSS EADS BRIDGE
4:00-6:00 P.M.
SIGNING AND STRIPING
2-25-88

Revised 4-1-88
SHEET 2 OF 4

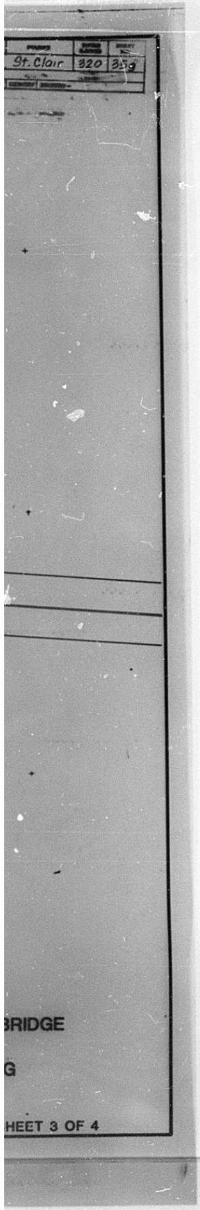




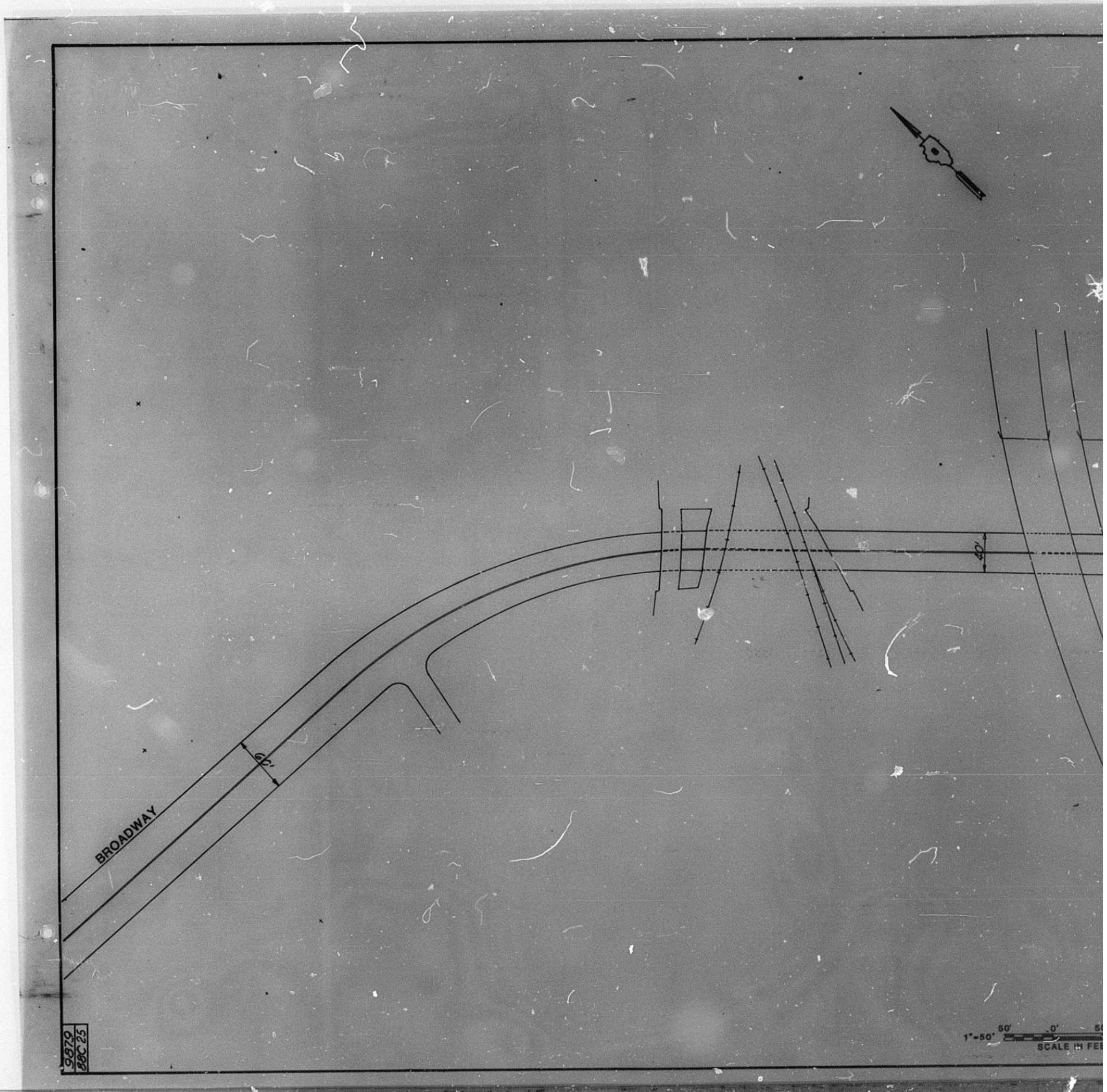
HOV LANE ACROSS EADS BRIDGE
4:00-6:00 P.M.
SIGNING AND STRIPING
2-25-88

SHEET 3 OF 4

BAD COPY

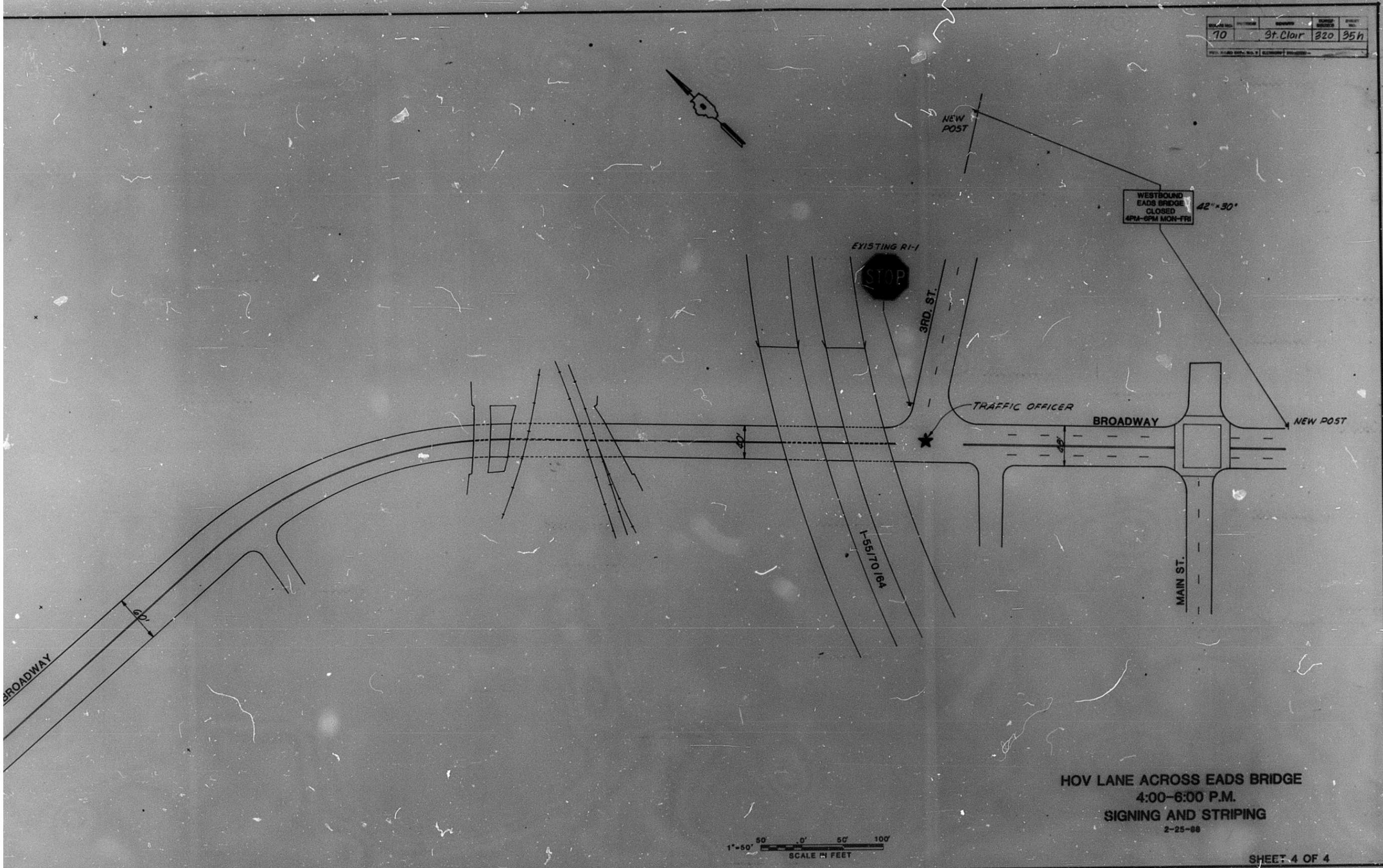


St. Clair
320
359
BRIDGE
G
HEET 3 OF 4



BROADWAY
60'
40'
SCALE IN FEE

BAD COPY

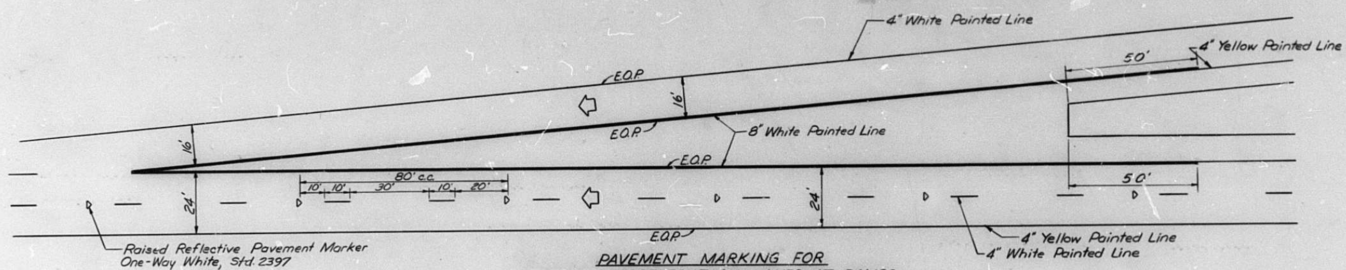


70
St. Clair
320
35h
NEW POST
WESTBOUND EADS BRIDGE CLOSED 4PM-6PM MON-FRI
42" x 30"
EXISTING R1-1
STOP
3RD. ST.
TRAFFIC OFFICER
BROADWAY
NEW POST
60'
MAIN ST.
I-55/70/64
BROADWAY
HOV LANE ACROSS EADS BRIDGE
4:00-6:00 P.M.
SIGNING AND STRIPING
2-25-88
1" = 50'
SCALE IN FEET
SHEET 4 OF 4

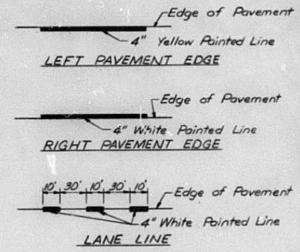
BADCOPY

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	38

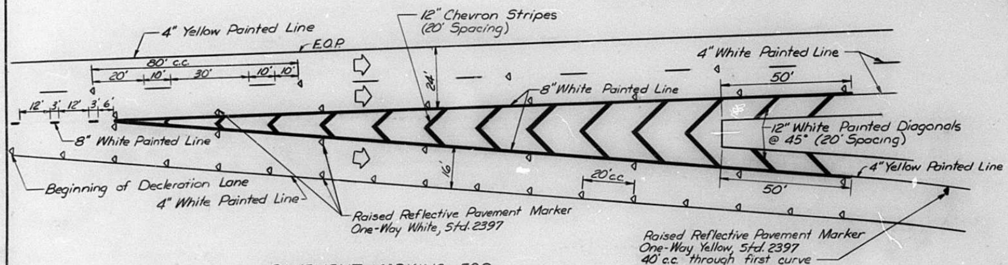
ILLINOIS PROJECT • 82-3HVB-2R-1



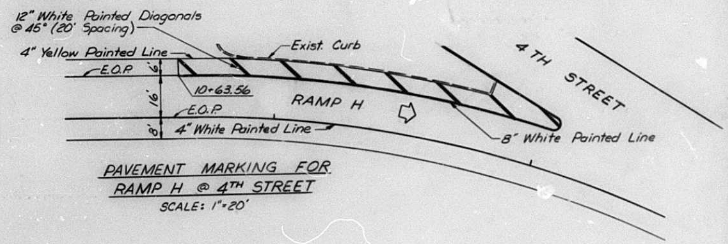
PAVEMENT MARKING FOR
TAPERED ACCELERATION LANES AT RAMPS
NOT TO SCALE



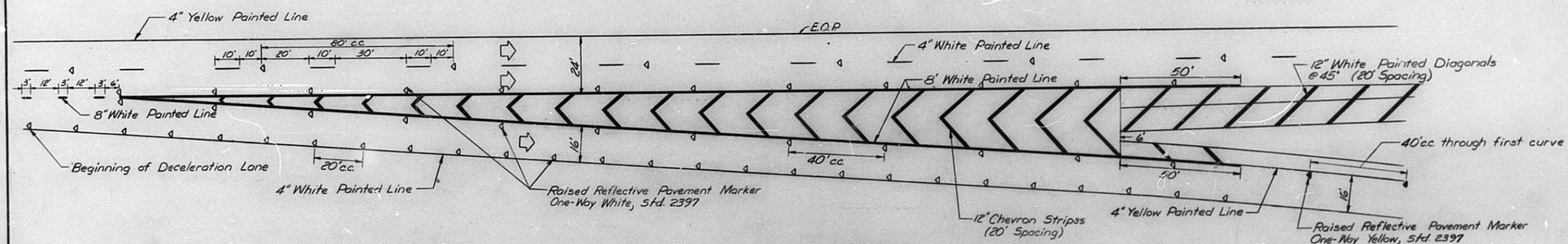
DETAILS FOR
PAVEMENT MARKING
SCALE: NONE



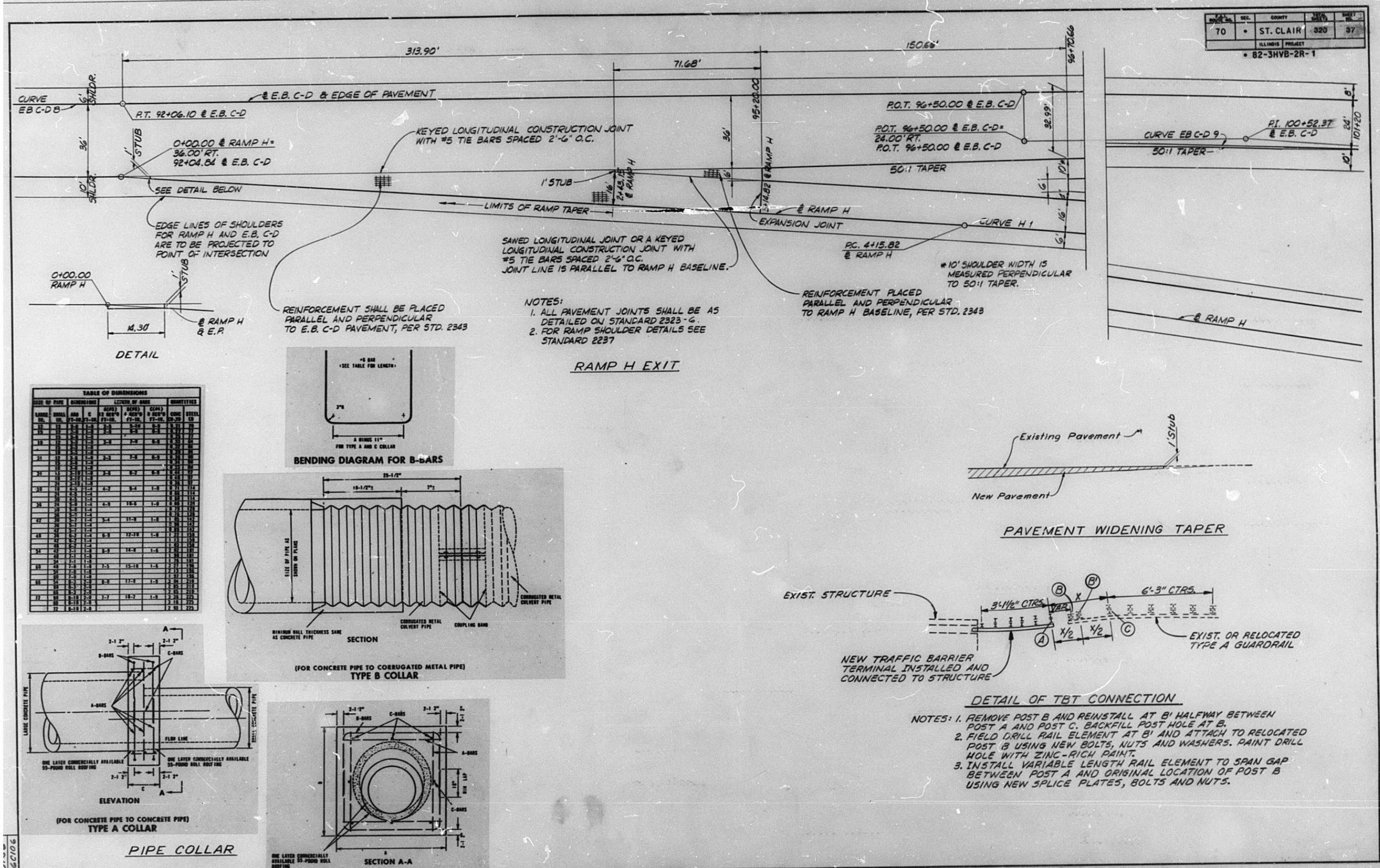
PAVEMENT MARKING FOR
TAPERED DECELERATION LANES AT RAMPS
NOT TO SCALE



PAVEMENT MARKING FOR
RAMP H @ 4TH STREET
SCALE: 1" = 20'



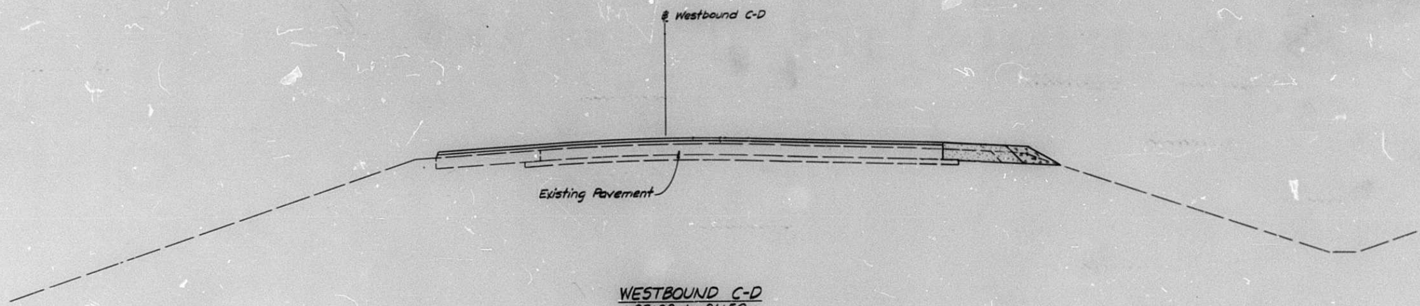
PAVEMENT MARKING FOR
RAMP H
NOT TO SCALE



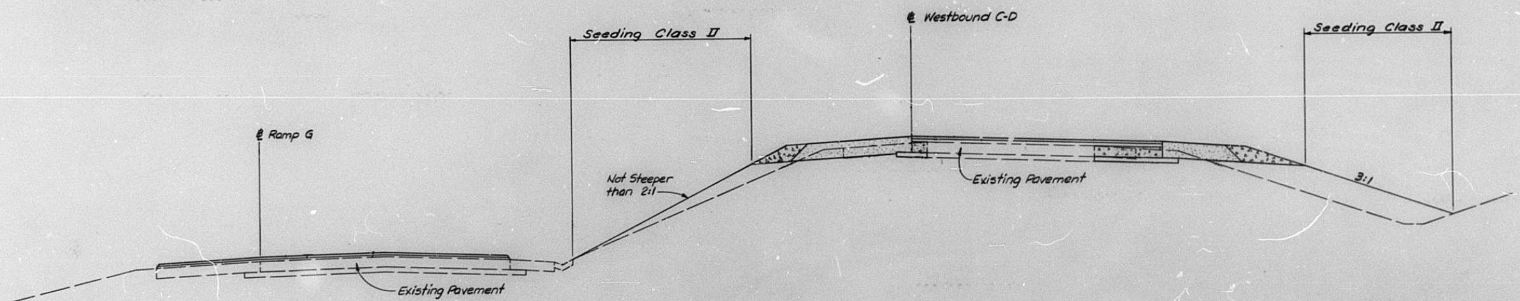
70
ST. CLAIR
320
37
ILLINOIS PROJECT
82-3HVB-2R-1
313.90'
150.66'
96+70.66
71.68'
95+20.00
CURVE EB C-D 8
6' SHLDR.
36'
10' SHLDR.
℄ E.B. C-D & EDGE OF PAVEMENT
P.T. 92+06.10 ℄ E.B. C-D
1' STUB
0+00.00 ℄ RAMP H = 36.00' RT. 92+04.84 ℄ E.B. C-D
SEE DETAIL BELOW
EDGE LINES OF SHOULDERS FOR RAMP H AND E.B. C-D ARE TO BE PROJECTED TO POINT OF INTERSECTION
KEYED LONGITUDINAL CONSTRUCTION JOINT WITH #5 TIE BARS SPACED 2'-6" O.C.
1' STUB
LIMITS OF RAMP TAPER
℄ RAMP H
EXPANSION JOINT
SAWED LONGITUDINAL JOINT OR A KEYED LONGITUDINAL CONSTRUCTION JOINT WITH #5 TIE BARS SPACED 2'-6" O.C. JOINT LINE IS PARALLEL TO RAMP H BASELINE.
P.O.T. 96+50.00 ℄ E.B. C-D
P.O.T. 96+50.00 ℄ E.B. C-D = 24.00' RT. P.O.T. 96+50.00 ℄ E.B. C-D
32.99'
50:1 TAPER
CURVE H 1
P.C. 4+15.82 ℄ RAMP H
* 10' SHOULDER WIDTH IS MEASURED PERPENDICULAR TO 50:1 TAPER.
CURVE EB C-D 9
50:1 TAPER
P.I. 100+52.37 ℄ E.B. C-D
101+20
℄ RAMP H
0+00.00 RAMP H
1' STUB
14.30
℄ RAMP H & E.P.
DETAIL
REINFORCEMENT SHALL BE PLACED PARALLEL AND PERPENDICULAR TO E.B. C-D PAVEMENT, PER STD. 2343
NOTES:
1. ALL PAVEMENT JOINTS SHALL BE AS DETAILED ON STANDARD 2323-G.
2. FOR RAMP SHOULDER DETAILS SEE STANDARD 2237
REINFORCEMENT PLACED PARALLEL AND PERPENDICULAR TO RAMP H BASELINE, PER STD. 2343
RAMP H EXIT
TABLE OF DIMENSIONS
BENDING DIAGRAM FOR B-BARS
SECTION
(FOR CONCRETE PIPE TO CORRUGATED METAL PIPE)
TYPE B COLLAR
ELEVATION
(FOR CONCRETE PIPE TO CONCRETE PIPE)
TYPE A COLLAR
SECTION A-A
PIPE COLLAR
Existing Pavement
1' Stub
New Pavement
PAVEMENT WIDENING TAPER
EXIST. STRUCTURE
3'-1 1/2" CTRS.
6'-3" CTRS.
EXIST. OR RELOCATED TYPE A GUARDRAIL
NEW TRAFFIC BARRIER TERMINAL INSTALLED AND CONNECTED TO STRUCTURE
DETAIL OF TBT CONNECTION
NOTES: 1. REMOVE POST B AND REINSTALL AT B' HALFWAY BETWEEN POST A AND POST C. BACKFILL POST HOLE AT B.
2. FIELD DRILL RAIL ELEMENT AT B' AND ATTACH TO RELOCATED POST B USING NEW BOLTS, NUTS AND WASHERS. PAINT DRILL HOLE WITH ZINC-RICH PAINT.
3. INSTALL VARIABLE LENGTH RAIL ELEMENT TO SPAN GAP BETWEEN POST A AND ORIGINAL LOCATION OF POST B USING NEW SPLICE PLATES, BOLTS AND NUTS.
86C106
BADCOPY

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	38
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1



WESTBOUND C-D
88+00 to 91+50



RAMP G
13+60 TO 18+75

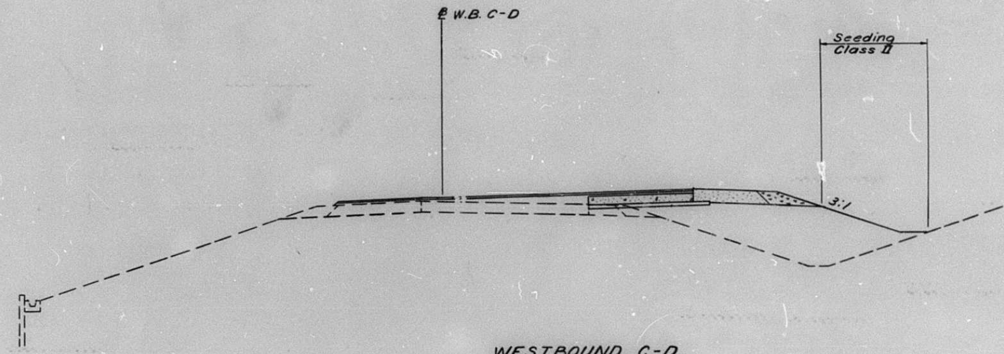
WESTBOUND C-D
94+00 to 95+35

SEEDING DETAILS

86C103

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	39
		ILLINOIS PROJECT		

• 82-3HVB-2R-1



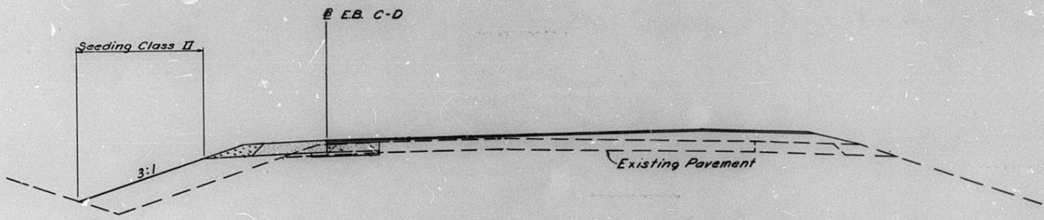
WESTBOUND C-D
95+35 TO 98+50

SEEDING DETAILS

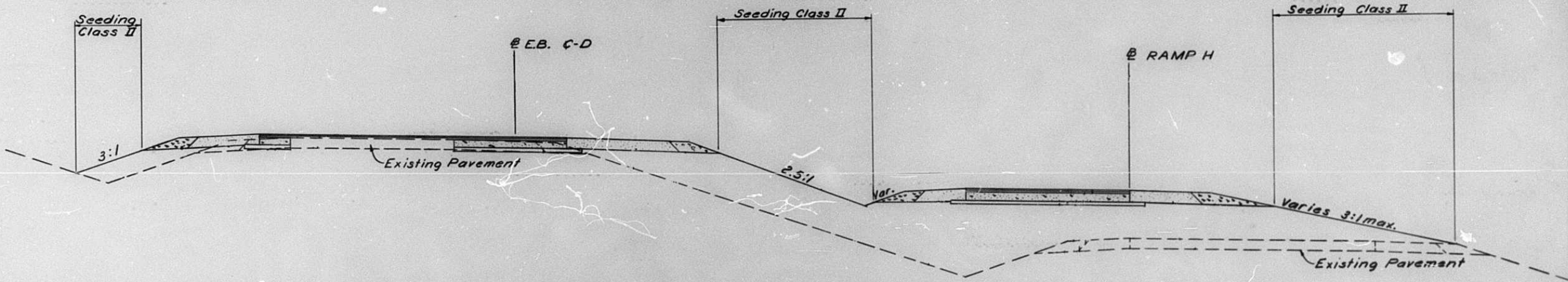
86C10

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	40
		ILLINOIS PROJECT		

• 82-3HVB-2R-1



EASTBOUND C-D
87+00 TO 92+05



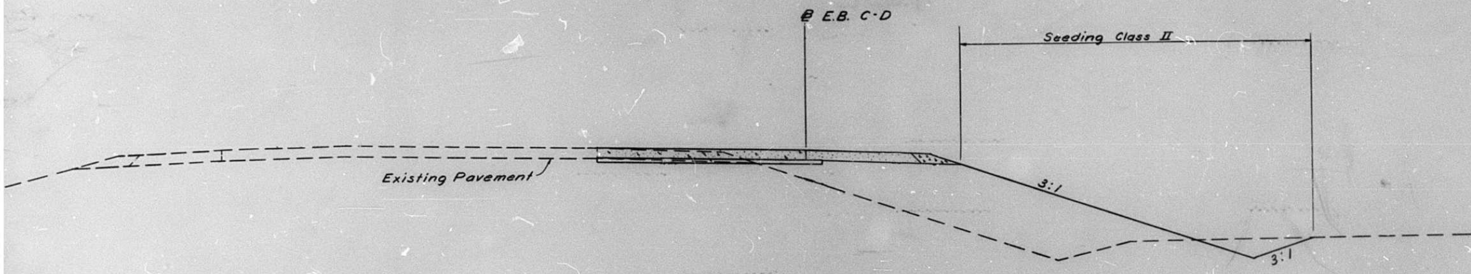
EASTBOUND C-D
92+05 TO 95+45

RAMP H
0+00 TO 9+50

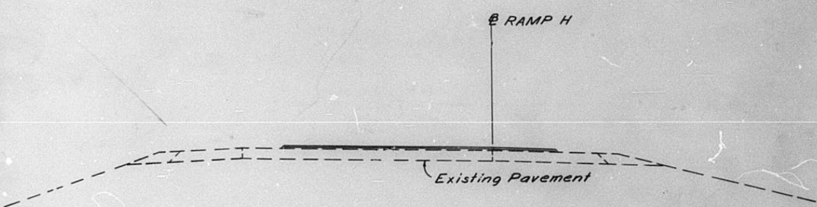
SEEDING DETAILS

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	41
		ILLINOIS	PROJECT	

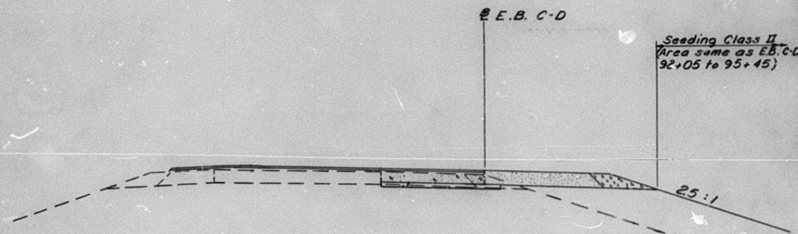
• 82-3HVB-2R-1



EASTBOUND C-D
104+00 TO 107+00



RAMP H
9+50 TO 10+63.56



EASTBOUND C-D
95+45 TO 101+65

SEEDING DETAILS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	42

ILLINOIS PROJECT

* 82-3HVB-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:*

68,915 LBS. (M183) FABRICATED UNDER SEPARATE CONTRACT.
(See Special Provisions for field painting requirements.)

THE ZINC - SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUCTURAL STEEL EXCEPT OTHERWISE NOTED.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31, M42 OR M53, GRADE 60.

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".

THE ROADWAY EXPANSION PLATES SHALL BE FLAME CUT AS PROVIDED IN ARTICLE 507.04 (I) OF THE STANDARD SPECIFICATIONS.

✦ INDICATES HIGH STRENGTH BOLT, SHOP OR FIELD INSTALLED UNLESS OTHERWISE NOTED.

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.

FOR TEMPORARY CONCRETE BARRIER PAY ITEM SEE ROADWAY PLANS.

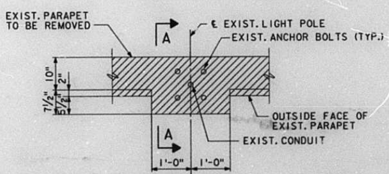
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF DRAWINGS

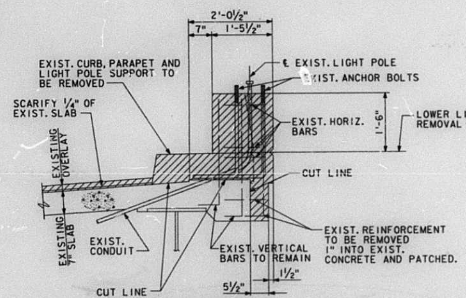
TOTAL BILL OF MATERIAL

ITEM	UNIT	ROADWAY A SUPERSTR. TOTAL	ROADWAY G SUPERSTR. TOTAL	ROADWAY D SUPERSTR. TOTAL
CLASS X CONCRETE, SUPERSTRUCTURE	CU. YDS.	92.2	74.7	138.2
REINFORCEMENT BARS (EPOXY COATED)	LBS.	12,372	6070	11,040
NEOPRENE EXPANSION JOINT (2")	LIN. FT.	131	32	107
NEOPRENE EXPANSION JOINT (4")	LIN. FT.	125	37	72
NEOPRENE EXPANSION JOINT (2½")	LIN. FT.	68	91	40
BRIDGE DECK CONCRETE OVERLAY *OPTION*	SQ. YDS.	10,453	5,142	9,054
CONCRETE REMOVAL	CU. YDS.	149.2	127.7	134.6
PARAPET RECONSTRUCTION	LIN. FT.	4,611	2,336	4,465
FURNISHING AND ERECTING STRUCTURAL STEEL	Lbs.	5430	2704	4056
ERECTING STRUCTURAL STEEL	LUMP SUM	1	1	1
FLOOR DRAINS	EACH	8	—	2
DRAINAGE SCUPPERS	EACH	39	12	33
* PROTECTIVE COAT	SQ. YDS.	1,945	1,049	2,048
INSTALLING REINFORCED NEOPRENE EXPANSION JOINT TREATMENT	LIN. FT.	37	41	146
BITUMINOUS CONCRETE SURFACE REMOVAL (BRIDGE DECK)	SQ. YDS.	9,632	4,839	8,597
DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	362	353	483
DECK SLAB REPAIR (PARTIAL)	SQ. YDS.	2,014	353	1,750
CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ. YDS.	9,532	4,750	8,380
FLOOR DRAIN REMOVAL	EACH	293	149	248

** Quantity does not include bridge deck surface.*



PLAN-EXISTING PARAPET AT LIGHT POLE



SECTION A-A

NOTE: DEMOLITION SHOWN FOR PARAPET RECONSTRUCTION ALTERNATE 1.
FOR ALTERNATE 2 REMOVE THE LIGHT POLE SUPPORT TO THE LIMITS SHOWN.
FOR ALTERNATE 3 THE LIGHT POLES SHALL BE REMOVED. LIGHT POLE SUPPORT TO REMAIN.
THE PORTION OF THE LIGHT POLE SUPPORTS TO REMAIN SHALL HAVE THE ROADWAY FACE REMOVED TO MATCH THE ADJACENT PARAPET REMOVAL AS SHOWN ON THE PARAPET RECONSTRUCTION DETAIL FOR ALTERNATES 2 AND 3.

G.J. DEE	DESIGNED
C. LIZANA	CHECKED
R. ROTH	DRAWN
C. LIZANA/B. CARLSON	CHECKED

10320 FILE: 2F3(110,1)DETIE.DGN LEVELS PLOTTED 35 54 56 57 58 63 DATE: OCT. 14, 1987
875513 PRF: DETIE

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAYS A,G AND D-DECK REHABILITATION
GENERAL NOTES, ESTIMATED QUANTITIES
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.

REV. 8/26/88

SHEET NO. 1 OF 56

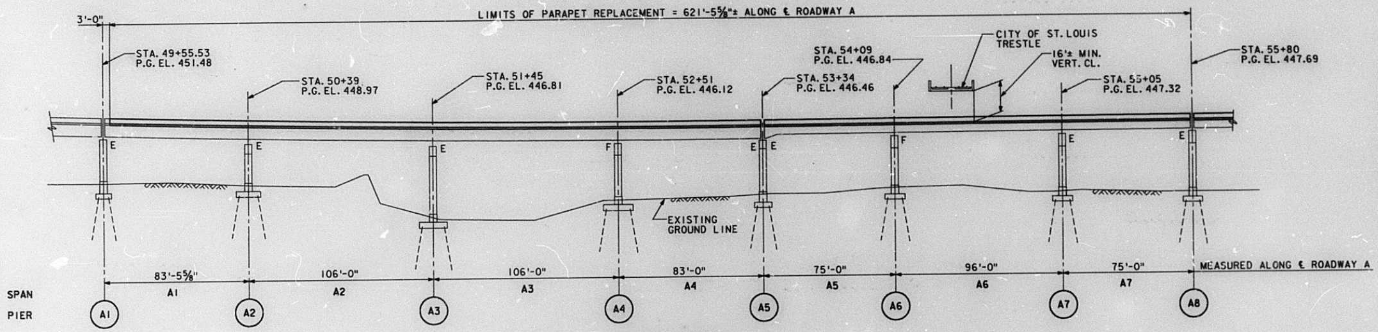
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	43

• 82-3HVB-2R-1

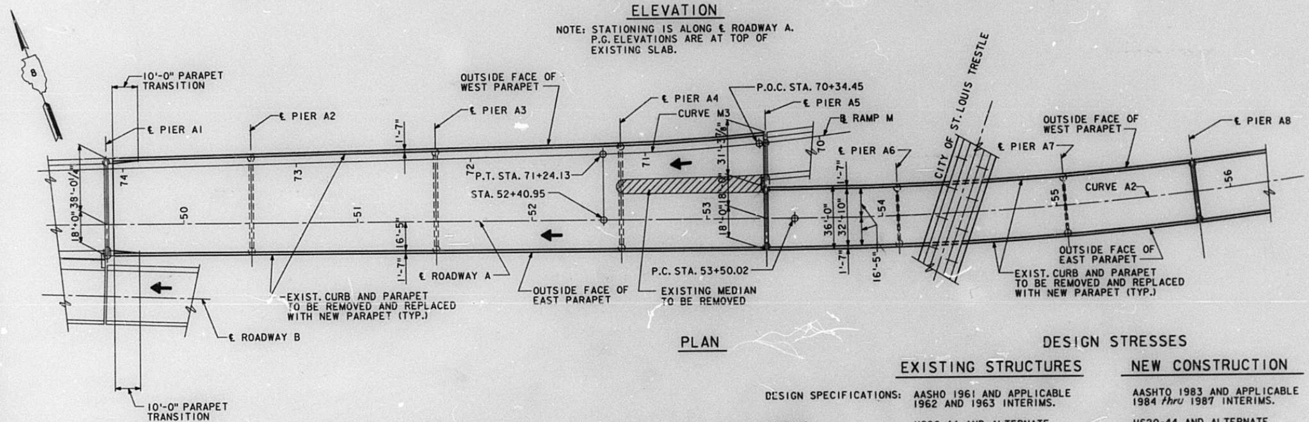
BENCH MARK A-4

CHISELED "▭" IN CONCRETE FOUNDATION AT N. END OF PIER A4 ON W.B. C-D. ELEV. 405.86.

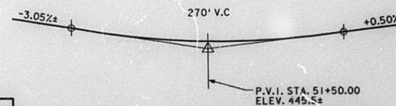


ELEVATION

NOTE: STATIONING IS ALONG ℄ ROADWAY A. P.G. ELEVATIONS ARE AT TOP OF EXISTING SLAB.



PLAN



EXISTING PROFILE GRADE - ℄ ROADWAY A

(ELEVATION SHOWN IS AT TOP OF EXISTING SLAB)

CURVE DATA - M3

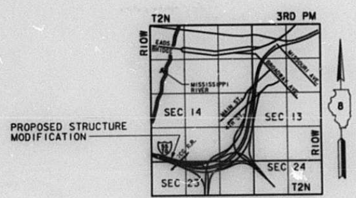
P.I. STA. = 69+74.86
Δ = 14°-40'-33" RT.
D = 4°-53'-19"
R = 1172.00'
T = 150.93'
L = 300.20'
E = 9.68'
SE = 8.00%
P.C. STA. = 68+23.93
P.T. STA. = 71+24.13

DESIGN STRESSES

	EXISTING STRUCTURES	NEW CONSTRUCTION
DESIGN SPECIFICATIONS:	AASHO 1961 AND APPLICABLE 1962 AND 1963 INTERIMS.	AASHTO 1983 AND APPLICABLE 1984 thru 1987 INTERIMS.
LOADING:	HS20-44 AND ALTERNATE	HS20-44 AND ALTERNATE
REINFORCED CONCRETE: DECK SLAB	fc=1400 psi n=10	f'c=3500 psi
SUBSTRUCTURE	fc=1400 psi n=10 Vc=75 psi - FOOTINGS	
REINFORCING	fs=20,000 psi	fy=60,000 psi (REINFORCEMENT)
STRUCTURAL STEEL:	fs=20,000 psi	fy=36,000 psi (M183)

NOTES

WORK THIS SHEET WITH SHEET 3.
EXISTING DRAINS TO BE REMOVED AND SLAB TO BE PATCHED AT LOCATIONS SHOWN ON PARAPET DRAWINGS.
EXISTING BITUMINOUS OVERLAY AND WATERPROOFING MEMBRANE TO BE REMOVED AND CONCRETE SLAB TO BE PATCHED AS NOTED HEREIN.
EXISTING SLAB SHALL RECEIVE ¼" SCARIFICATION AND A 2" DENSE CONCRETE OVERLAY BETWEEN PIER A1 AND PIER A25.
STAGE I CONSTRUCTION WILL BEGIN ON THE WEST SIDE PORTION OF SPANS A1 THRU A4.
STAGE II CONSTRUCTION WILL BEGIN ON THE CENTER PORTION OF SPANS A1 THRU A4 AND THE WEST SIDE PORTION OF SPANS A5 THRU A24.
STAGE III CONSTRUCTION WILL BEGIN ON THE EAST SIDE PORTION OF SPANS A1 THRU A24.
IN SPANS A1 THROUGH A17 IT IS ESTIMATED THAT 3% OF THE EXISTING DECK AREA REQUIRES FULL DEPTH REPAIR AND THAT 23% OF THE EXISTING DECK AREA REQUIRES PARTIAL DEPTH PATCHING.
IN SPANS A18 THROUGH A24 IT IS ESTIMATED THAT 5% OF THE EXISTING DECK AREA REQUIRES FULL DEPTH REPAIR AND THAT 5% OF THE EXISTING DECK AREA REQUIRES PARTIAL DEPTH PATCHING.
ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.



LOCATION SKETCH

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. Rayburn
Engineer of Bridges and Structures

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

CARLOS A. ... 81-3955 CHICAGO
REGISTERED STRUCTURAL ENGINEER

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A - DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS A1 THRU A7

STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 2 OF 56

DESIGNED
CHECKED
S. KAEMMERER
DRAWN
P.W. CLARK
CHECKED

87S403 PRF: GPERDYA1
2 3 20 26 36 39 43 50 55 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	44
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

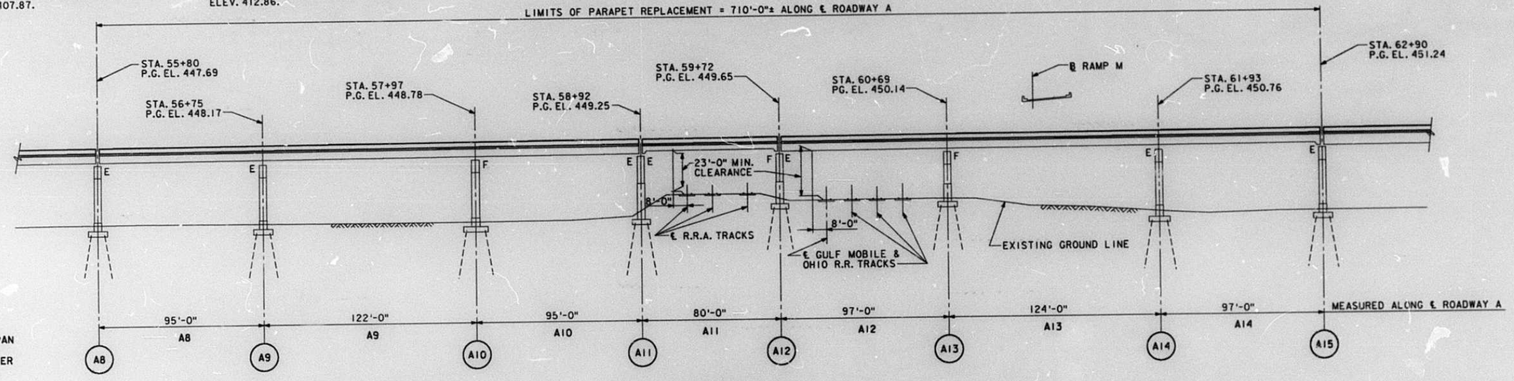
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCH MARK A-8

CHISELED "□" IN CONCRETE FOUNDATION AT N. END OF PIER A8 ON W.B. C-D. ELEV. 407.87.

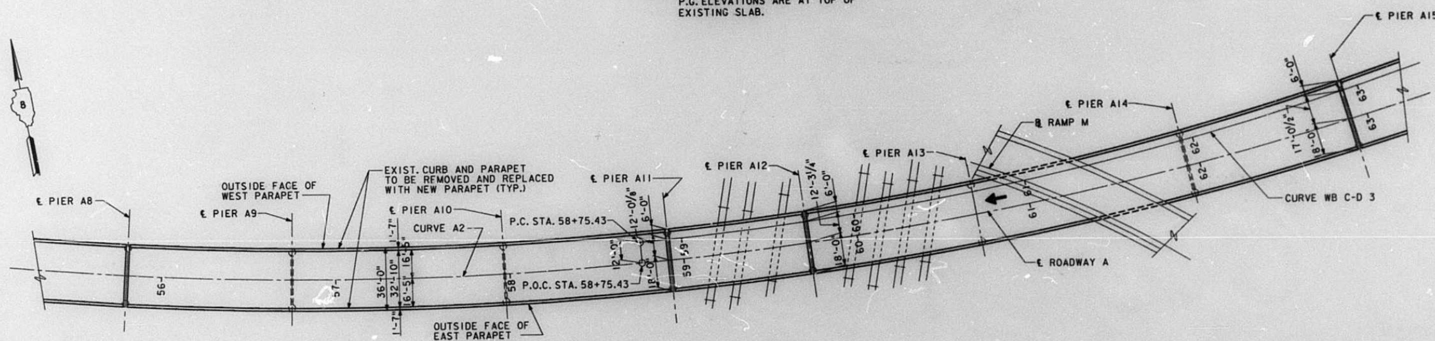
BENCH MARK A-14

CHISELED "□" IN CONCRETE FOUNDATION AT N. END OF PIER A14 ON W.B. C-D. ELEV. 412.86.



ELEVATION

NOTE: STATIONING IS ALONG ℄ ROADWAY A. P.G. ELEVATIONS ARE AT TOP OF EXISTING SLAB.



PLAN

CURVE DATA - A2

P.I. STA. = 61+28.42
Δ = 42°-14'-36" LT
D = 2°-50'-37"
R = 2015.00'
T = 778.40'
L = 1485.64'
E = 145.12'
P.C. STA. = 53+50.02
P.T. STA. = 68+35.66

CURVE DATA - WB C-D 3

P.I. STA. = 64+79.39
Δ = 37°-18'-32" LT.
D = 3°-12'-10"
R = 1789.00'
T = 603.96'
L = 1164.93'
E = 99.20'
P.C. STA. = 58+75.43
P.C.C. STA. = 70+40.36

DESIGNED
CHECKED S. KAEMMERER
DRAWN P.W. CLARK
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

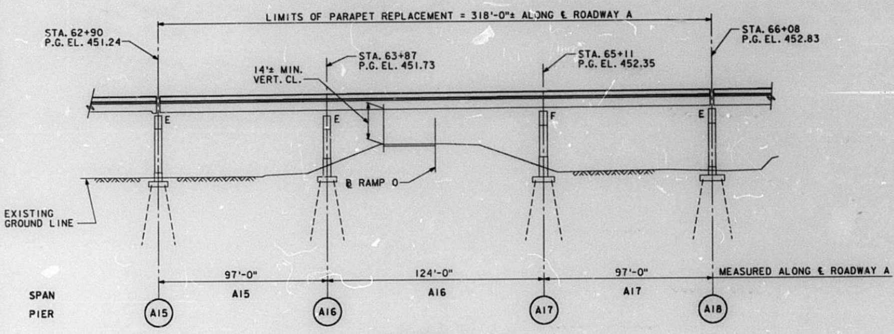
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A - DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS A8 THRU A14
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 3 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

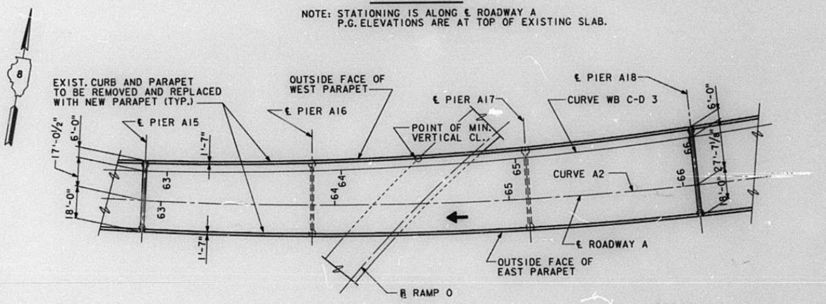
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	45

* 82-3HVB-2R-1



ELEVATION

NOTE: STATIONING IS ALONG ℄ ROADWAY A
P.G. ELEVATIONS ARE AT TOP OF EXISTING SLAB.



PLAN

DESIGNED
CHECKED
S. KAEMMERER
DRAWN
P.W. CLARK
CHECKED

10320 87S405 | FILE: 2^3(1)0,13GPEA15.DGN | PRF: GPEA15 | LEVELS PLOTTED 2 20 26 28 39 43 50 63 | DATE: OCT. 14, 1987

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A - DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS A15 THRU A17
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

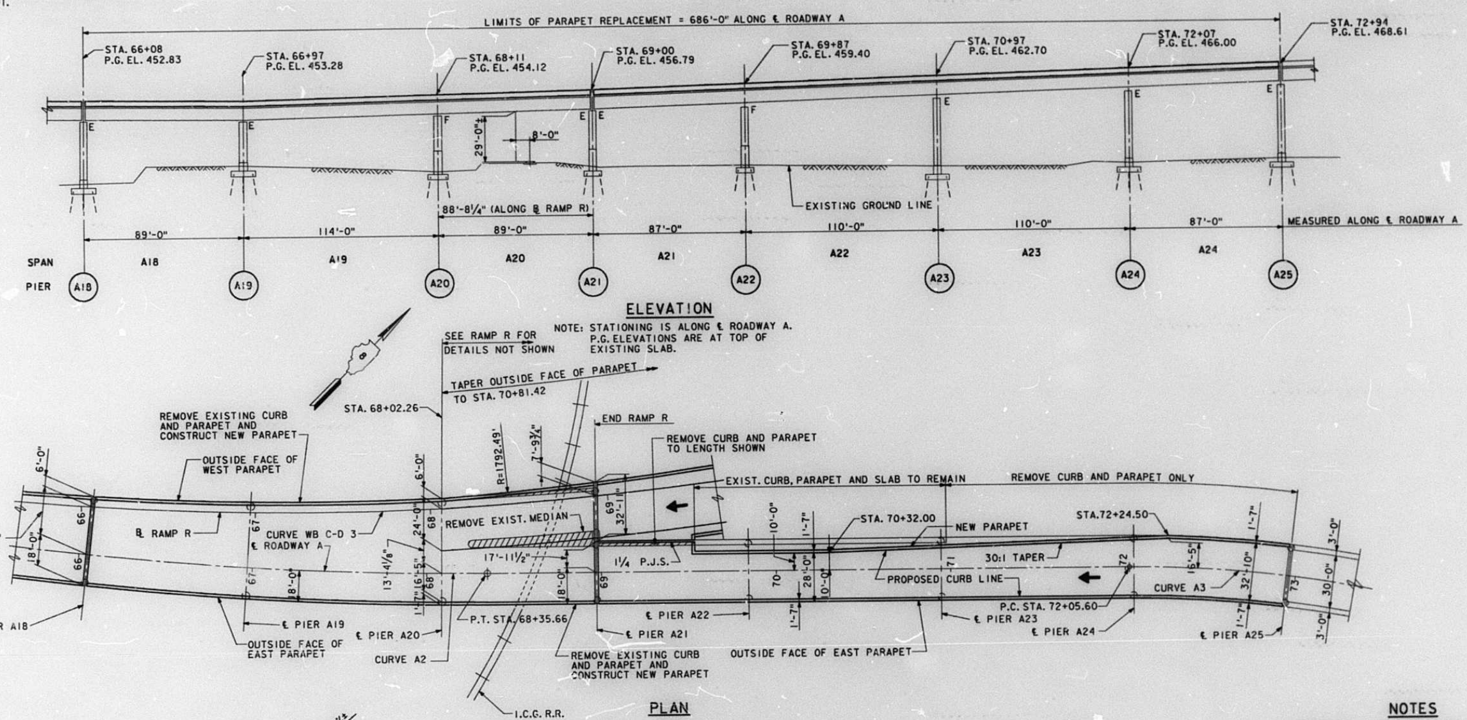
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	46

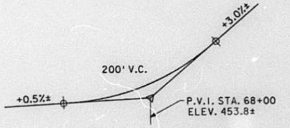
* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCH MARK A-18

CHISELED "□" IN CONCRETE FOUNDATION AT N. END OF PIER A18 ON W.B. C-D. ELEV. 410.91.





EXISTING PROFILE GRADE - ℄ ROADWAY A

(ELEVATION SHOWN IS AT TOP OF EXISTING SLAB.)

NOTES

FOR CURVE DATA-A2 AND CURVE DATA WB C-D, SEE SHEET 3.

CURVE DATA - A3

P.I. STA. = 72+48.67
Δ = 7°-02'-31" RT.
D = 8°-11'-06"
R = 700.00'
T = 43.07'
L = 86.03'
E = 1.32'
P.C. STA. = 72+05.60
P.O.C. STA. = 72+91.63

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. STEGMAN	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY A-DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS A18 THRU A24

STRUCTURE NO. 082-0141

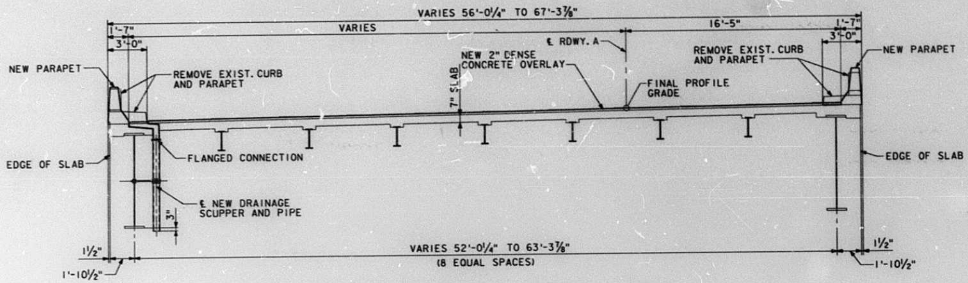
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 5 OF 56

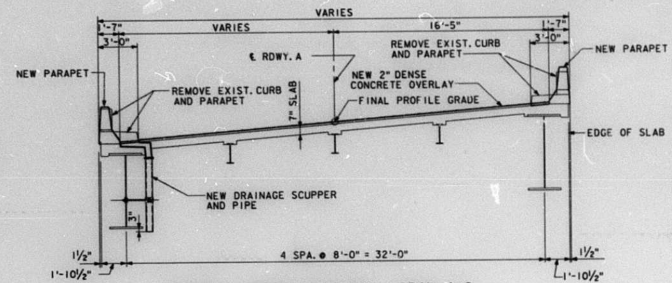
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	47
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

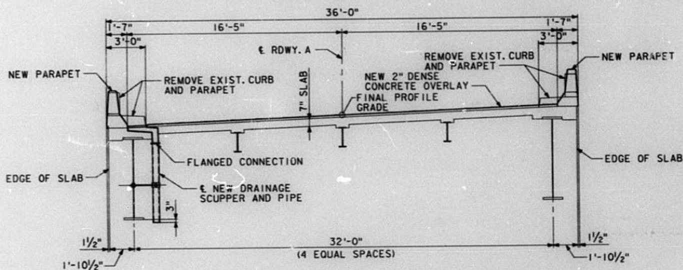
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



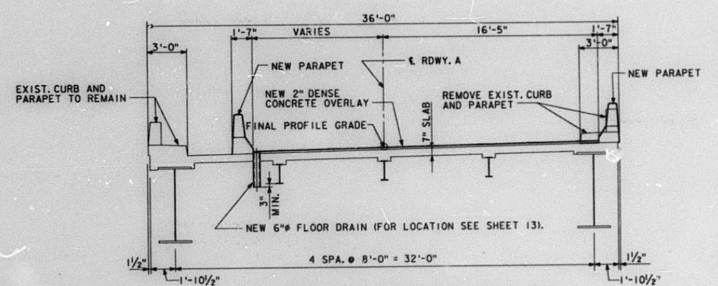
TYPICAL CROSS SECTION - SPANS A1 THRU A4
(LOOKING AHEAD STATION)



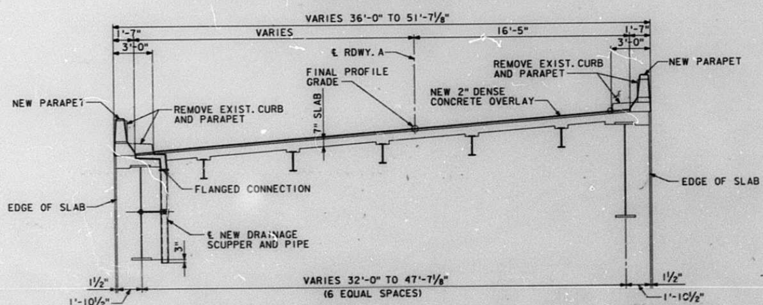
TYPICAL CROSS SECTION - SPAN A19
(LOOKING AHEAD STATION)
SPAN A18 SIMILAR



TYPICAL CROSS SECTION - SPANS A5 THRU A10
(LOOKING AHEAD STATION)



TYPICAL CROSS SECTION - SPAN A22
(LOOKING AHEAD STATION)
SPANS A23 AND A24 SIMILAR



TYPICAL CROSS SECTION - SPANS A11 THRU A17
(LOOKING AHEAD STATION)

DESIGNED
CHECKED R. ROTH
DRAWN C. LIZANA
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A - DECK REHABILITATION
CROSS SECTIONS
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

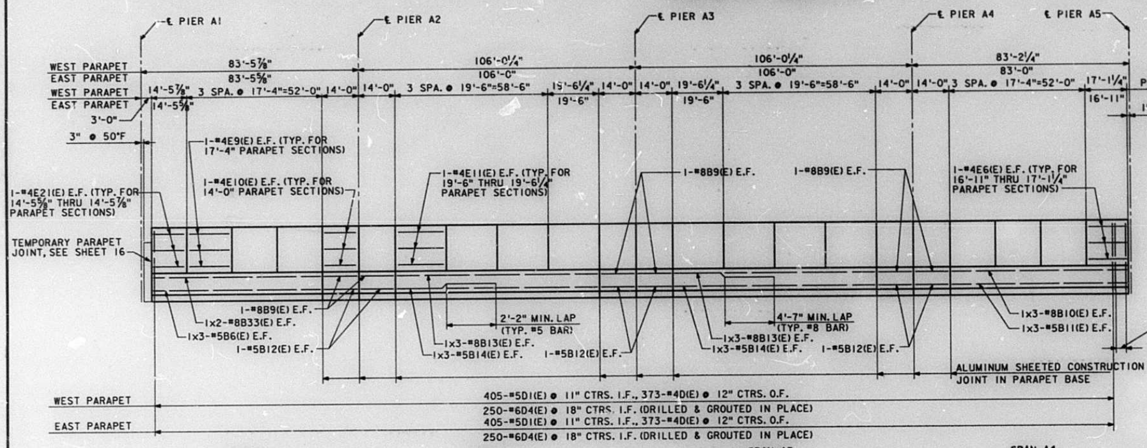
SHEET NO. 6 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	***	ST. CLAIR	320	48
		ILLINOIS	PROJECT	

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

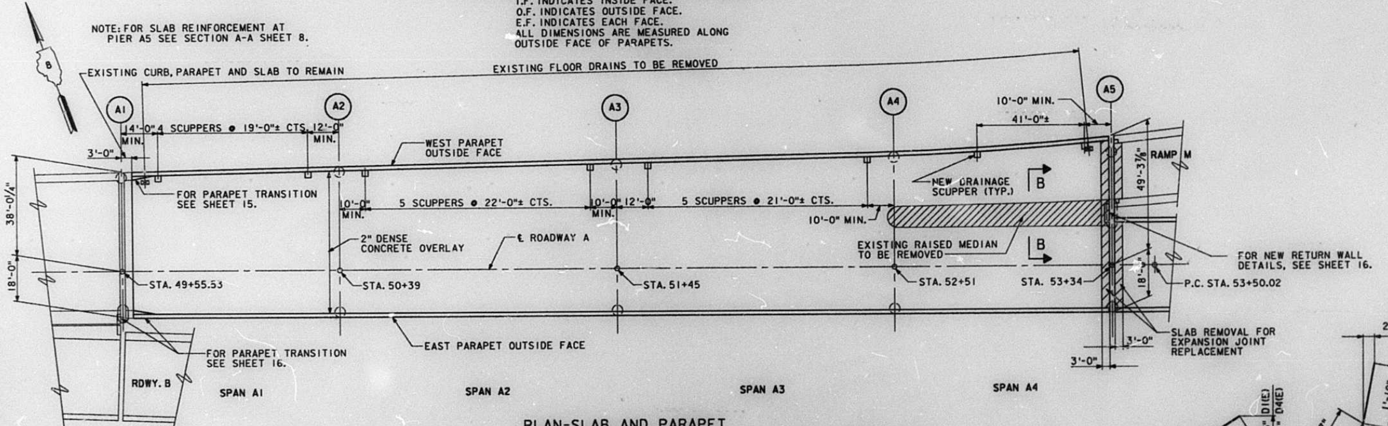
NOTE:
FOR PARAPET REMOVAL, 14,207 LBS. REINFORCING BARS (EPOXY COATED) AND 78.2 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.
102.2 CU. YDS.



INSIDE ELEVATION OF WEST PARAPET

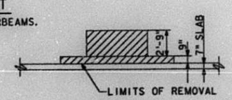
NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.

NOTE: FOR SLAB REINFORCEMENT AT PIER A5 SEE SECTION A-A SHEET 8.

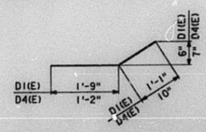


PLAN-SLAB AND PARAPET

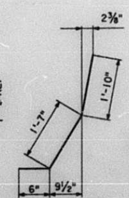
NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.



SECTION B-B



BARS D1(E) AND D4(E)



BAR D5(E)

BILL OF MATERIAL

SPANS A1 THRU A4				
BAR	NO.	SIZE	LENGTH	SHAPE
* B6(E)	12	#5	23'-7"	—
* B9(E)	24	#8	13'-9"	—
* B10(E)	12	#8	26'-1"	—
* B11(E)	12	#5	24'-6"	—
* B12(E)	24	#5	13'-9"	—
* B13(E)	24	#8	29'-0"	—
* B14(E)	24	#5	27'-5"	—
* B33(E)	8	#8	35'-5"	—
BX(E)	64	#5	2'-10"	—
* D(E)	746	#4	2'-8"	—
* D1(E)	810	#5	2'-10"	
* D4(E)	500	#6	2'-0"	
* D5(E)	8	#5	3'-11"	
* D6(E)	6	#4	5'-4"	
* E6(E)	12	#4	16'-8"	—
* E9(E)	72	#4	17'-1"	—
* E10(E)	72	#4	13'-9"	—
* E11(E)	96	#4	19'-3"	—
* E21(E)	12	#4	14'-2"	—

REINFORCEMENT BARS (EPOXY COATED)	LBS.	*189*
•• DECK SLAB REPAIR (PARTIAL)	SQ. YDS.	1,069
•• DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	49
BRIDGE DECK CONCRETE OVERLAY *OPTION*	SQ. YDS.	2,418
CONCRETE REMOVAL	CU. YDS.	*21.4*

•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

** Quantity of these bars included with Parapet Reconstruction - Alt. 1.*

NOTES:

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

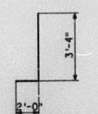
BARS DESIGNATED 1x3-#8 INDICATE 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 18.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING, SEE SHEET 22.

FOR LOCATION AND DETAILS OF EXPANSION JOINT, SEE SHEET 55.



BAR D6(E)

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
PARAPETS - SPANS A1 THRU A4

STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
R. ROTH	DRAWN
R. BUTTERFIELD	CHECKED

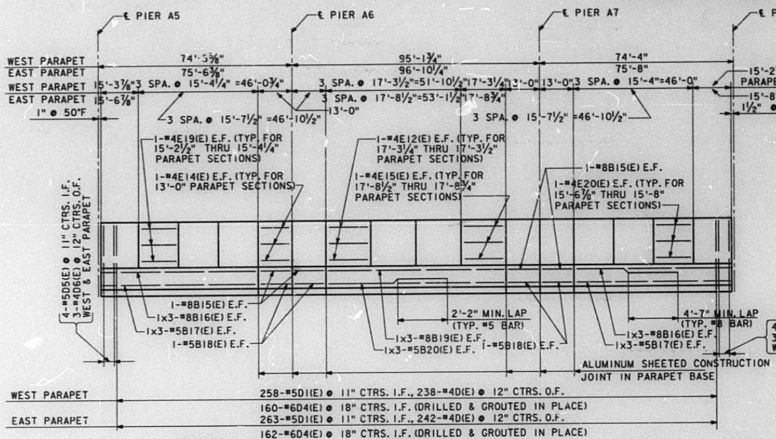
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

SHEET NO. 7 OF 56

PRF: PARA1
875286
35 54 56 57 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

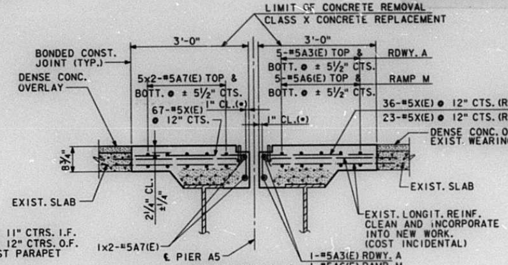


INSIDE ELEVATION OF WEST PARAPET

NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.

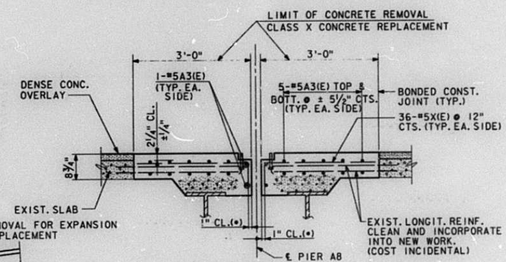
NOTE: 66.8 CU. YDS.
FOR PARAPET REMOVAL, 9413 LBS. REINFORCING BARS (EPOXY COATED) AND 51.2 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.

* Quantity of these bars included with Parapet Reconstruction - Alt. 1



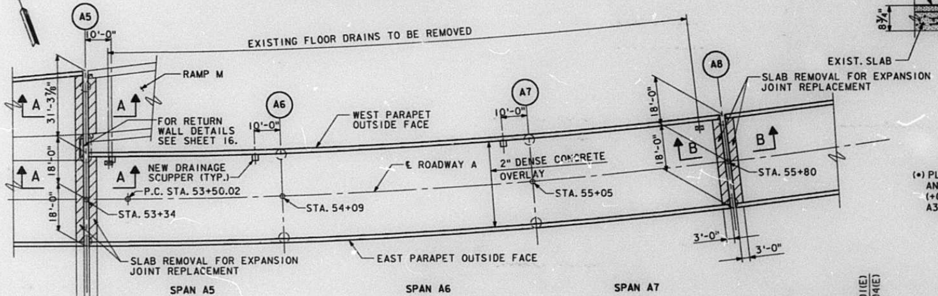
SECTION A-A

NOTE: CLEAN AND LAP EXISTING TRANSVERSE REINFORCING WITH A6(E) BARS (2'-2" MIN. LAP) RAMP M



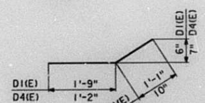
SECTION B-B

(•) PLACE A3(E), A6(E) AND A7(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A3(E), A6(E) AND A7(E).

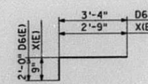


PLAN-SLAB AND PARAPET

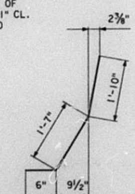
NOTE: SPACE SCUPPERS TO MISS FLORRBEAMS.



BARS D1(E) AND D4(E)



BARS D6(E) AND X(E)



BAR D5(E)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	**	ST. CLAIR	320	49
		ILLINOIS	PROJECT	

**82-3HVB-2R-1

BILL OF MATERIAL

SPANS A5 THRU A7				
BAR	NO.	SIZE	LENGTH	SHAPE
A3(E)	36	#5	35'-6"	—
A6(E)	12	#5	21'-0"	—
A7(E)	24	#5	34'-8"	—
* B15(E)	16	#8	12'-9"	—
* B16(E)	24	#8	23'-10"	—
* B17(E)	24	#5	22'-3"	—
* B18(E)	16	#5	12'-9"	—
* B19(E)	12	#8	26'-8"	—
* B20(E)	12	#5	25'-0"	—
[illegible]X(E)	12	#5	2'-10"	—
* [illegible](E)	480	#4	2'-8"	—
* D1(E)	521	#5	2'-10"	
* D4(E)	322	#6	2'-0"	
* D5(E)	16	#5	3'-11"	
* D6(E)	12	#4	5'-4"	
* E12(E)	24	#4	17'-0"	—
* E14(E)	48	#4	12'-9"	—
* E15(E)	24	#4	17'-5"	—
* E19(E)	48	#4	15'-0"	—
* E20(E)	48	#4	15'-4"	—
X(E)	198	#5	3'-6"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	21.2
REINFORCEMENT BARS (EPOXY COATED)			LBS.	3207
•• DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	165
•• DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	5
BRIDGE DECK CONCRETE OVERLAY *OPTION*			SQ. YDS.	873
CONCRETE REMOVAL			CU. YDS.	17.3

•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

BILL OF MATERIAL INCLUDES ALL REINFORCEM[illegible] DETAILED IN SECTION A-A AT PIER A5 AND SECTION B-B AT PIER A8.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 18.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING, SEE SHEET 22.

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 55.

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY A-DECK REHABILITATION
PARAPETS - SPANS A5 THRU A7

STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

B. CARLSON — DESIGNED
R. BUTTERFIELD — CHECKED
R. ROTH — DRAWN
R. BUTTERFIELD — CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

SHEET NO. 8 OF 56

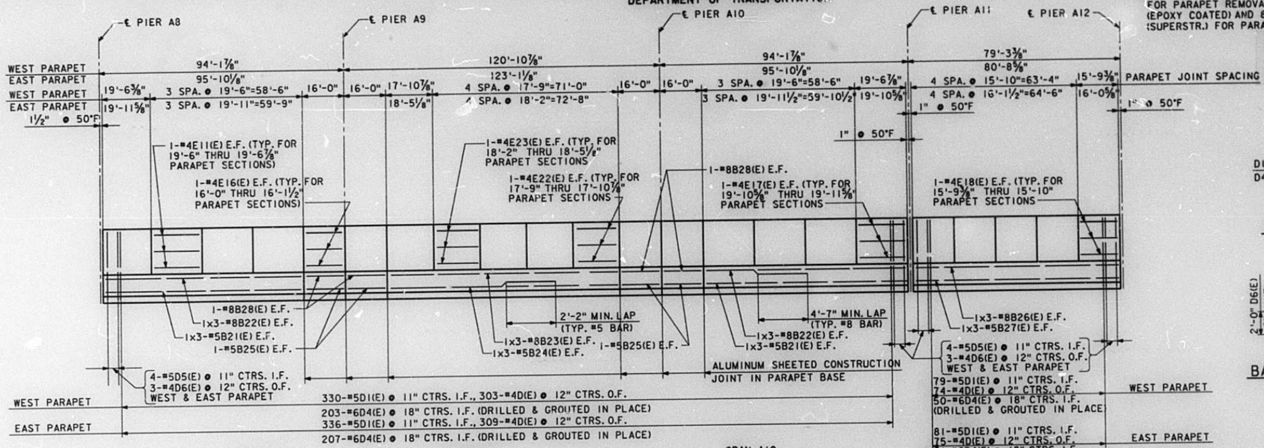
35 54 56 57 58 53

8TS287 | PRF: PARA5

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

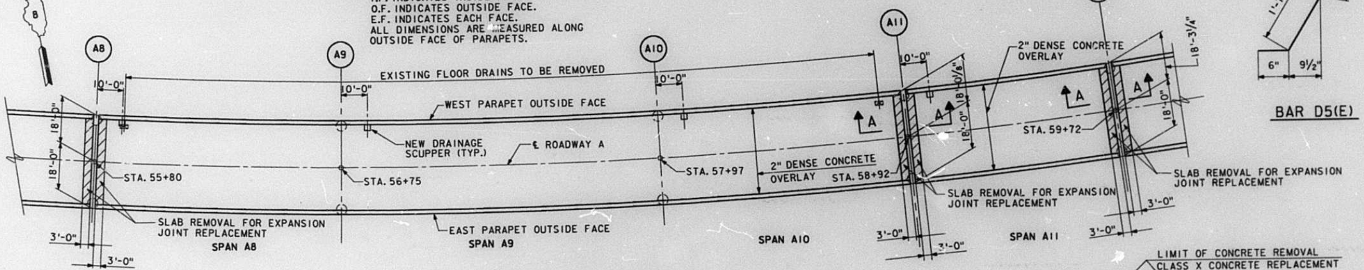
NOTE:
FOR PARAPET REMOVAL, 14,945 LBS. REINFORCING BARS (EPOXY COATED) AND 81.5 CU. YDS. 106.4 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.

* Quantity of these bars included with Parapet Reconstruction - Alt. 1



INSIDE ELEVATION OF WEST PARAPET

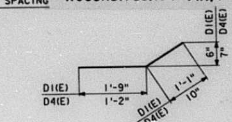
NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.



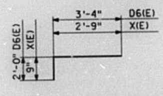
NOTE: FOR SLAB REINFORCEMENT AT PIER A8, SEE SECTION B-B SHEET 8.

PLAN-SLAB AND PARAPET

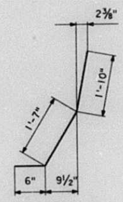
NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.



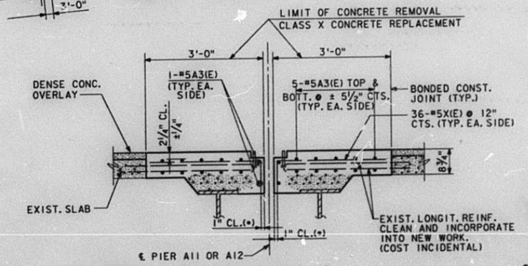
BARS D1(E) AND D4(E)



BARS D6(E) AND X(E)



BAR D5(E)



SECTION A-A

(•) PLACE A3(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A3(E) BARS.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	***	ST. CLAIR	320	50

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

BILL OF MATERIAL

SPANS A8 THRU A11				
BAR	NO.	SIZE	LENGTH	SHAPE
A3(E)	48	#5	35'-6"	—
* B21(E)	24	#5	28'-0"	—
* B22(E)	24	#8	29'-7"	—
* B23(E)	12	#8	33'-4"	—
* B24(E)	12	#5	31'-9"	—
* B25(E)	16	#5	15'-9"	—
* B26(E)	12	#8	29'-11"	—
* B27(E)	12	#5	28'-4"	—
* B28(E)	16	#8	15'-9"	—
BX(E)	16	#5	2'-10"	—
* D(E)	761	#4	2'-8"	—
* D1(E)	826	#5	2'-10"	
* D4(E)	511	#6	2'-0"	
* D5(E)	32	#5	3'-11"	
* D6(E)	24	#4	5'-4"	
* E11(E)	48	#4	19'-3"	—
* E16(E)	78	#4	15'-9"	—
* E17(E)	48	#4	19'-7"	—
* E18(E)	30	#4	15'-7"	—
* E22(E)	30	#4	17'-6"	—
* E23(E)	30	#4	17'-11"	—
X(E)	144	#5	3'-6"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	15.3
REINFORCEMENT BARS (EPOXY COATED)			LBS.	2355
•• DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	339
•• DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	25
BRIDGE DECK CONCRETE OVERLAY OPTION			SQ. YDS.	1384
CONCRETE REMOVAL			CU. YDS.	13.2

•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIERS A11 AND A12.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 18.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING, SEE SHEET 22.

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 55.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
PARAPETS - SPANS A8 THRU A11
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

SHEET NO. 9 OF 56

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
R. ROTH	DRAWN
R. BUTTERFIELD	CHECKED

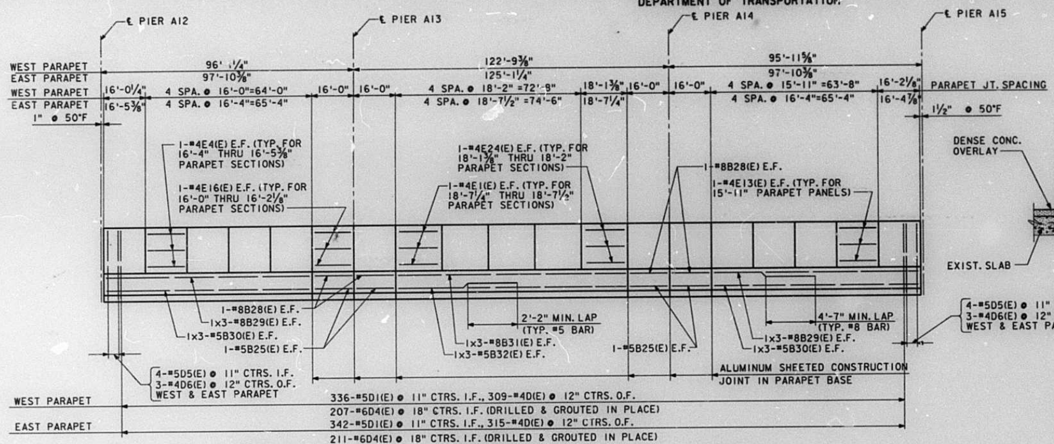
10320 | 8TS293 | FILE: ZF3:[110,1]PARA8.DGN | PRF: PARA8 | LEVELS PLOTTED 35 54 56 57 58 63 | DATE: OCT. 14, 1987

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	***	ST. CLAIR	320	51
		ILLINOIS	PROJECT	

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

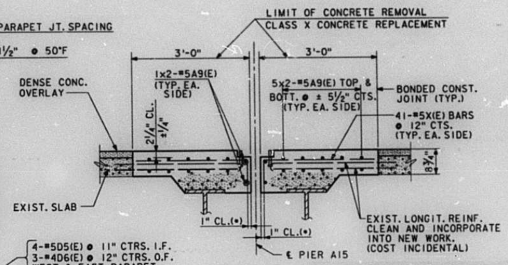
NOTE: FOR PARAPET REMOVAL, 12,071 LBS. REINFORCING BARS (EPOXY COATED) AND 66.1 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1. 86.3 CU. YDS.



NOTE: FOR SLAB REINFORCING AT PIER 12 SEE SECTION A-A, SHEET 9.

INSIDE ELEVATION OF WEST PARAPET

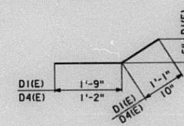
NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.



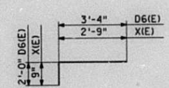
SECTION A-A

* *Quantity of these bars included with Parapet Reconstruction - Alt. 1*

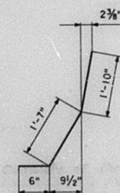
(*) PLACE A9(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A9(E) BARS.



BARS D1(E) AND D4(E)



BARS D6(E) AND X(E)



BAR D5(E)

BILL OF MATERIAL

SPANS A12 THRU A14				
BAR	NO.	SIZE	LENGTH	SHAPE
A9(E)	48	#5	21'-4"	—
* B25(E)	16	#5	15'-9"	—
* B28(E)	16	#8	15'-9"	—
* B29(E)	24	#8	30'-3"	—
* B30(E)	24	#5	28'-8"	—
* B31(E)	12	#8	34'-1"	—
* B32(E)	12	#5	32'-5"	—
BY(E)	12	#5	2'-10"	—
* D(E)	624	#4	2'-8"	—
* D1(E)	678	#5	2'-10"	
* D4(E)	418	#6	2'-0"	
* D5(E)	16	#5	3'-11"	
* D6(E)	12	#4	5'-4"	
* E1(E)	30	#4	18'-4"	—
* E4(E)	60	#4	16'-1"	—
* E13(E)	24	#4	15'-8"	—
* E16(E)	84	#4	15'-9"	—
* E24(E)	30	#4	17'-10"	—
X(E)	82	#5	3'-6"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	9.4
REINFORCEMENT BARS (EPOXY COATED)			LBS.	1409
•• DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	12[illegible]
•• DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	17
BRIDGE DECK CONCRETE OVERLAY *OPTION*			SQ. YDS.	1228
CONCRETE REMOVAL			CU. YDS.	6.9

•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIER A15.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

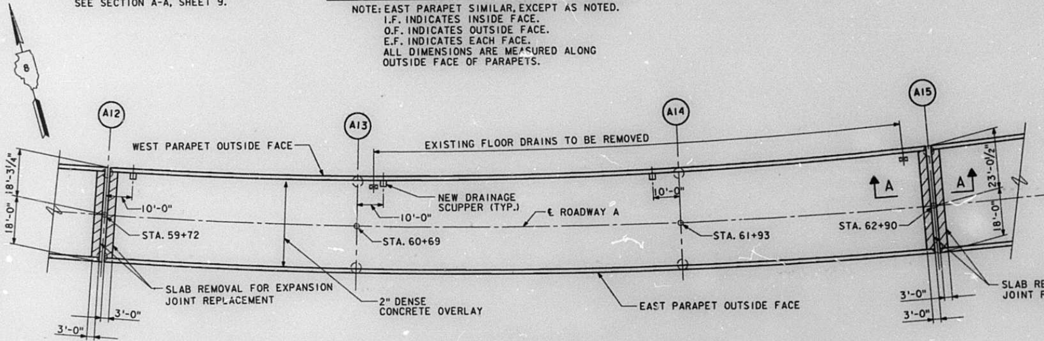
BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB SEE SHEET 18.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING SEE SHEET 22.

FOR LOCATION AND DETAILS OF EXPANSION JOINTS SEE SHEET 55.



PLAN-SLAB AND PARAPET

NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
R. ROTH	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

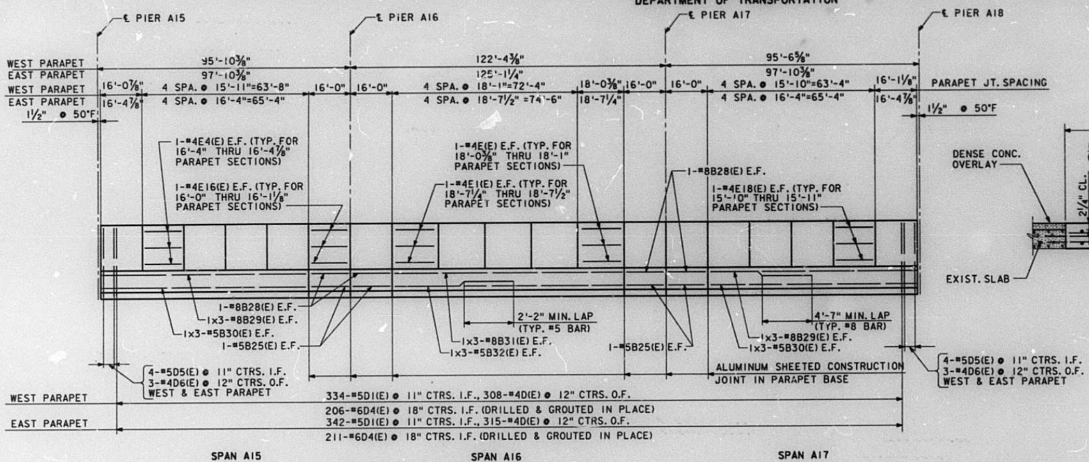
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
PARAPETS - SPANS A12 THRU A14

STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 10 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

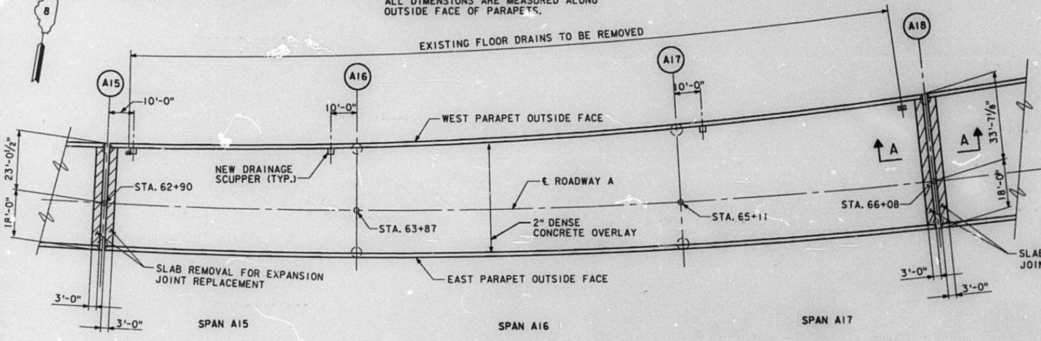
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	***	ST. CLAIR	320	52
		ILLINOIS	PROJECT	



INSIDE ELEVATION OF WEST PARAPET

NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.

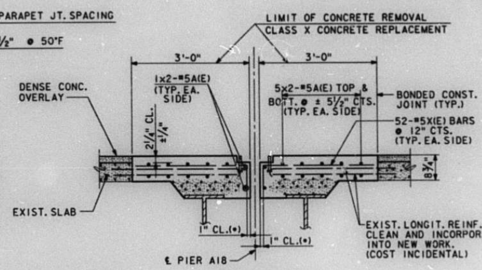
NOTE: FOR SLAB REINFORCEMENT AT PIER A15, SEE SECTION A-A, SHEET 10.



PLAN-SLAB AND PARAPET

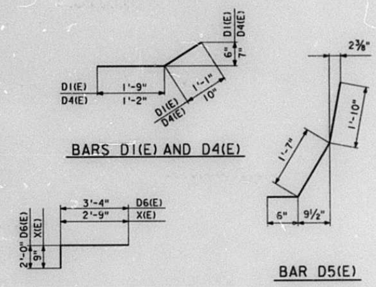
NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.

NOTE: 86.1 CU. YDS.
FOR PARAPET REMOVAL, 12,055 LBS. REINFORCING BARS (EPOXY COATED) AND 66.0 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.



SECTION A-A

(•) PLACE A(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A(E) BARS.



BARS D1(E) AND D4(E)

BARS D6(E) AND X(E)

BAR D5(E)

Quantity of these bars included with Parapet Reconstruction - Alt. I

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

BILL OF MATERIAL

SPANS A15 THRU A17				
BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	48	#5	26'-8"	—
* B25(E)	16	#5	15'-9"	—
* B28(E)	16	#8	15'-9"	—
* B29(E)	24	#8	30'-3"	—
* B30(E)	24	#5	28'-8"	—
* B31(E)	12	#8	34'-1"	—
* B32(E)	12	#5	32'-5"	—
BX(E)	12	#5	2'-10"	—
* D(E)	623	#4	2'-8"	—
* D1(E)	676	#5	2'-10"	
* D4(E)	417	#6	2'-0"	
* D5(E)	16	#5	3'-11"	
* D6(E)	12	#4	5'-4"	
* E(E)	30	#4	17'-9"	—
* E1(E)	30	#4	18'-4"	—
* E4(E)	60	#4	16'-1"	—
* E16(E)	60	#4	15'-9"	—
* E18(E)	48	#4	15'-7"	—
X(E)	104	#5	3'-6"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	11.9
REINFORCEMENT BARS (EPOXY COATED)			LBS.	1755
•• SLAB DECK REPAIR (PARTIAL)			SQ. YDS.	149
•• SLAB DECK REPAIR (FULL DEPTH)			SQ. YDS.	0
BRIDGE DECK CONCRETE OVERLAY *OPTION*			SQ. YDS.	1487
CONCRETE REMOVAL			CU. YDS.	92

•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.
BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIER A18.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.
BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.
FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.
FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 18.
FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING, SEE SHEET 22.
FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 55.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
PARAPETS - SPANS A15 THRU A17
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
R. ROTH	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

87S299 PRF: PARA15

35 54 56 57 58 63

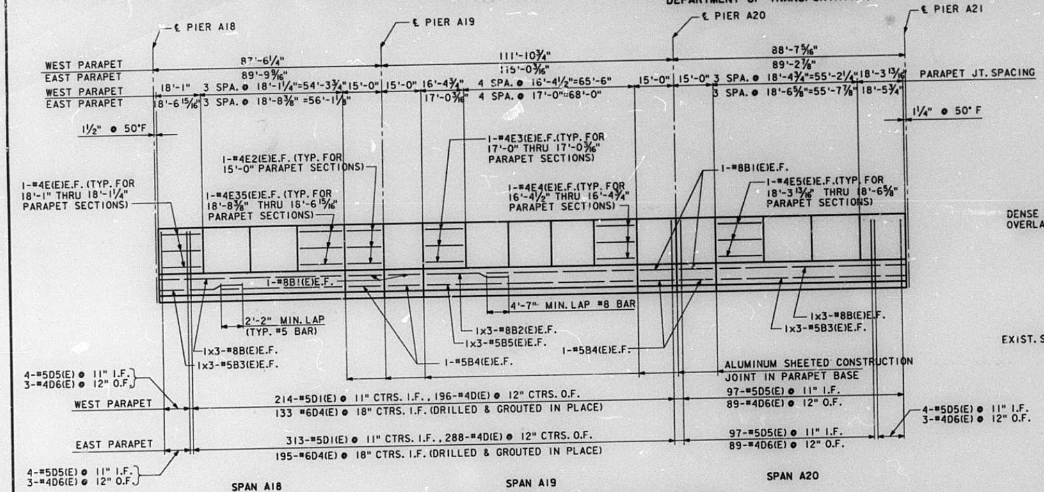
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	***	ST. CLAIR	320	53
		ILLINOIS	PROJECT	

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

NOTE:
FOR PARAPET REMOVAL, 12,470 LBS. REINFORCING BARS (EPOXY COATED) AND 72.0 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1. 62.2 CU. YDS.

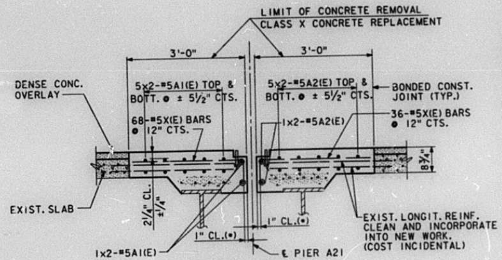
*Quantity of these bars, except 3 b8(E) bars, are included with Parapet Reconstruction - Alt. 1.



INSIDE ELEVATION OF WEST PARAPET

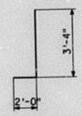
EAST PARAPET SIMILAR EXCEPT AS NOTED
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE
E.F. INDICATES EACH FACE
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET

NOTE: FOR SLAB REINFORCEMENT AT PIER A18, SEE SECTION A-A SHEET 11.

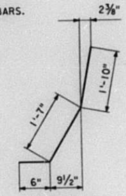


SECTION B-B

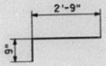
(•) PLACE A1(E) AND A2(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A1(E) AND A2(E) BARS.



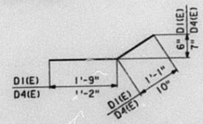
BAR D6(E)



BAR D5(E)



BAR X(E)



BARS D1(E) AND D4(E)

BILL OF MATERIAL

SPANS A18 THRU A20					
	BAR	NO.	SIZE	LENGTH	SHAPE
	A1(E)	24	#5	35'-3"	
	A2(E)	24	#5	18'-9"	
	A13(E)	118	#5	3'-0"	
	A14(E)	118	#5	3'-6"	
	A15(E)	116	#5	4'-0"	
*	B(E)	24	#8	27'-9"	
*	B1(E)	16	#8	14'-9"	
*	B2(E)	12	#8	31'-4"	
	B3(E)	27	#5	26'-2"	
*	B4(E)	16	#5	14'-9"	
*	B5(E)	12	#5	29'-3"	
*	B39(E)	6	#8	34'-0"	
	B40(E)	21	#5	30'-10"	
	BX(E)	12	#5	2'-10"	
*	D(E)	484	#4	2'-8"	
*	D1(E)	527	#5	2'-10"	
*	D4(E)	328	#6	2'-0"	
*	D5(E)	109	#5	3'-11"	
*	D6(E)	98	#4	5'-4"	
*	E(E)	24	#4	17'-9"	
*	E35(E)	24	#4	18'-5"	
*	E2(E)	48	#4	14'-9"	
*	E3(E)	30	#4	16'-7"	
*	E4(E)	30	#4	16'-1"	
*	E5(E)	48	#4	18'-1"	
	X(E)	104	#5	3'-6"	
	CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	16.2
	REINFORCEMENT BARS (EPOXY COATED)			LBS.	2420
	•• DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	96
	•• DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	96
	BRIDGE DECK CONCRETE OVERLAY *OPTION*			SQ. YDS.	777
	CONCRETE REMOVAL			CU. YDS.	54.2

•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION B-B AT PIER A21 AND IN PARAPET AND SLAB MODIFICATIONS SPAN A20 SHEET 19.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

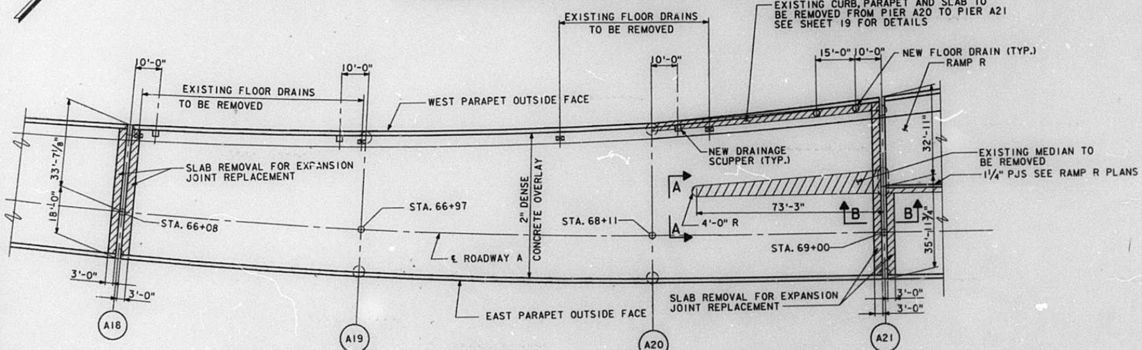
FOR DRAINAGE SCUPPER DETAILS SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB SEE SHEET 18.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING SEE SHEET 22.

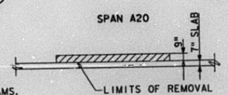
FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 55.

FOR DETAILS OF PARAPET RECONSTRUCTION SEE SHEET 14.



PLAN-SLAB AND PARAPET

NOTE: SPACE SCUPPERS AND FLOOR DRAINS TO MISS FLOORBEAMS.



SECTION A-A

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. STEGMAN	DRAWN
R. SANDOVAL	CHECKED

10320 875617 FILE: ZF3:[10,1]DET100E.DGN PRF: DET100E LEVELS PLOTTED 35 54 56 57 58 63 DATE: OCT. 14, 1987

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
PARAPETS - SPANS A18 THRU A20

STRUCTURE NO. 082-0141

STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

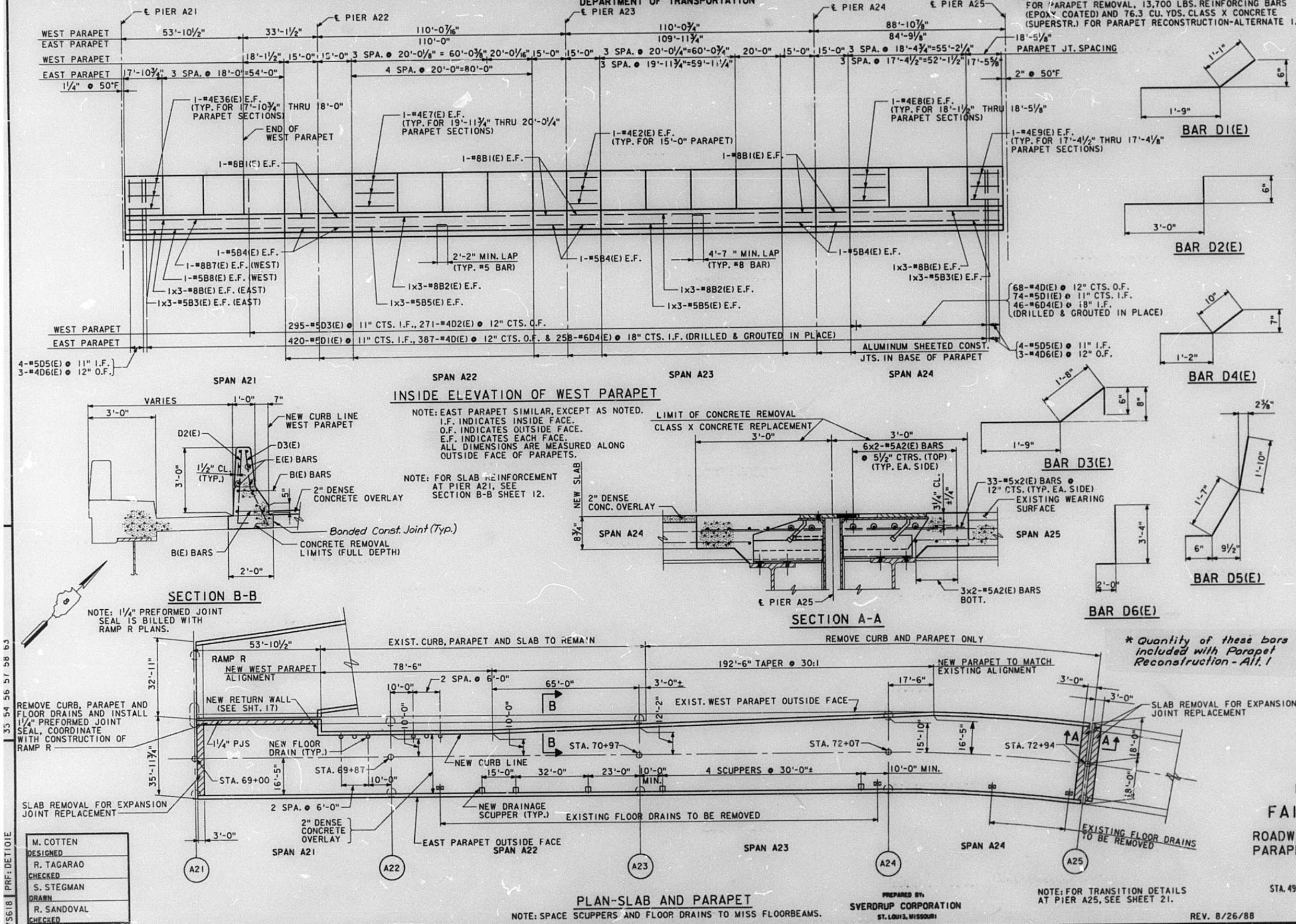
SHEET NO. 12 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	***	ST. CLAIR	320	54

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

NOTE: FOR PARAPET REMOVAL, 13,700 LBS. REINFORCING BARS (EPOXY COATED) AND 76.3 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1. 64.3 CU. YDS.



BILL OF MATERIAL

SPANS A21 THRU A24				
BAR	NO.	SIZE	LENGTH	SHAPE
A2(E)	36	#5	18'-9"	—
* B(E)	18	#8	27'-9"	—
* B1(E)	24	#8	14'-9"	—
* B2(E)	24	#8	31'-4"	—
* B3(E)	16	#5	26'-2"	—
* B4(E)	24	#5	14'-9"	—
* B5(E)	24	#5	29'-3"	—
* B7(E)	2	#8	18'-3"	—
* B8(E)	2	#5	18'-3"	—
BX(E)	28	#5	2'-10"	—
* D(E)	455	#4	2'-8"	—
* D1(E)	494	#5	2'-10"	
* D2(E)	271	#4	3'-4"	
* D3(E)	295	#5	3'-0"	
* D4(E)	304	#6	2'-0"	
* D5(E)	12	#5	3'-11"	
D36(E)	9	#4	5'-4"	
* E2(E)	72	#4	14'-9"	—
* E7(E)	96	#4	19'-8"	—
* E6(E)	30	#4	18'-2"	—
* E9(E)	24	#4	17'-1"	—
* E36(E)	24	#4	17'-8"	—
X2(E)	66	#5	2'-5"	—
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	17.2
REINFORCEMENT BARS (EPOXY COATED)			LBS.	920
** DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	70
** DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	70
BRIDGE DECK CONCRETE OVERLAY *OPTION*			SQ. YDS.	1286
CONCRETE REMOVAL			CU. YDS.	27.0

** ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIER A25.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB SEE SHEET 18.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING SEE SHEET 22.

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEETS 20 AND 21.

FOR DETAILS OF RETURN WALL NEAR PIER A21 AND BILL OF MATERIALS, SEE SHEET 17.

FOR DETAILS OF PARAPET RECONSTRUCTION, SEE SHEET 14.

FOR FLOOR DRAIN DETAILS, SEE SHEET 22.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
PARAPETS - SPANS A21 THRU A24

STRUCTURE NO. 082-0141

STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. STEGMAN	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

REV. 8/26/88

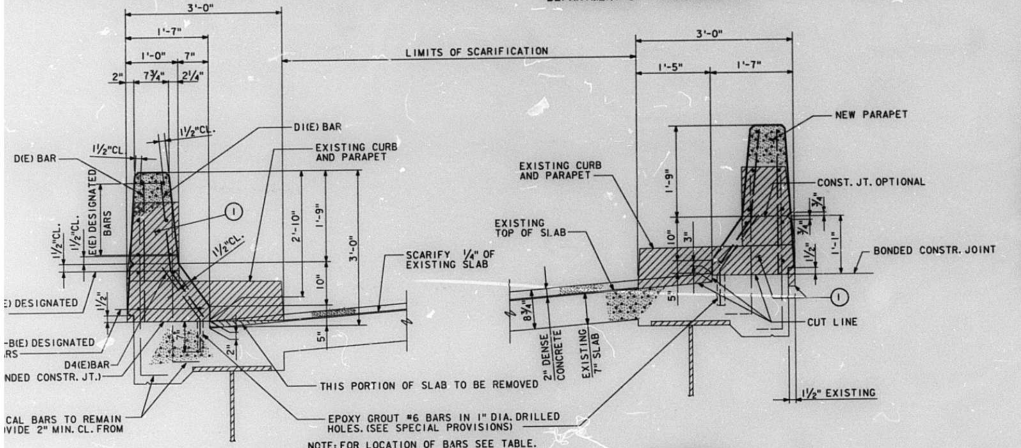
SHEET NO. 13 OF 56

87S618 PRF: DET101E

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	55
		ILLINOIS	PROJECT	

*82-3HVB-2R-1



LOW PARAPET

HIGH PARAPET

NOTE: FOR DETAILS NOT SHOWN SEE LOW PARAPET.

SECTION THRU PARAPETS

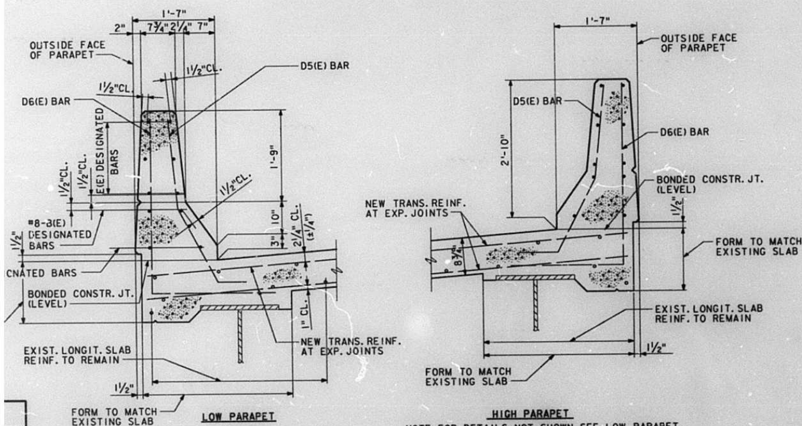
(1) REMOVE EXISTING CURB, PARAPET AND PORTION OF EXISTING SLAB TO LIMITS SHOWN BY HATCHING.

LOCATION - PARAPET REINFORCEMENT				
SPANS	#4(E) BARS	#5(E) BARS	#6(E) BARS	#8(E) BARS
SPANS A1 THRU A4	E6(E), E9(E) THRU E11(E), E21(E), D(E), D6(E)	B6(E), B11(E), B12(E), B14(E), D1(E), D5(E)	D4(E)	B9(F), B10(E), B13(E), B33(E)
SPANS A5 THRU A7	E12(E), E14(E), E15(E), E19(E), E20(E), D(E), D6(E)	B17(E), B18(E), B20(E), D1(E), D5(E)	D4(E)	B15(E), B16(E), B19(E)
SPANS A8 THRU A11	E11(E), E16(E) THRU E18(E) E22(E),E23(E),D(E), D6(E)	B21(E), B24(E), B25(E), B27(E),D1(E), D5(E)	D4(E)	B22(E), B23(E), B26(E), B28(E)
SPANS A12 THRU A14	E1(E), E4(E), E13(E), E16(E), E24(E), D(E), D6(E)	B25(E), B30(E), B32(E), D1(E), D5(E)	D4(E)	B28(E), B29(E), B31(E)
SPANS A15 THRU A17	E(E), E1(E), E4(E), E16(E), E18(E), D(E), D6(E)	B25(E), B30(E), B32(E), D1(E), D5(E)	D4(E)	B28(E), B29(E), B31(E)
SPANS A18 THRU A20	E(E), E2(E) THRU E5(E), E35(E), D(E), D6(E)	B3(E) THRU B5(E) D1(E), D5(E)	D4(E)	B(E) THRU B2(E)
SPANS A21 THRU A24	E2(E), E7(E) THRU E9(E) E36(E), D(E), D2(E), D6(E)	B3(E) THRU B5(E) B8(E), D1(E), D3(E), D5(E)	D4(E)	B(E) THRU B2(E) B7(E)

NOTE: SEE PARAPET ELEVATIONS FOR COMPLETE BAR BILLINGS.

SPANS A1 THRU A24	PARAPET RECONSTRUCTION ALTERNATE 1		
	ITEM	UNIT	QUANTITY
	PARAPET REMOVAL	CU.YDS.	594.3
	REINFORCING BARS (EPOXY COATED)	LBS.	88,861
	CLASS X CONCRETE SUPERSTRUCTURE	CU.YDS.	491.3

NOTE: QUANTITIES SHOWN ARE FOR CONTRACTOR INFORMATION ONLY. PARAPET RECONSTRUCTION SHALL BE PAID FOR ON A LIN. FT. BASIS.

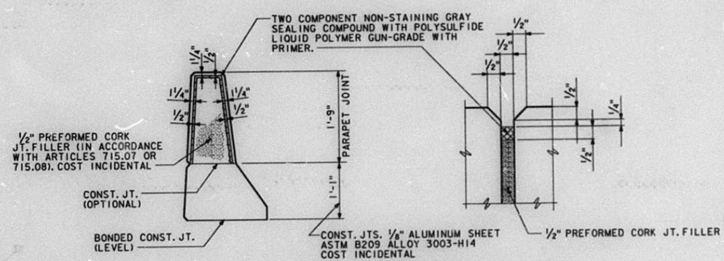


LOW PARAPET

HIGH PARAPET

NOTE: FOR DETAILS NOT SHOWN SEE LOW PARAPET.

SECTION THRU PARAPETS NEAR EXP. JOINT



PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A 3/4" CHAMFER.

NOTE

THE CONTRACTOR SHALL TEST 10% OF THE D4(E) BARS IN THE FRONT FACE OF THE NEW PARAPET, AS DIRECTED BY THE ENGINEER, TO MEET A MIN. CERTIFIED PULL OUT LOAD OF 13.3 KIPS. FOR EVERY BAR THAT FAILS TO MEET THE PULL OUT LOAD OF 13.3 KIPS, THE CONTRACTOR SHALL TEST TWO ADDITIONAL BARS AND REGROUT AN ADDITIONAL D4(E) BAR EITHER SIDE OF THE FAILED BAR. COST OF TESTING AND ADDITIONAL BARS SHALL BE INCIDENTAL TO "REINF. BARS (EPOXY COATED)".

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
PARAPET RECONSTRUCTION
ALTERNATE 1

STRUCTURE NO. 082-0141

STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

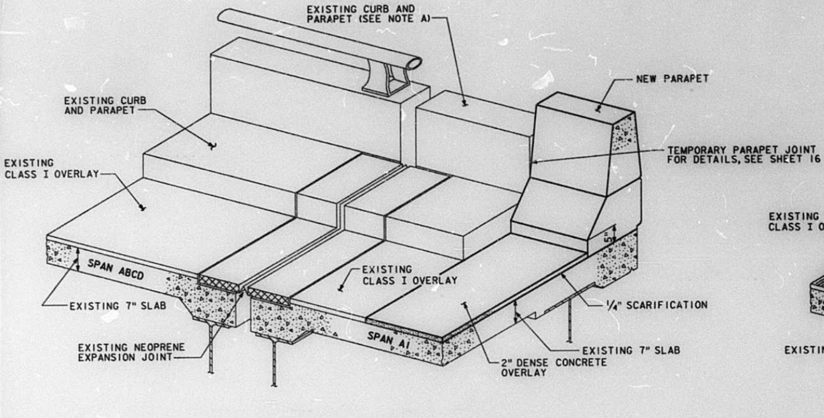
SHEET NO. 14 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	56

ILLINOIS PROJECT

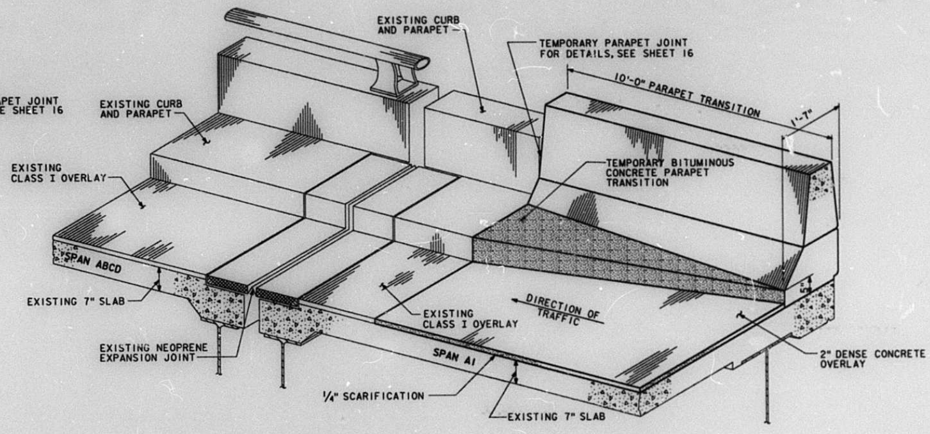
•82-3HVB-2R-1



TRIMETRIC-MODIFICATION TO EXISTING CURB AT PIER A1

(WEST PARAPET SHOWN, EAST PARAPET SIMILAR)

NOTE A: EXISTING HANDRAIL AND POST ARE TO BE REMOVED. COST INCIDENTAL TO REPLACEMENT OF PARAPET.



TRIMETRIC - WEST PARAPET TRANSITION AT PIER A1

NOTES

FOR PARAPET RECONSTRUCTION DETAILS SEE SHEET 14. BITUMINOUS CONCRETE AND PATCHING FOR PARAPET TRANSITION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF REPLACEMENT OF PARAPET.

G.J. DEE	DESIGNED
C. LIZANA	CHECKED
S. KAEMMERER	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

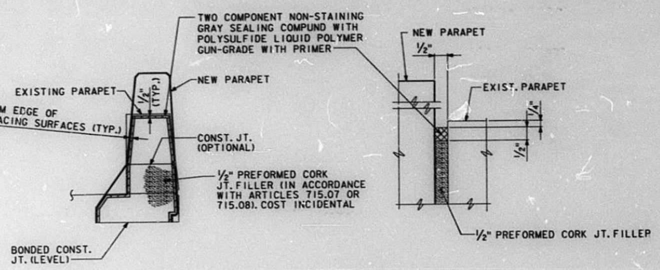
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A - DECK REHABILITATION
PARAPET TRANSITION - SPAN A1
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 15 OF 56

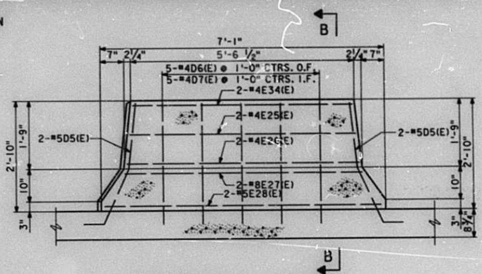
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	57
		ILLINOIS	PROJECT	

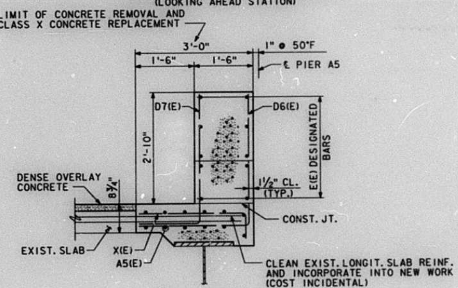
* 82-3HVB-2R-1



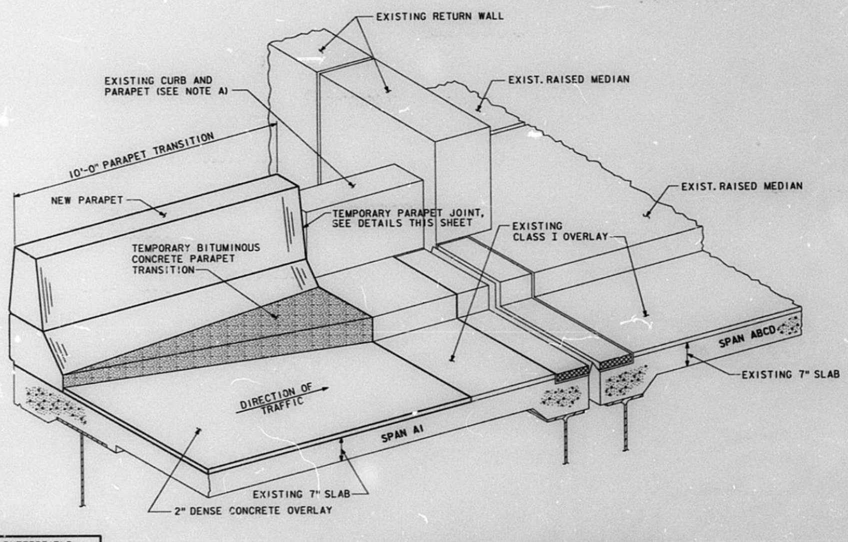
TEMPORARY PARAPET JOINT DETAILS



RETURN WALL - PIER A5
(LOOKING AHEAD STATION)

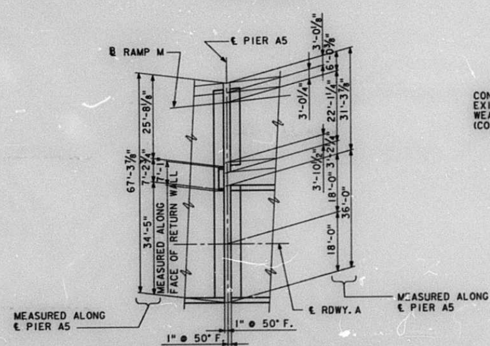


SECTION B-B



TRIMETRIC - EAST PARAPET TRANSITION - SPAN A1

NOTE A: EXISTING HANDRAIL AND POST ARE TO BE REMOVED. COST INCIDENTAL TO REPLACEMENT OF PARAPET.



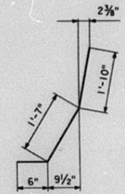
PLAN OF RETURN WALL - PIER A5

BILL OF MATERIAL

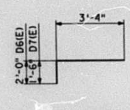
RETURN WALLS				
BAR	NO.	SIZE	LENGTH	SHAPE
D5(E)	4	#5	3'-11"	╯
D6(E)	5	#4	5'-4"	┘
D7(E)	5	#4	4'-10"	┘
E25(E)	2	#4	5'-7"	—
E26(E)	2	#4	5'-9"	—
E27(E)	2	#8	6'-0"	—
E28(E)	2	#5	6'-4"	—
E34(E)	2	#4	5'-5"	—
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	1.0
REINFORCEMENT BARS (EPOXY COATED)			LBS.	117

NOTES: REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

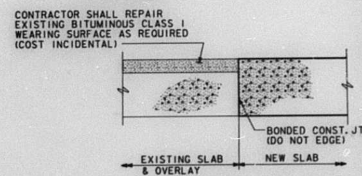
BITUMINOUS CONCRETE AND PATCHING FOR PARAPET TRANSITION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF REPLACEMENT OF PARAPETS.



BAR D5(E)



BARS D6(E) AND D7(E)



DETAIL AT BONDED JOINT

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY A - DECK REHABILITATION
EAST PARAPET TRANSITION AT PIER A1
AND RETURN WALL AT PIER A5

STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

R. BUTTERFIELD	DESIGNED
B. CARLSON	CHECKED
R. ROTH	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

SHEET NO. 16 OF 56

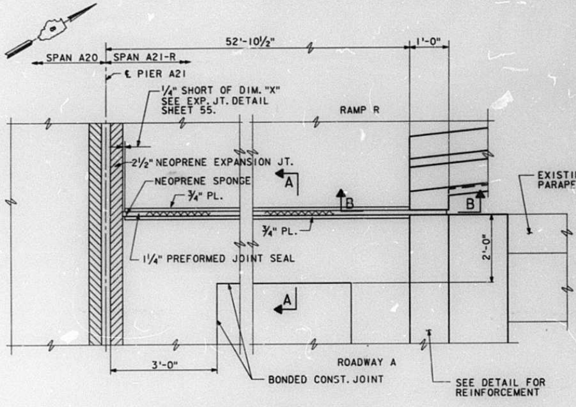
35 56 57 58 63

87S612 PRF: MISCA

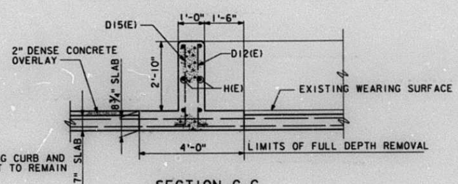
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	58
		ILLINOIS	PROJECT	

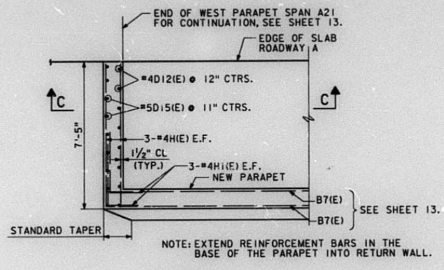
•82-3HVB-2R-1



PART PLAN NEAR PIER A21



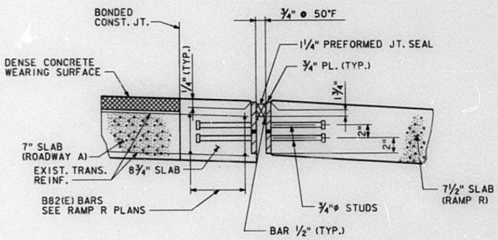
SECTION C-C



NOTE: EXTEND REINFORCEMENT BARS IN THE BASE OF THE PARAPET INTO RETURN WALL.

PLAN

RETURN WALL DETAIL



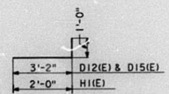
SECTION A-A

NOTE: FOR BILL OF MATERIAL AND DETAILS NOT SHOWN SEE RAMP R PLANS.
FOR PREFORMED JOINT SEAL DETAIL, SEE SHEET 18.

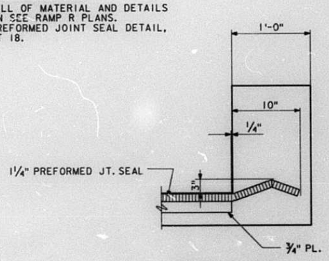
BILL OF MATERIAL

RETURN WALL				
BAR	NO.	SIZE	LENGTH	SHAPE
D12(E)	8	#4	4'-2"	
D15(E)	9	#5	4'-2"	
H(E)	6	#4	7'-2"	
H1(E)	6	#4	3'-0"	
CLASS X CONC. SUPERSTRUCTURE		CU. YDS.		1.0
REINFORCEMENT BAR (EPOXY COATED)		LBS.		90

BARS MARKED (E) INDICATES EPOXY COATED



BARS D12(E), D15(E) & H1(E)



SECTION B-B

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. KAEMMERER	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
RETURN WALL NEAR PIER A21
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 17 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	59
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

FULL DEPTH PATCHING

NOTES:

1. AS DIRECTED BY ENGINEER REMOVE EXISTING CONCRETE THE FULL DEPTH OF THE DECK WITHOUT DAMAGING EXISTING REINFORCING BARS.
2. REMOVE STAY-IN-PLACE PANELS THAT ARE PRESENT WITHIN LIMITS OF FULL DEPTH PATCH.
3. CLEAN EXISTING REINFORCING BARS AND INCORPORATE INTO NEW WORK.
4. REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE.
5. NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
6. SEE SPECIAL PROVISIONS.

PARTIAL DEPTH PATCHING

NOTES:

1. AS DIRECTED BY ENGINEER REMOVE EXISTING CONCRETE TO A DEPTH OF MINIMUM ¾" 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

35 56 57 58 63

87S619 PRF.DET102E

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. KAEMMERER	DRAWN
R. SANDOVAL	CHECKED

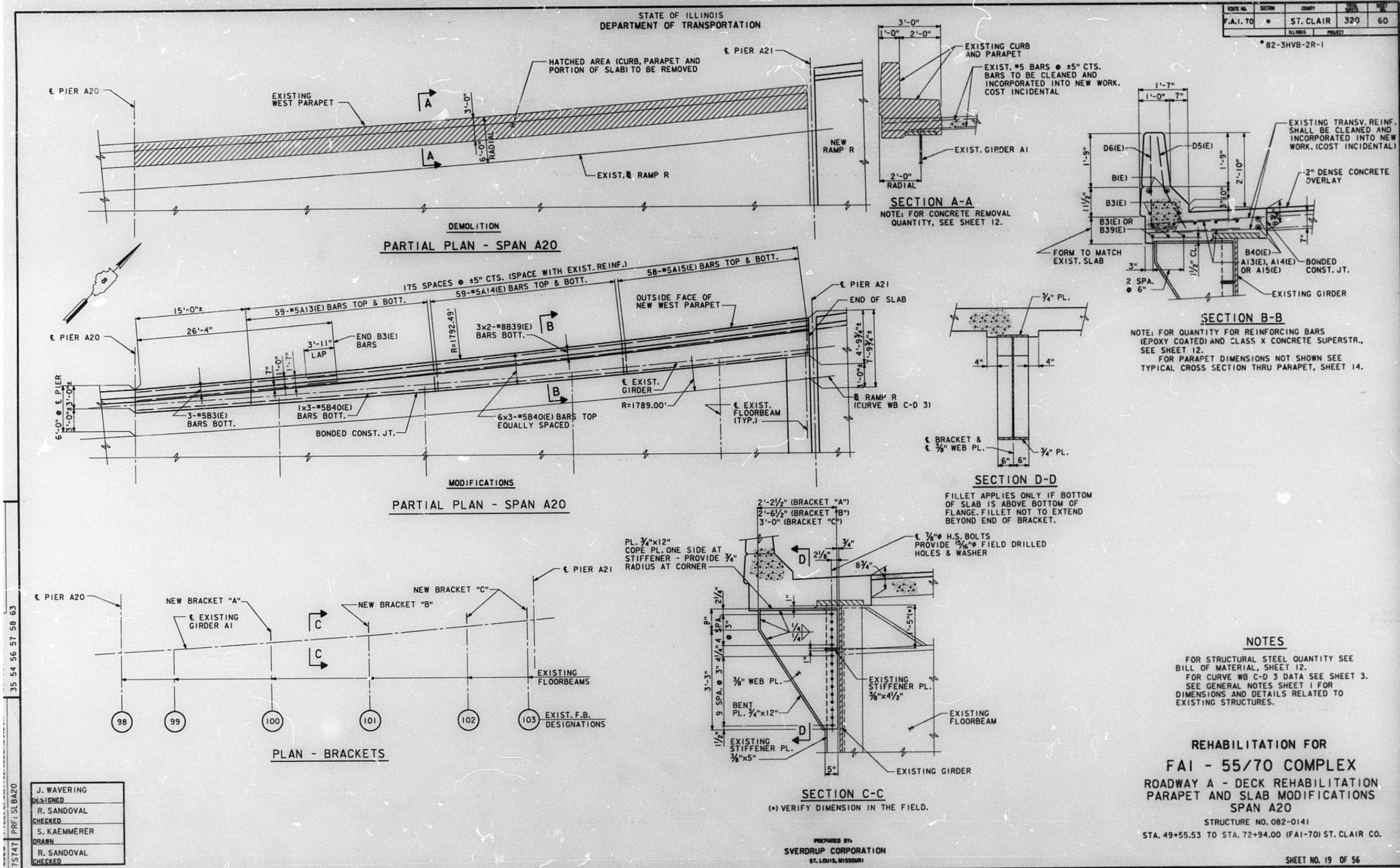
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
MISCELLANEOUS DETAILS

STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 18 OF 56

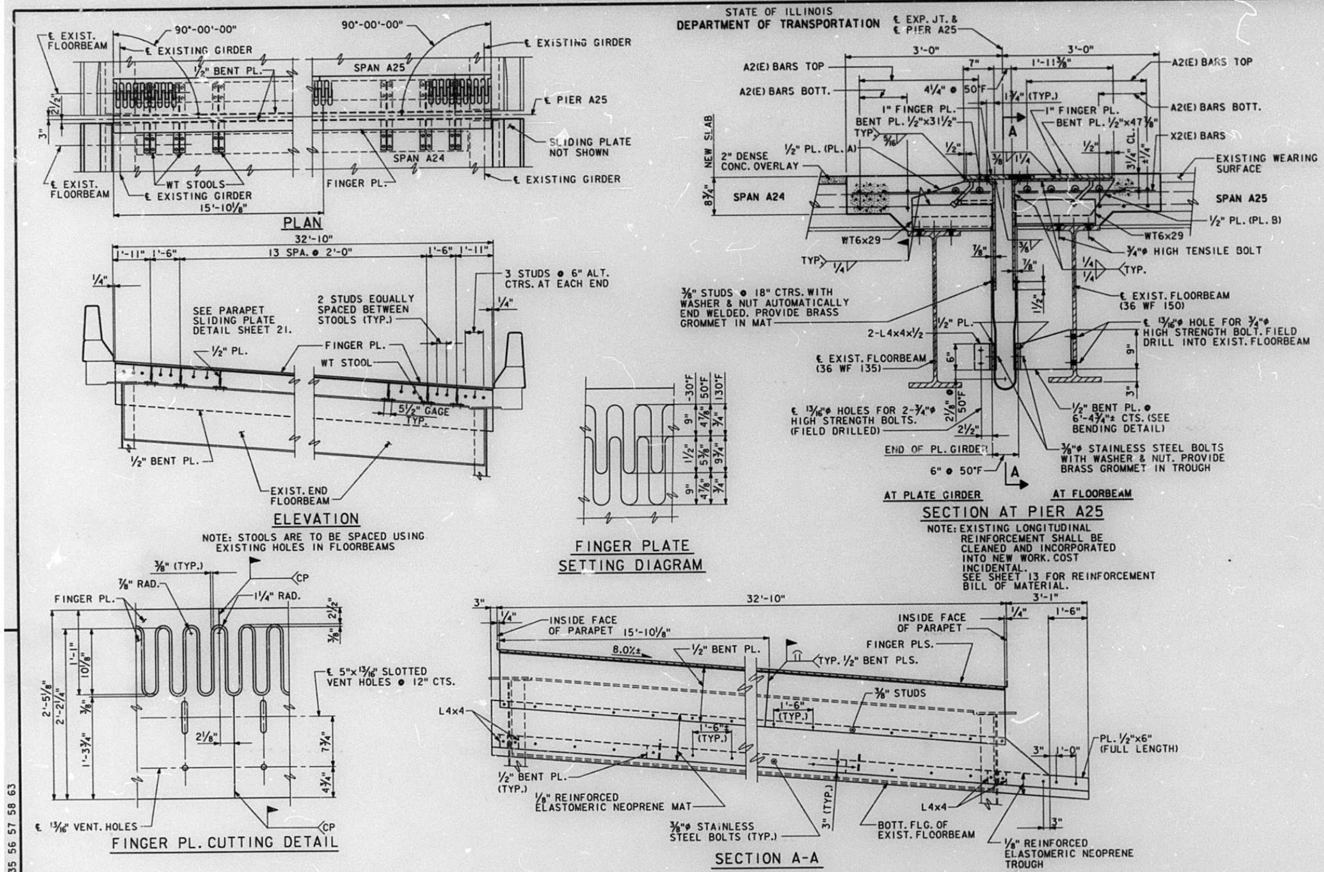


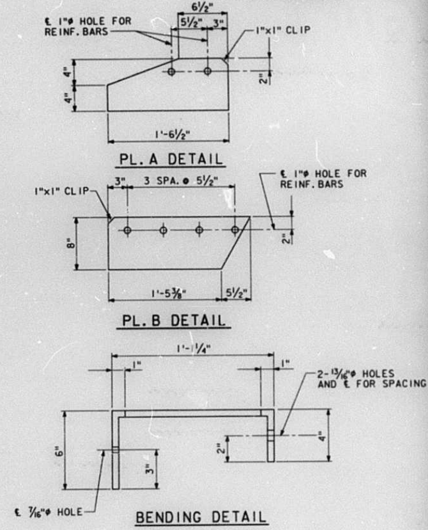
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | * | ST. CLAIR | 320 | 60
*82-3HVB-2R-1
€ PIER A20
EXISTING WEST PARAPET
HATCHED AREA (CURB, PARAPET AND PORTION OF SLAB) TO BE REMOVED
€ PIER A21
NEW RAMP R
EXIST. € RAMP R
3'-0"
6'-0" RADIAL
DEMOLITION
PARTIAL PLAN - SPAN A20
SECTION A-A
NOTE: FOR CONCRETE REMOVAL QUANTITY, SEE SHEET 12.
EXISTING CURB AND PARAPET
EXIST. #5 BARS @ ±5" CTS. BARS TO BE CLEANED AND INCORPORATED INTO NEW WORK. COST INCIDENTAL
EXIST. GIRDER A1
2'-0" RADIAL
175 SPACES @ ±5" CTS. (SPACE WITH EXIST. REINF.)
59-#5A13(E) BARS TOP & BOTT.
59-#5A14(E) BARS TOP & BOTT.
58-#5A15(E) BARS TOP & BOTT.
15'-0"±
26'-4"
3'-11" LAP
END B3(E) BARS
R=1792.49'
3x2-#8B39(E) BARS BOTT.
OUTSIDE FACE OF NEW WEST PARAPET
END OF SLAB
3-#5B3(E) BARS BOTT.
1x3-#5B40(E) BARS BOTT.
6x3-#5B40(E) BARS TOP EQUALLY SPACED
BONDED CONST. JT.
€ EXIST. GIRDER
R=1789.00'
€ EXIST. FLOORBEAM (TYP.)
€ RAMP R (CURVE WB C-D 3)
MODIFICATIONS
PARTIAL PLAN - SPAN A20
EXISTING TRANSV. REINF. SHALL BE CLEANED AND INCORPORATED INTO NEW WORK. (COST INCIDENTAL)
2" DENSE CONCRETE OVERLAY
D6(E)
D5(E)
B(E)
B3(E)
B3(E) OR B39(E)
FORM TO MATCH EXIST. SLAB
B40(E) A13(E), A14(E) OR A15(E)
BONDED CONST. JT.
EXISTING GIRDER
2 SPA. @ 6"
SECTION B-B
NOTE: FOR QUANTITY FOR REINFORCING BARS (EPOXY COATED) AND CLASS X CONCRETE SUPERSTR., SEE SHEET 12.
FOR PARAPET DIMENSIONS NOT SHOWN SEE TYPICAL CROSS SECTION THRU PARAPET, SHEET 14.
3/4" PL.
€ BRACKET & € 3/8" WEB PL.
SECTION D-D
FILLET APPLIES ONLY IF BOTTOM OF SLAB IS ABOVE BOTTOM OF FLANGE. FILLET NOT TO EXTEND BEYOND END OF BRACKET.
€ PIER A20
NEW BRACKET "A"
€ EXISTING GIRDER A1
NEW BRACKET "B"
NEW BRACKET "C"
€ PIER A21
EXISTING FLOORBEAMS
98 99 100 101 102 103
EXIST. F.B. DESIGNATIONS
PLAN - BRACKETS
2'-2 1/2" (BRACKET "A")
2'-6 1/2" (BRACKET "B")
3'-0" (BRACKET "C")
PL. 3/4"x12" COPE PL. ONE SIDE AT STIFFENER - PROVIDE 3/4" RADIUS AT CORNER
€ 7/8"φ H.S. BOLTS PROVIDE 15/16"φ FIELD DRILLED HOLES & WASHER
3/8" WEB PL.
BENT PL. 3/4"x12"
EXISTING STIFFENER PL. 3/8"x5"
EXISTING STIFFENER PL. 3/8"x4 1/2"
EXISTING FLOORBEAM
EXISTING GIRDER
SECTION C-C
(*) VERIFY DIMENSION IN THE FIELD.
NOTES
FOR STRUCTURAL STEEL QUANTITY SEE BILL OF MATERIAL, SHEET 12.
FOR CURVE WB C-D 3 DATA SEE SHEET 3.
SEE GENERAL NOTES SHEET 1 FOR DIMENSIONS AND DETAILS RELATED TO EXISTING STRUCTURES.
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A - DECK REHABILITATION
PARAPET AND SLAB MODIFICATIONS
SPAN A20
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.
SHEET NO. 19 OF 56
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
J. WAVERING DESIGNED
R. SANDOVAL CHECKED
S. KAEMMERER DRAWN
R. SANDOVAL CHECKED
875747 PRF: SLBA20
35 54 56 57 58 63

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	61
ILLINOIS	PROJECT			

82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





NOTES

ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE M183.
FURNISHING OF STRUCTURAL STEEL AND REINFORCED NEOPRENE ELASTOMERIC TROUGH ARE NOT PART OF THIS CONTRACT.
FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

R. BUTTERFIELD	DESIGNED
B. CARLSON	CHECKED
S. KAEMMERER	DRAWN
B. CARLSON	CHECKED

87S517 PRF: EXPJTA25E

35 56 57 58 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 8/3/87

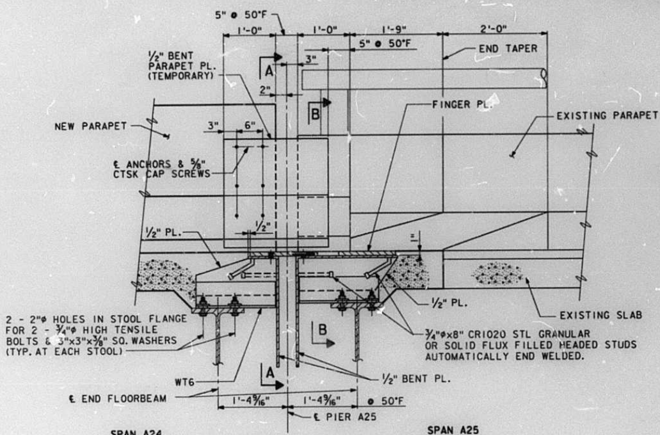
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-FINGER PLATE DETAILS
AT PIER A25
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 20 OF 56

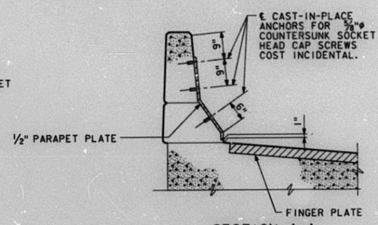
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	62
		ILLINOIS	PROJECT	

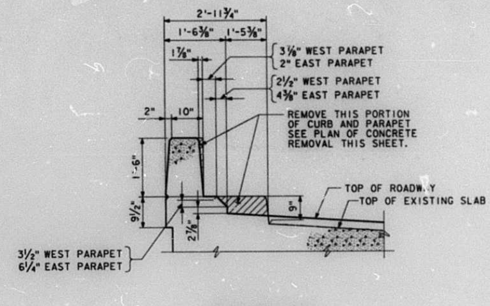
* 82-3HVB-2R-1



PARAPET SLIDING PLATE DETAIL
AT PIER A25

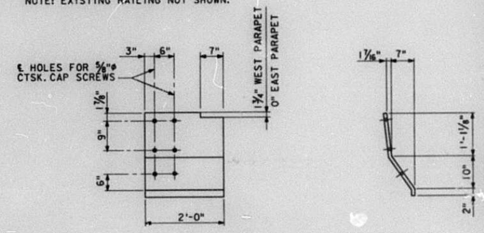


SECTION A-A

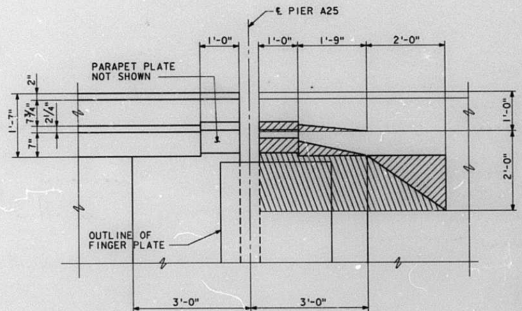


SECTION B-B

NOTE: EXISTING RAILING NOT SHOWN.

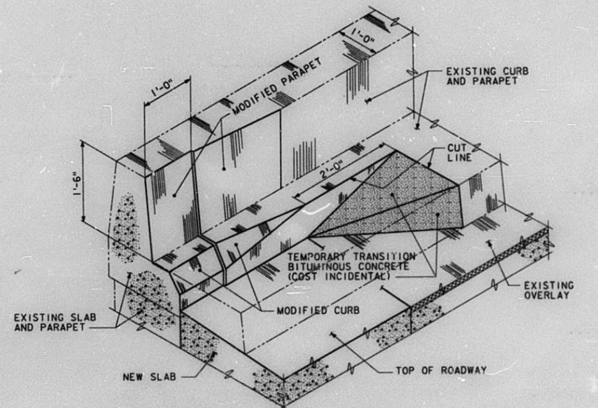


PARAPET PLATE DETAIL



PLAN - CONCRETE REMOVAL

NOTE: HATCHED AREA INDICATES THE AREA OF CONCRETE TO BE REMOVED. EXISTING REINFORCEMENT TO BE REMOVED 1" INTO EXISTING CONCRETE AND CONCRETE SURFACE TO BE PATCHED (COST INCIDENTAL).



TRIMETRIC-PARAPET TRANSITION AT PIER A25

NOTE: FINGER DEVICE AND PARAPET SLIDING PLATES NOT SHOWN.

NOTES

FURNISHING OF STRUCTURAL STEEL AND REINFORCED NEOPRENE ELASTOMERIC TROUGH ARE 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.

R. BUTTERFIELD	DESIGNED
B. CARLSON	CHECKED
K. SCHULT	DRAWN
B. CARLSON	CHECKED

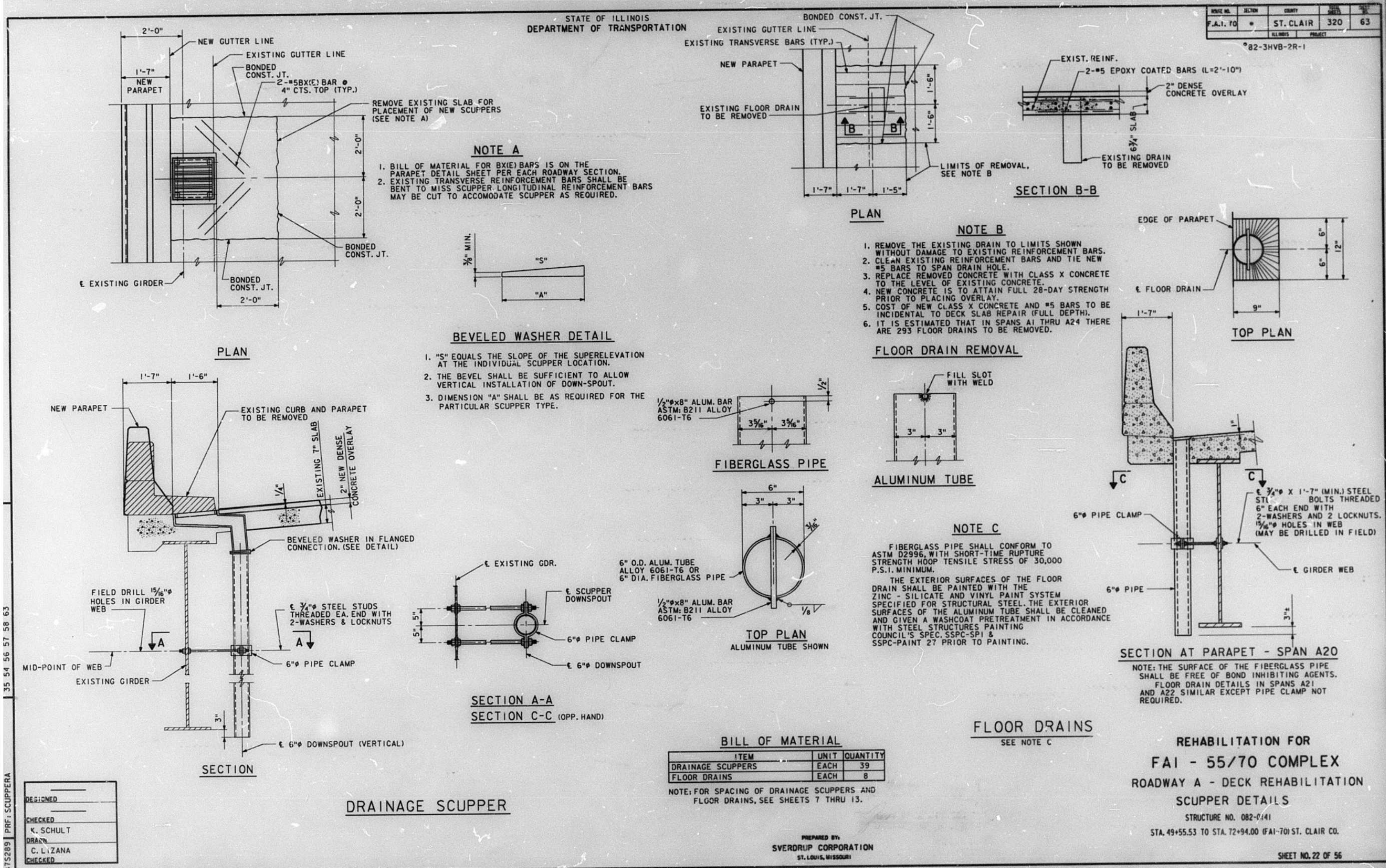
87S516 PRF: DETSE

35 54 56 58 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY A-DECK REHABILITATION
PARAPET - SLIDING PLATE DETAILS
STRUCTURE NO. 082-0141
STA. 49+55.53 TO STA. 72+94.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 21 OF 56



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
DRAINAGE SCUPPERS	EACH	39
FLOOR DRAINS	EACH	8

NOTE: FOR SPACING OF DRAINAGE SCUPPERS AND FLOOR DRAINS, SEE SHEETS 7 THRU 13.

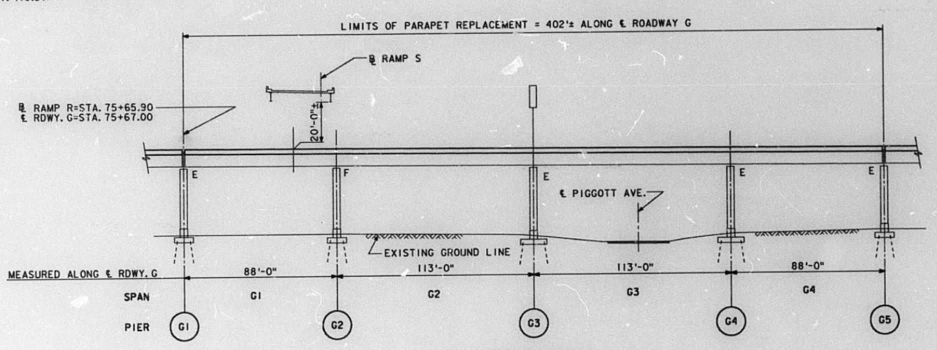
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	64

* 82-3HVB-2R-1

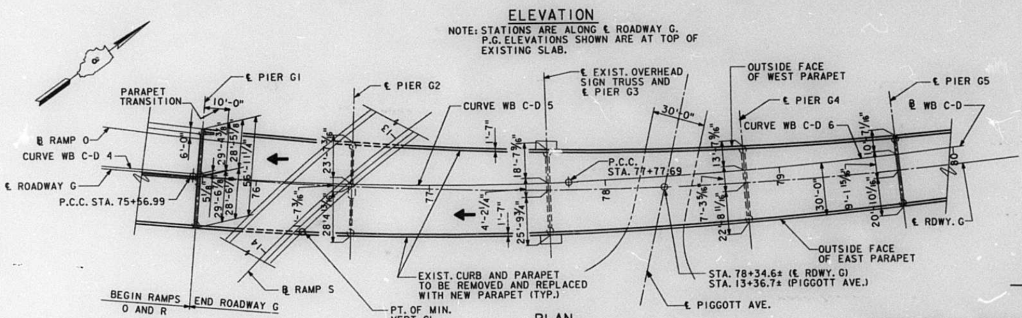
BENCH MARK S-12

CHISELED "□" ON CONCRETE FOUNDATION OF PIER S-11 ABOUT 10'E OF WB C-D.
ELEV. 419.37

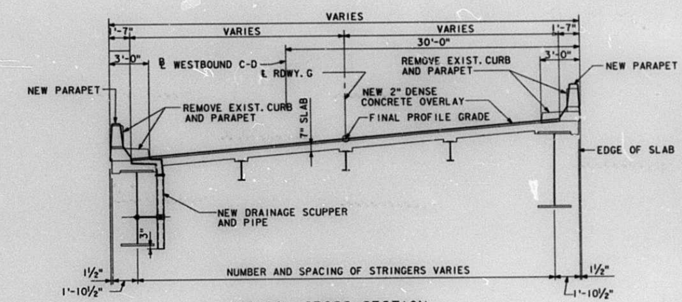


ELEVATION

NOTE: STATIONS ARE ALONG ℄ ROADWAY G.
P.G. ELEVATIONS SHOWN ARE AT TOP OF EXISTING SLAB.



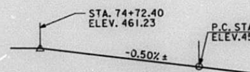
PLAN



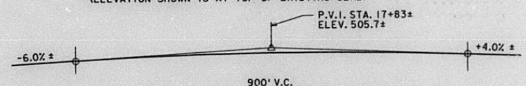
TYPICAL CROSS SECTION
(LOOKING AHEAD STATION)
SPAN G9 SHOWN. OTHER SPANS SIMILAR.

NOTES

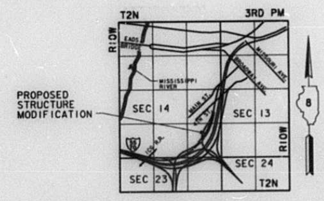
STAGE I CONSTRUCTION WILL BEGIN ON WEST PARAPET SIDE OF ℄ ROADWAY G.
STAGE II CONSTRUCTION WILL BEGIN ON EAST PARAPET SIDE OF THE ℄ ROADWAY G.
EXISTING DRAINS TO BE REPLACED OR REMOVED, AS SHOWN ON PARAPET SHEETS.
IT IS ESTIMATED THAT 7% OF THE DECK WILL REQUIRE PARTIAL DEPTH PATCHING AND 7% OF THE DECK WILL REQUIRE FULL DEPTH PATCHING.
THE ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.



EXISTING PROFILE GRADE - ℄ ROADWAY G
(ELEVATION SHOWN IS AT TOP OF EXISTING SLAB)



EXISTING PROFILE GRADE - ℄ RAMP S
(ELEVATION SHOWN IS AT TOP OF EXISTING SLAB)



LOCATION PLAN

DESIGN STRESSES - EXISTING STRUCTURE

DESIGN SPECIFICATIONS:	AASHO 1961 AND APPLICABLE 1962 AND 1963 INTERIMS.
LOADING:	HS20-44 AND ALTERNATE
REINFORCED CONCRETE:	
DECK SLAB	fc=1400 psi n=10
SUBSTRUCTURE	fc=1400 psi n=10
	Vc=75 psi - FOOTINGS
REINFORCING	fs=20,000 psi
STRUCTURAL STEEL:	fs=20,000 psi

DESIGN STRESSES - NEW CONSTRUCTION

DESIGN SPECIFICATIONS:	AASHTO 1983 AND APPLICABLE 1984 AND 1985 INTERIMS.
LOADING:	HS20-44 AND ALTERNATE
REINFORCED CONCRETE:	
DECK SLAB	f'c=3500 psi
SUBSTRUCTURE	f'c=4000 psi
REINFORCING	fy=60,000 psi
STRUCTURAL STEEL:	fy=36,000 psi (M183)

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. KAEMMERER	DRAWN
R. SANDOVAL	CHECKED

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. Rayburn
Engineer of Bridges and Structures

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

STATE OF ILLINOIS
CARLOS A. LEZABA-FARIAS
81-3956
CHICAGO
REGISTERED STRUCTURAL ENGINEER

REV. 8/26/88

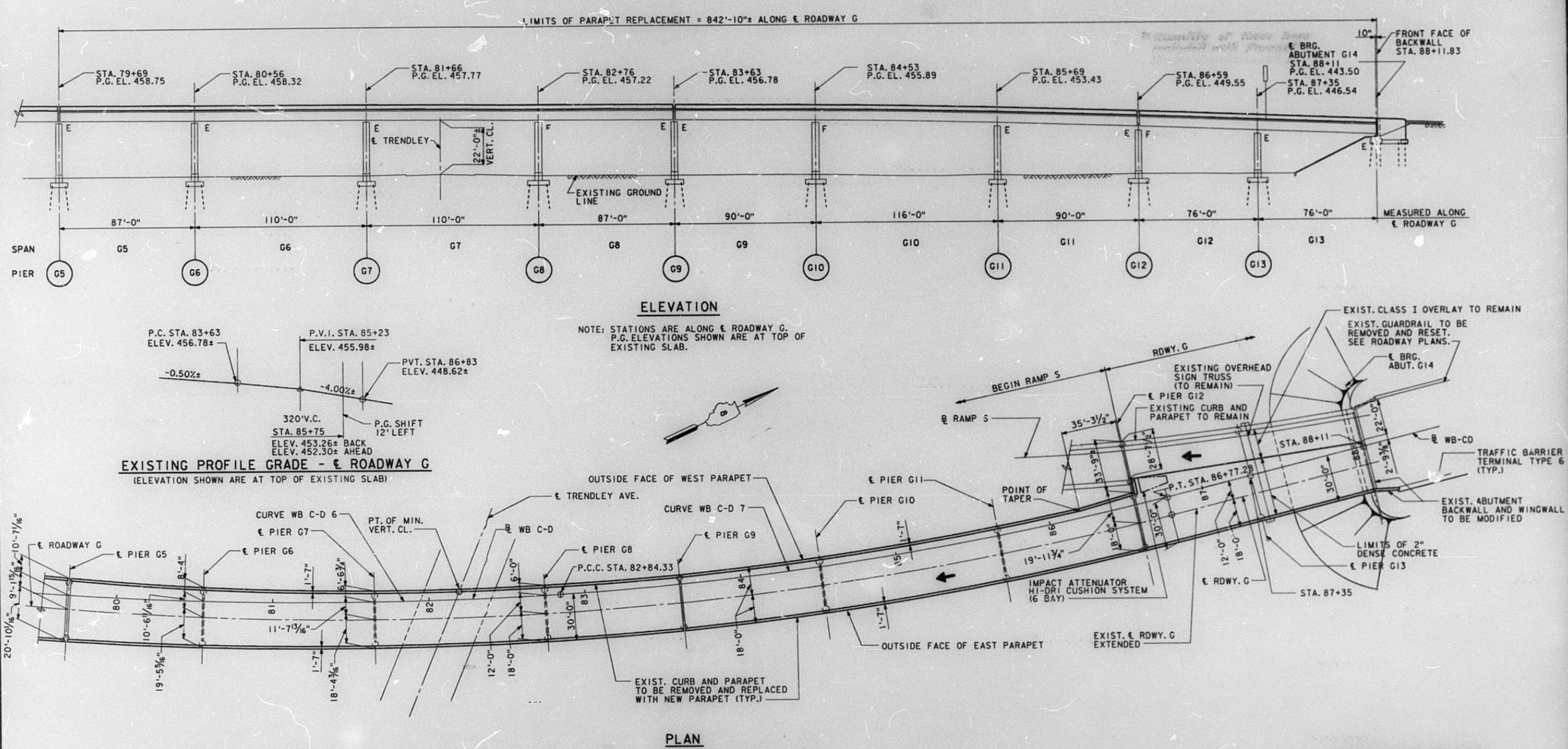
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G-DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS G1 THRU G4
STRUCTURE NO. 082-0254
STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.

SHEET NO. 23 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	65

* 82-3HVB-2R-1



PLAN

CURVE DATA - WB C-D 5

P.I. STA. = 76+67.48
Δ = 7° - 07' - 12" LT.
D = 3° - 13' - 34"
R = 1776.00'
T = 110.49'
L = 220.70'
E = 3.43
P.C.C. STA. = 75+56.99
P.C.C. STA. = 77+77.69

CURVE DATA - WB C-D 6

P.I. STA. = 80+31.91
Δ = 11° - 49' - 09" LT.
D = 2° - 19' - 58"
R = 2456.01'
T = 254.22'
L = 506.64'
E = 13.12'
P.C.C. STA. = 77+77.69
P.C.C. STA. = 82+84.33

CURVE DATA - WB C-D 7

P.I. STA. = 84+81.37
Δ = 10° - 37' - 30" LT.
D = 2° - 42' - 14"
R = 2118.99'
T = 197.04'
L = 392.95'
E = 9.14'
P.C.C. STA. = 82+84.33
P.T. STA. = 86+77.28

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. KAEMMERER	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY G - DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS G5 THRU G13

STRUCTURE NO. 082-0254

STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.

SHEET NO. 24 OF 56

875519 PRF: DETBE

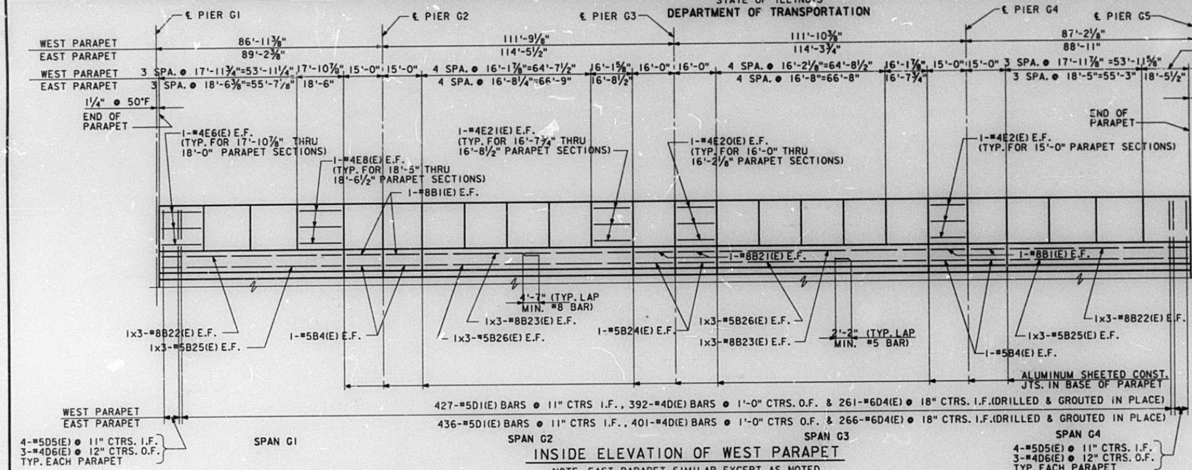
2 3 24 26 39 42 43 50 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	* * *	ST. CLAIR	320	66

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NOTE:
FOR PARAPET REMOVAL, 15,300 LBS. REINFORCING BARS (EPOXY COATED) AND 83.7 CU. YDS. 103.2 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.

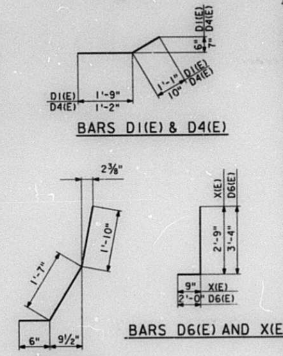
*** 82-3HVB-2R-1



INSIDE ELEVATION OF WEST PARAPET

NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
O.F. INDICATES OUTSIDE FACE.
I.F. INDICATES INSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.

* Quantity of these bars included with Parapet Reconstruction - Alt. 1



BARS D1(E) & D4(E)

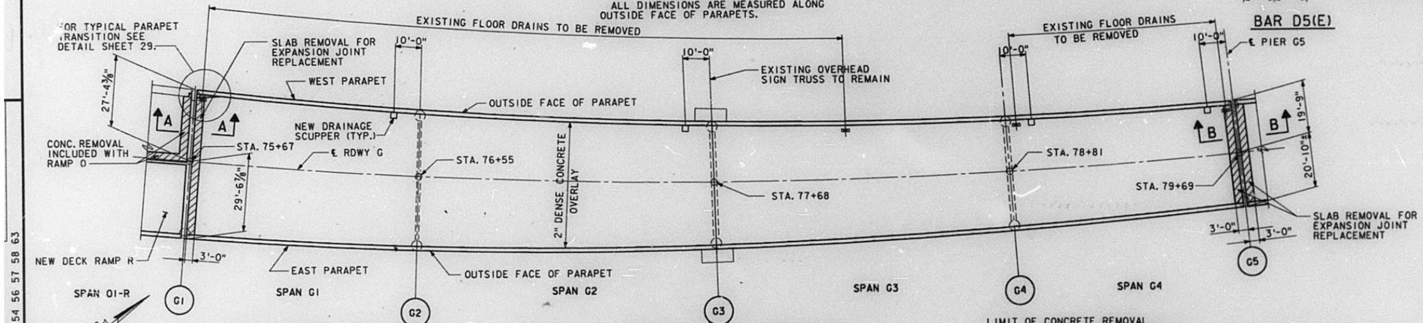
BAR D5(E)

BARS D6(E) AND X(E)

BILL OF MATERIAL

SPANS G1 THRU G4				
BAR	NO.	SIZE	LENGTH	SHAPE
A10(E)	12	#5	32'-0"	—
A11(E)	12	#5	26'-9"	—
A14(E)	18	#5	22'-9"	—
A15(E)	18	#5	19'-4"	—
A18(E)	12	#5	25'-0"	—
* B1(E)	16	#8	14'-9"	—
* B4(E)	16	#5	14'-9"	—
* B21(E)	8	#8	15'-9"	—
* B22(E)	24	#8	27'-8"	—
* B23(E)	24	#8	30'-10"	—
* B24(E)	8	#5	15'-9"	—
* B25(E)	24	#5	26'-1"	—
* B26(E)	24	#5	29'-2"	—
BX(E)	16	#5	2'-10"	—
* D(E)	793	#4	2'-8"	—
* D1(E)	863	#5	2'-10"	
* D4(E)	527	#6	2'-0"	
* D5(E)	16	#5	3'-11"	
* D6(E)	12	#4	5'-4"	
* E2(E)	48	#4	14'-9"	—
* E6(E)	48	#4	17'-8"	—
* E8(E)	48	#4	18'-2"	—
* E20(E)	84	#4	15'-9"	—
* E21(E)	60	#4	16'-5"	—
X(E)	78	#5	3'-6"	
X2(E)	82	#5	2'-5"	—
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	30.5
REINFORCEMENT BARS (EPOXY COATED)			LBS.	2690
BRIDGE DECK CONCRETE OVERLAY *OPTION*			SQ. YDS.	2,002
CONCRETE REMOVAL			CU. YDS.	26.5
••DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	138
••DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	138

•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.
BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIER G1 AND SECTION B-B AT PIER G5.

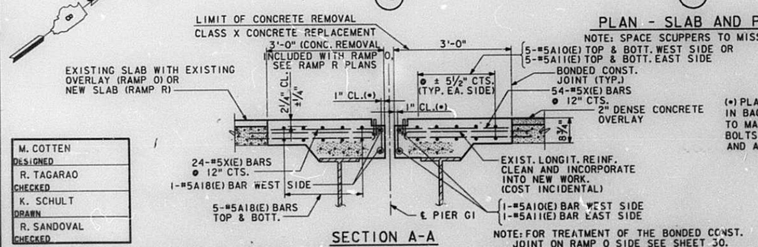


PLAN - SLAB AND PARAPET

NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.

NOTES

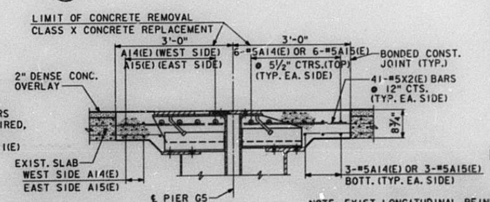
REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.
FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.
FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 28.
FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND PATCHING OF SLAB, SEE SHEET 33.
FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEETS 31 & 55.
REINFORCEMENT BARS MARKED 1x3-#5 ETC. INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.
FOR DETAILS OF PARAPET RECONSTRUCTION SEE SHEET 28.



SECTION A-A

NOTE: FOR TREATMENT OF THE BONDED CONST. JOINT ON RAMP O SIDE SEE SHEET 30.

(•) PLACE A10(E), A11(E) AND A18(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-1/8"). ANCHOR BOLTS SHOULD BE TIED TO A10(E), A11(E) AND A18(E) BARS.



SECTION B-B

NOTE: EXIST. LONGITUDINAL REINF. SHALL BE CLEANED AND INCORPORATED INTO NEW WORK (COST INCIDENTAL)

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
K. SCHULT	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G - DECK REHABILITATION
PARAPETS - SPANS G1 THRU G4

STRUCTURE NO. 082-0254
STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.

SHEET NO. 25 OF 56

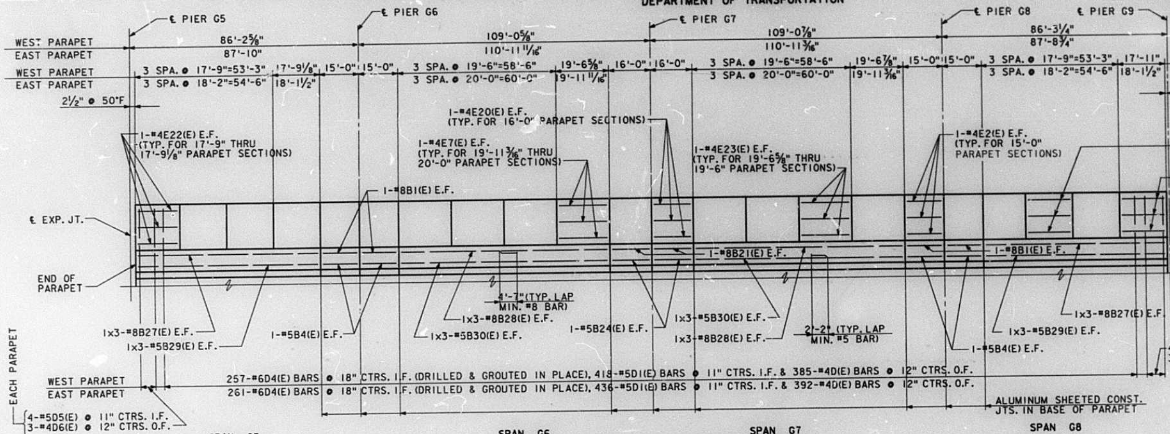
875622 PRF: DET105E

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	**	ST. CLAIR	320	67
		ILLINOIS	PROJECT	

**82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

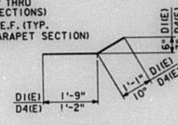
NOTE:
FOR PARAPET REMOVAL, 15,000 LBS. REINFORCING BARS (EPOXY COATED) AND 81.9 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1. 101.0 CU. YDS.



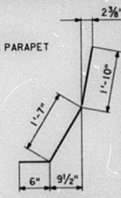
INSIDE ELEVATION OF WEST PARAPET

NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
O.F. INDICATES OUTSIDE FACE.
I.F. INDICATES INSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.

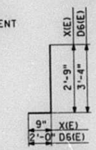
** Quantity of these bars included with Parapet Reconstruction - Alt. 1*



BARS D1(E) & D4(E)



BAR D5(E)



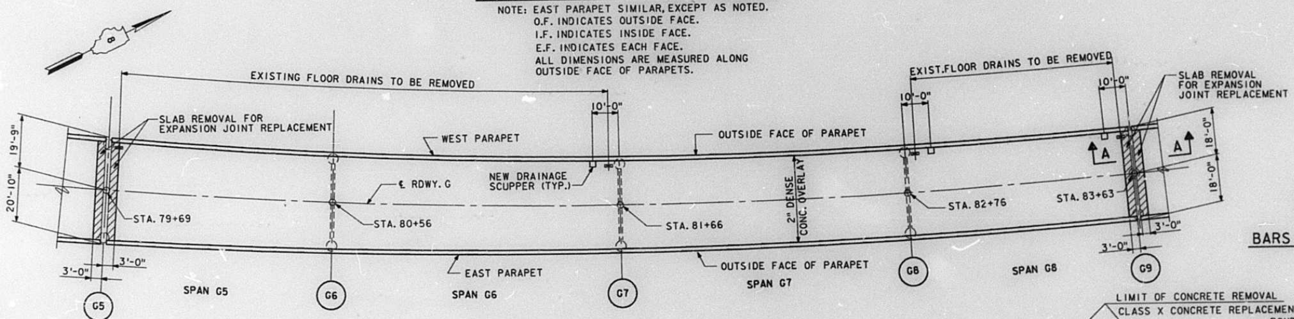
BARS D6(E) AND X(E)

BILL OF MATERIAL

SPANS G5 THRU G8				
BAR	NO.	SIZE	LENGTH	SHAPE
A12(E)	24	#5	20'-0"	—
A17(E)	24	#5	17'-8"	—
* B1(E)	16	#8	14'-9"	—
* B4(E)	16	#5	14'-9"	—
* B21(E)	8	#8	15'-9"	—
* B24(E)	8	#5	15'-9"	—
* B27(E)	24	#8	27'-2"	—
* B28(E)	24	#8	29'-8"	—
* B29(E)	24	#5	25'-7"	—
* B30(E)	24	#5	28'-0"	—
BX(E)	12	#5	2'-10"	—
* D(E)	777	#4	2'-8"	—
* D1(E)	854	#5	2'-10"	
* D4(E)	518	#6	2'-0"	
* D5(E)	16	#5	3'-11"	
* D6(E)	12	#4	5'-4"	
* E2(E)	48	#4	14'-9"	—
* E6(E)	6	#4	17'-8"	—
* E7(E)	48	#4	19'-8"	—
* E20(E)	24	#4	15'-9"	—
* E22(E)	42	#4	17'-5"	—
* E23(E)	48	#4	19'-2"	—
* E27(E)	48	#4	17'-10"	—
X(E)	72	#5	3'-6"	

CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	17.8
REINFORCEMENT BARS (EPOXY COATED)	LBS.	1240
BR. DECK CONCRETE OVERLAY *OPTION*	SQ. YDS.	1470
CONCRETE REMOVAL	CU. YDS.	17.0
••DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	100
••DECK SLAB REPAIR (PARTIAL)	SQ. YDS.	100

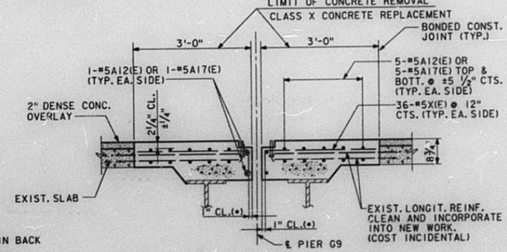
•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.
BILL OF MATERI[illegible] INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIER G9.



NOTE: FOR SLAB REINFORCEMENT AT PIER G5 SEE SECTION B-B SHEET 25.

PLAN - SLAB AND PARAPET

NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.



(•) PLACE A12(E) OR A17(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A12(E) OR A17(E) BARS.

SECTION A-A

NOTE: A12(E) BARS SHALL BE PLACED ON WEST SIDE & A17(E) BARS ON EAST SIDE

NOTES

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.
FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.
FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 28.
FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND PATCHING OF SLAB, SEE SHEET 33.
FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 55.
REINFORCEMENT BARS MARKED 1x3 - #5 ETC. INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.
FOR DETAILS OF PARAPET RECONSTRUCTION SEE SHEET 28.

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
K. SCHULT	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G-DECK REHABILITATION
PARAPETS - SPANS G5 THRU G8

STRUCTURE NO. 082-0254

STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.

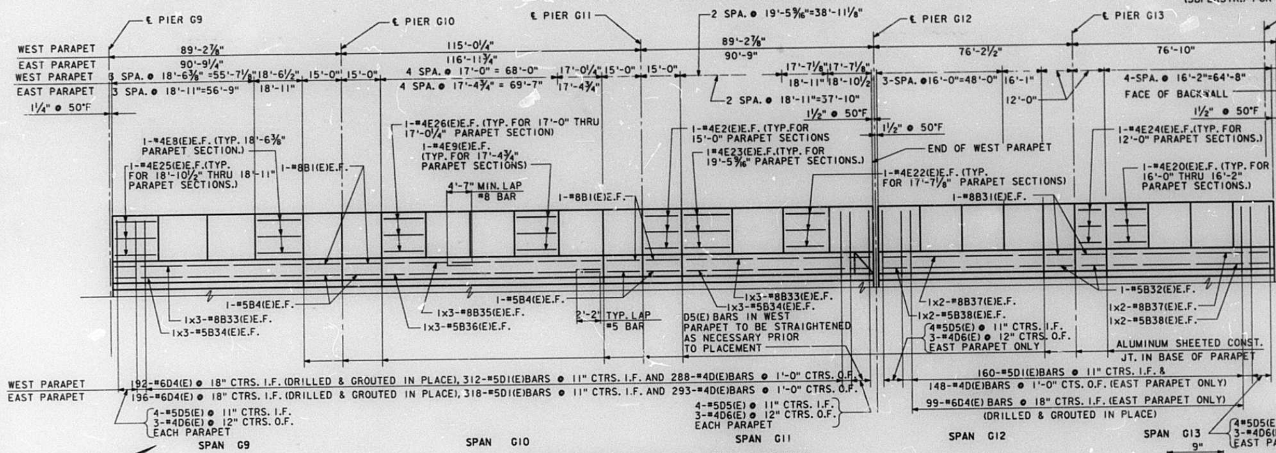
87S623 PRF: DET106E 35 54 56 57 58 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	**	ST. CLAIR	320	68
		ILLINOIS	PROJECT	

**82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

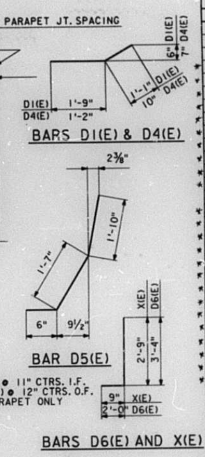
NOTE: 100.2 CU. YDS.
FOR PARAPET REMOVAL, 14,120 LBS. REINFORCING BARS (EPOXY COATED) AND 77.4 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.



INSIDE ELEVATION OF WEST PARAPET

NOTE: EAST PARAPET SIMILAR EXCEPT AS NOTED.
O.F. INDICATES OUTSIDE FACE.
I.F. INDICATES INSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.

NOTE: FOR SLAB REINFORCEMENT AT PIER G9, SEE SECTION A-A SHEET 26.



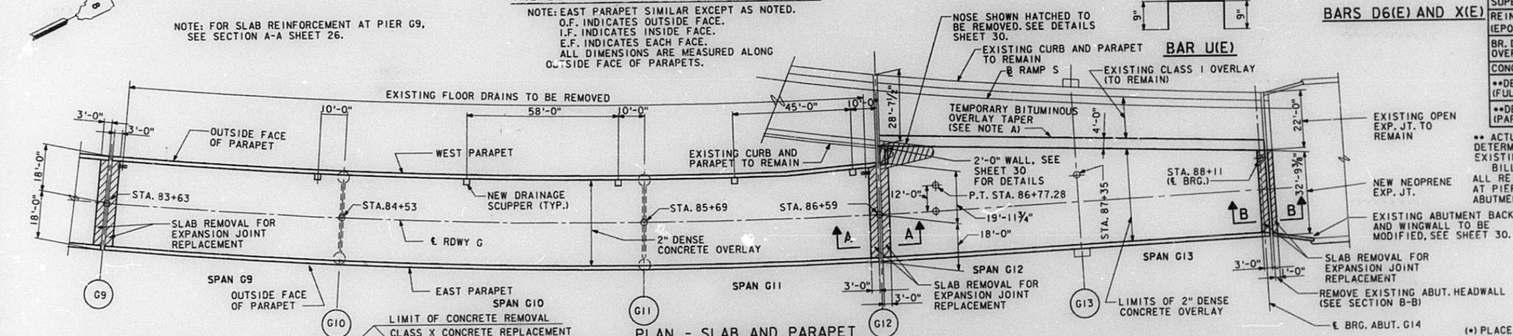
BILL OF MATERIAL

SPANS G9 THRU G13				
BAR	NO.	SIZE	LENGTH	SHAPE
A12(E)	38	#5	20'-0"	
A13(E)	14	#5	14'-6"	
A14(E)	24	#5	22'-9"	
*B1(E)	16	#8	14'-9"	
*B4(E)	16	#5	14'-9"	
*B31(E)	4	#8	11'-9"	
*B32(E)	4	#5	11'-9"	
*B33(E)	24	#8	28'-2"	
*B34(E)	24	#5	26'-7"	
*B35(E)	12	#8	32'-0"	
*B36(E)	12	#5	30'-5"	
*B37(E)	8	#8	34'-9"	
*B38(E)	8	#5	33'-7"	
BX(E)	20	#5	2'-10"	
*D(E)	729	#4	2'-8"	
*D1(E)	790	#5	2'-10"	
*D4(E)	487	#6	2'-0"	
*D5(E)	24	#5	3'-11"	
*D6(E)	18	#4	5'-4"	
*E2(E)	48	#4	14'-9"	
*E8(E)	24	#4	18'-2"	
*E9(E)	30	#4	17'-1"	
*E20(E)	48	#4	15'-9"	
*E22(E)	12	#4	17'-5"	
*E23(E)	12	#4	19'-2"	
*E24(E)	12	#4	11'-9"	
*E25(E)	48	#4	18'-7"	
*E26(E)	30	#4	16'-9"	
X(E)	114	#5	3'-6"	
U(E)	33	#5	2'-3"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	24.6
REINFORCEMENT BARS (EPOXY COATED)			LBS.	2140
BR. DECK CONCRETE OVERLAY *OPTION*			SQ. YDS.	1,670
CONCRETE REMOVAL			CU. YDS.	22.8
**DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	115
**DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	115

** ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIER G12 AND IN SECTION B-B AT ABUTMENT G14.

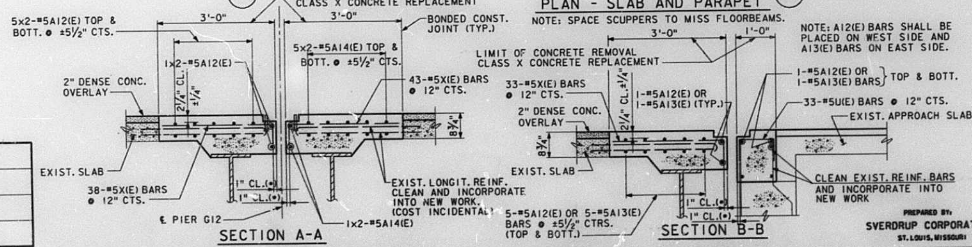
** Quantity of these bars included with Parapet Reconstruction - Alt. 1*



PLAN - SLAB AND PARAPET

NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.

(*) PLACE A12(E), A13(E) AND A14(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A12(E), A13(E) AND A14(E) BARS.



SECTION A-A

SECTION B-B

NOTE: A12(E) BARS SHALL BE PLACED ON WEST SIDE AND A13(E) BARS ON EAST SIDE.

NOTE A: REMOVE EXIST. CLASS I OVERLAY TO LIMITS SHOWN. REPLACE REMOVED MATERIAL WITH TEMPORARY BITUMINOUS OVERLAY TAPERING FROM EXISTING OVERLAY TO NEW 2" DENSE CONCRETE OVERLAY

NOTES

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 28.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND PATCHING OF SLAB, SEE SHEET 33.

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 55.

BARS MARKED 1x3-#5 ETC. INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DETAILS OF PARAPET RECONSTRUCTION SEE SHEET 28.

M. COTTEN
DESIGNED
R. TAGARAO
CHECKED
D. RIEHL
DRAWN
R. SANDOVAL
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G - DECK REHABILITATION
PARAPETS - SPANS G9 THRU G13

STRUCTURE NO. 082-0254
STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.

REV. 8/26/88

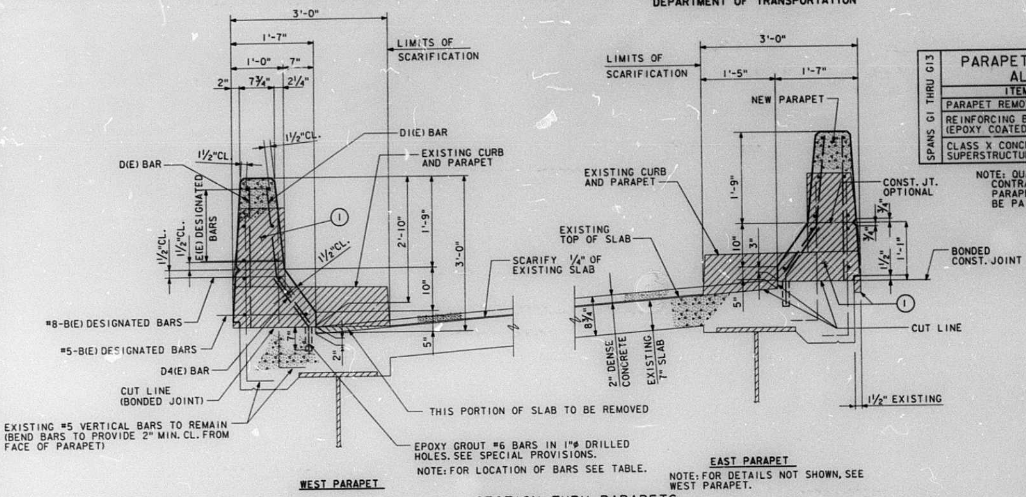
SHEET NO. 27 OF 56

87S624 PRF: DETIOTE

35 54 56 57 58 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	69
		ILLINOIS	PROJECT	

*82-3HVB-2R-1



SECTION THRU PARAPETS

(1) REMOVE EXISTING CURB, PARAPET AND PORTION OF EXISTING SLAB TO LIMITS SHOWN BY HATCHING.

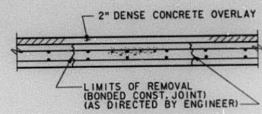
SPANS G1 THRU G13 — PARAPET RECONSTRUCTION ALTERNATE 1		
ITEM	UNIT	QUANTITY
PARAPET REMOVAL	CU.YDS.	304.4
REINFORCING BARS (EPOXY COATED)	LBS.	44,420
CLASS X CONCRETE SUPERSTRUCTURE	CU.YDS.	243.0

NOTE: QUANTITIES SHOWN ARE FOR CONTRACTOR INFORMATION ONLY. PARAPET RECONSTRUCTION SHALL BE PAID FOR ON A LIN. FT. BASIS.

LOCATION - PARAPET REINFORCEMENT

SPANS	#4(E) BARS	#5(E) BARS	#6(E) BARS	#8(E) BARS
G1 THRU G4	E2(E), E6(E), E8(E), E20(E) & E21(E) D(E), D6(E)	B4(E), B24(E) THRU B26(E), D1(E), D5(E)	D4(E)	B1(E) & B21(E) THRU B23(E)
G5 THRU G8	E2(E), E6(E), E7(E), E20(E), E22(E) E23(E) & E27(E), D(E), D6(E)	B4(E), B24(E), B29(E) B30(E) D1(E), D5(E)	D4(E)	B1(E), B21(E), B27(E) & B28(E)
G9 THRU G13	E2(E), E8(E), E9(E), E20(E), E22(E) THRU E26(E), D(E), D6(E)	B4(E), B32(E), B34(E) B36(E), B38(E) D1(E), D5(E)	D4(E)	B1(E), B31(E), B33(E) B35(E) & B37(E)

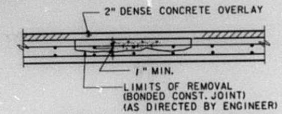
NOTE: SEE PARAPET ELEVATIONS FOR COMPLETE BAR BILLINGS.



FULL DEPTH PATCHING

NOTES:

1. AS DIRECTED BY ENGINEER, REMOVE EXISTING CONCRETE THE FULL DEPTH OF THE DECK WITHOUT DAMAGING EXISTING REINFORCING BARS.
2. REMOVE ANY STAY-IN-PLACE FORMS THAT ARE PRESENT.
3. CLEAN EXISTING REINFORCING BARS AND INCORPORATE INTO NEW WORK.
4. REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE.
5. NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
6. SEE SPECIAL PROVISIONS.

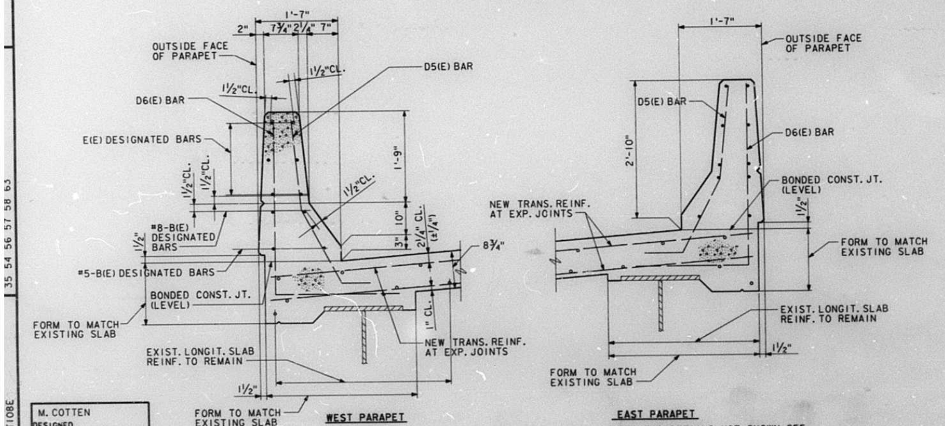


PARTIAL DEPTH PATCHING

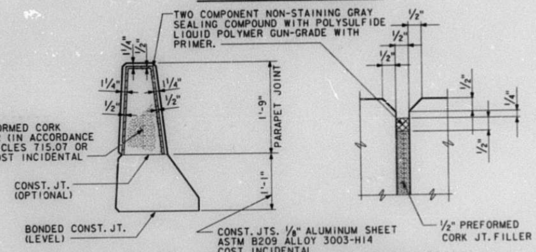
NOTES:

1. AS DIRECTED BY ENGINEER, REMOVE EXISTING CONCRETE TO A DEPTH OF ¾" MINIMUM 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



SECTION THRU PARAPETS NEAR EXP. JOINT



PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.

NOTE

THE CONTRACTOR SHALL TEST 10% OF THE D4(E) BARS IN THE FRONT FACE OF THE NEW PARAPET, AS DIRECTED BY THE ENGINEER, TO MEET A MIN. CERTIFIED PULL OUT LOAD OF 13.3 KIPS. FOR EVERY BAR THAT FAILS TO MEET THE PULL OUT LOAD OF 13.3 KIPS, THE CONTRACTOR SHALL TEST TWO ADDITIONAL BARS AND REGROUT AN ADDITIONAL D4(E) BAR EITHER SIDE OF THE FAILED BAR. COST OF TESTING AND ADDITIONAL BARS SHALL BE INCIDENTAL TO "REINF. BARS (EPOXY COATED)".

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
D. REIHL	DRAWN
R. SANDOVAL	CHECKED

875625 PRF: DET108E

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G - DECK REHABILITATION PARAPET RECONSTRUCTION ALTERNATE 1

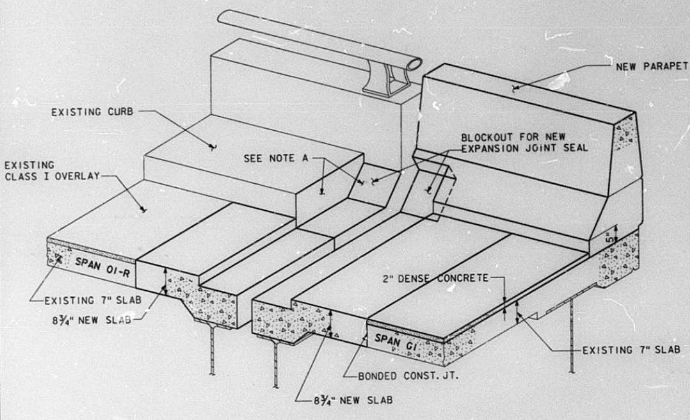
STRUCTURE NO. 082-0254

STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

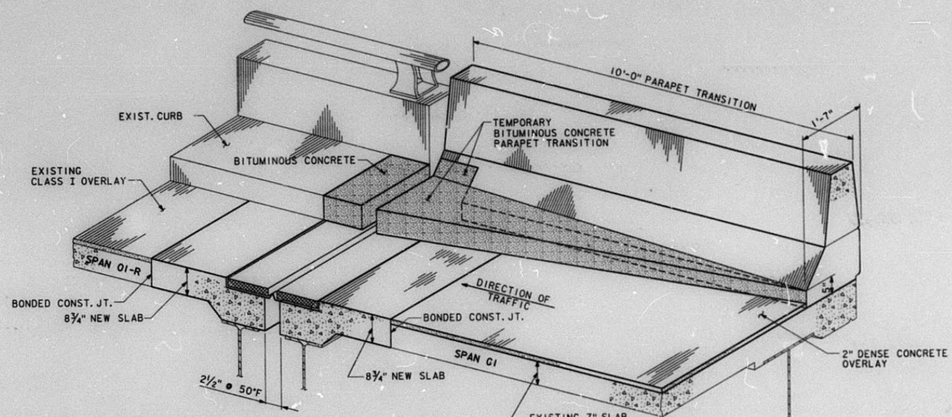
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	70
	ILLINOIS	PROJECT		

*82-3HVB-2R-1



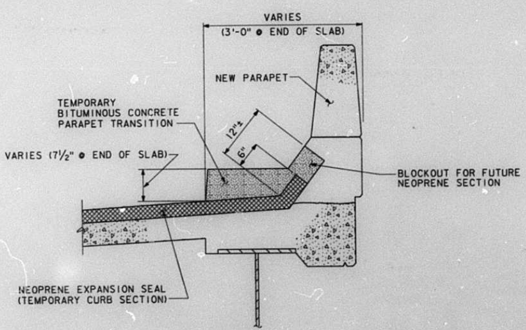
TRIMETRIC-MODIFICATION TO EXISTING CURB AND REPLACEMENT OF JOINT AT PIER G1

NOTE A: EXISTING REINFORCEMENT TO BE REMOVED 1" INTO EXISTING CONCRETE. CONCRETE SHALL BE PATCHED BEFORE PLACING BITUMINOUS CONCRETE PARAPET TRANSITION.

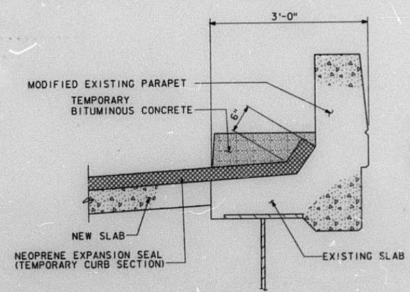


NOTE: DETAILS SHOWN FOR WEST PARAPET ONLY.

TRIMETRIC - PARAPET TRANSITION - SPAN G1



SECTION THRU PARAPET
NEAR END OF SLAB - SPAN G1



SECTION THRU EXISTING CURB
NEAR END OF SLAB - SPAN 01-R

NOTES

FOR PARAPET RECONSTRUCTION DETAILS SEE SHEET 28.
FOR NEOPRENE EXPANSION JOINT SEAL DETAILS, SEE SHEET 55.
BITUMINOUS CONCRETE AND PATCHING FOR PARAPET TRANSITION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF REPLACEMENT OF PARAPET.

GJD-FAC	DESIGNED
M. COTTEN	CHECKED
E. WELZ	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G-DECK REHABILITATION
WEST PARAPET TRANSITION - SPAN G1

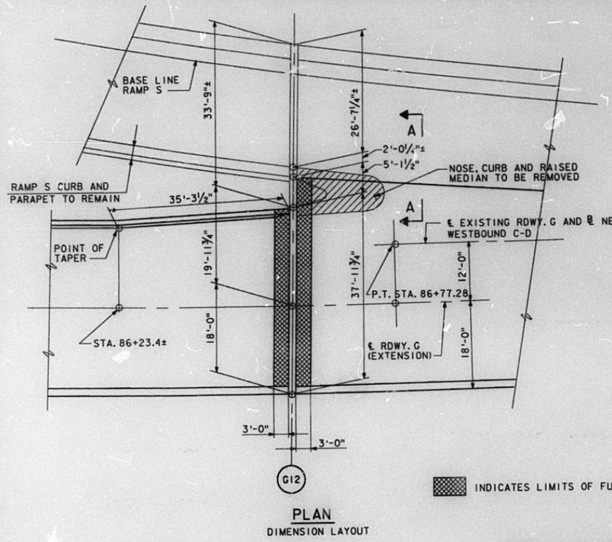
STRUCTURE NO. 082-0254

STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.

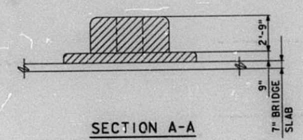
SHEET NO. 29 OF 56

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	71

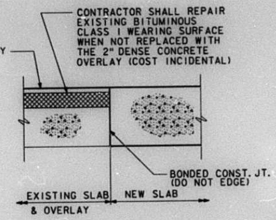
* 82-3HVB-2R-1



PLAN
DIMENSION LAYOUT



SECTION A-A

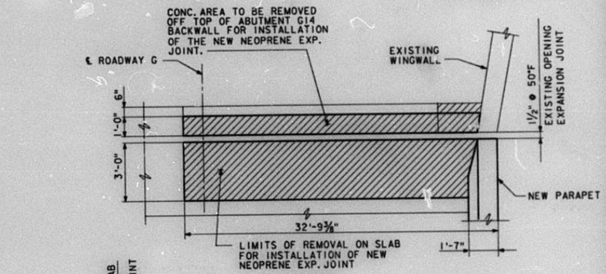


DETAIL AT BONDED JOINT

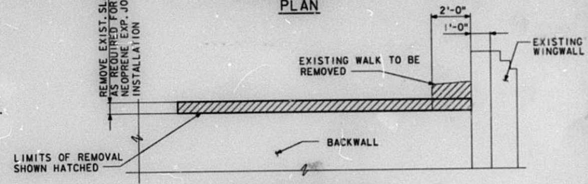
INDICATES LIMITS OF FULL DEPTH SLAB REMOVAL.

NOSE AT PIER G12 MODIFICATION

EXIST. NOSE, CURB AND PARAPET TO BE REMOVED AND REPLACED WITH A CONCRETE WALL.



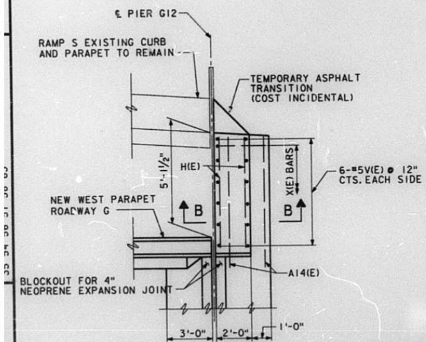
PLAN



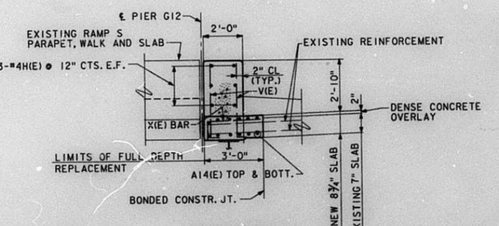
ELEVATION-BACKWALL

ABUTMENT G14 BACKWALL MODIFICATION
(EAST SIDE ONLY)

NOTE: SEE SHEET 55 FOR NEOPRENE EXPANSION JOINT BLOCKOUT AT VERTICAL WALL.
SEE SHEET 27 FOR TRANSVERSE SECTION THRU EXPANSION JOINT.



PLAN

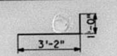


SECTION B-B

NOSE REPLACEMENT WALL

BILL OF MATERIAL FOR WALL

BAR	NO.	SIZE	LENGTH	SHAPE
H(E)	6	#4	5'-8"	straight
V(E)	12	#5	4'-2"	bent
CLASS X CONC. SUPERSTRUCTURE			CU. YDS.	1.8
REINFORCEMENT BAR (EPOXY COATED)			LBS.	70



V(E) BAR

NOTES ABUT. G14

1. REMOVE CONCRETE IN BACKWALL AND SLAB TO LIMITS SHOWN.
2. DEMOLISH AREA REQUIRED FOR WINGWALL EXPANSION JOINT BLOCKOUT AND CUT EXISTING REINFORCEMENT TO CLEAR BLOCKOUT.
3. WALK REMOVAL WILL BE TO TOP OF APPROACH PAVEMENT EXCEPT AS NEEDED FOR INSTALLATION OF EXPANSION DEVICE.
4. REPLACE THE EXPANSION JOINT AS SHOWN ON EXPANSION JOINT DETAIL ON SHEET 27.
5. REMOVE ANY WALK THAT IS ON APPROACH PAVEMENT TO THE LEVEL OF ADJACENT PAVEMENT.
6. EXISTING REINFORCING BARS THAT PROTRUDE FROM BACKWALL SHALL BE CUT 1½" BELOW TOP OF CONCRETE.

NOTES

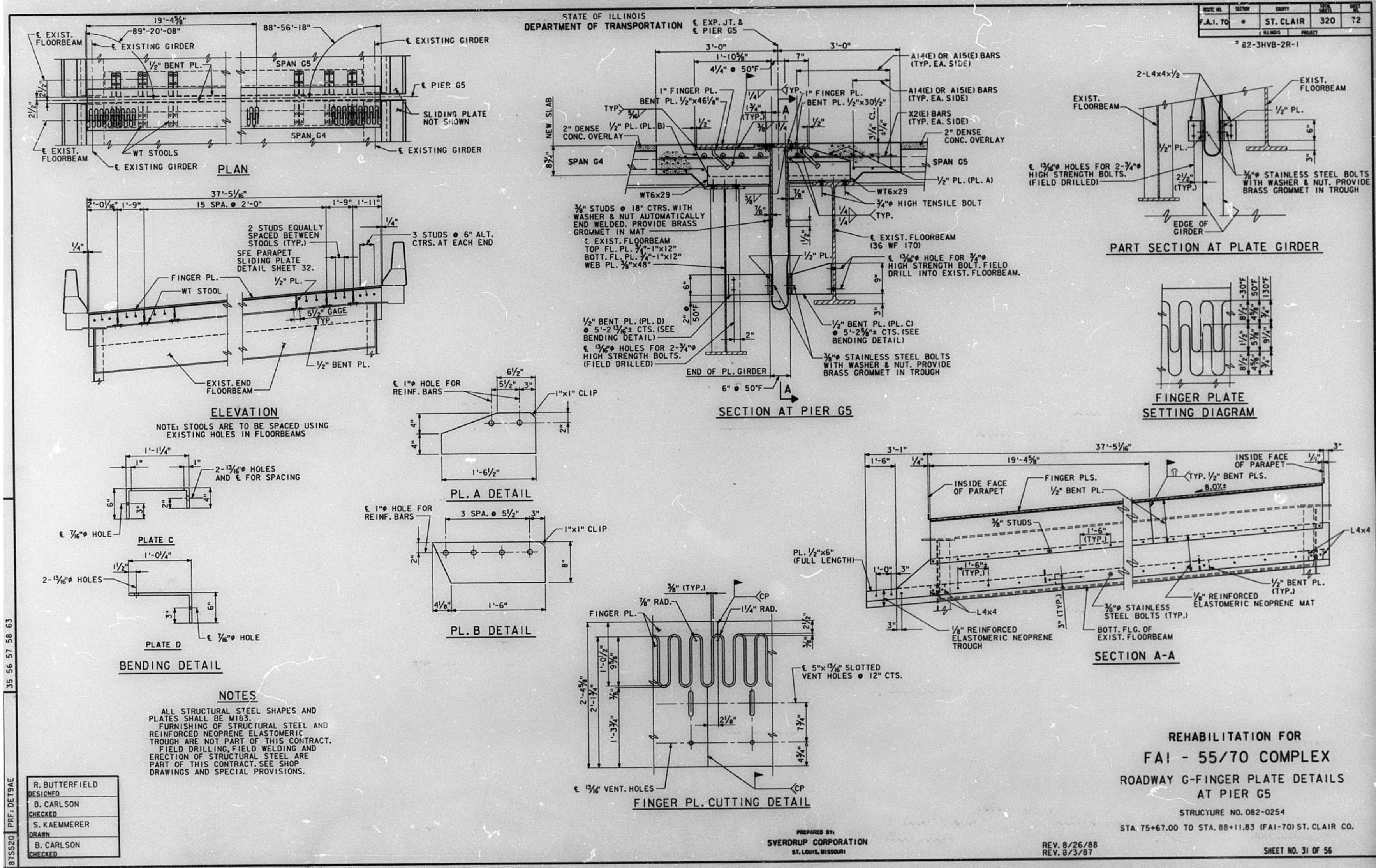
FOR BILLING OF A14(E) AND X(E) BARS SEE SECTION A-A SHEET 27.
EXISTING LONGITUDINAL REINF. SHALL BE CLEANED AND INCORPORATED INTO NEW WORK (COST INCIDENTAL).

J. WAVERING	DESIGNED
R. SANDOVAL	CHECKED
D. RIEHL	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G - DECK REHABILITATION
RETURN WALL AT PIER G12

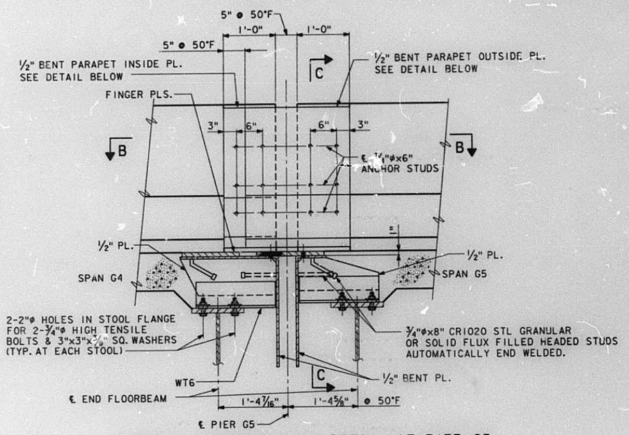
STRUCTURE NO. 082-0254
STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 72
* 82-3HVB-2R-1
PLAN
ELEVATION
NOTE: STOOLS ARE TO BE SPACED USING EXISTING HOLES IN FLOORBEAMS
SECTION AT PIER G5
PART SECTION AT PLATE GIRDER
FINGER PLATE SETTING DIAGRAM
PL. A DETAIL
PL. B DETAIL
PLATE C
PLATE D
BENDING DETAIL
FINGER PL. CUTTING DETAIL
SECTION A-A
NOTES
ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE M183.
FURNISHING OF STRUCTURAL STEEL AND REINFORCED NEOPRENE ELASTOMERIC TROUGH ARE NOT PART OF THIS CONTRACT.
FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.
R. BUTTERFIELD DESIGNED
B. CARLSON CHECKED
S. KAEMMERER DRAWN
B. CARLSON CHECKED
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI
REV. 8/26/88
REV. 8/3/87
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G-FINGER PLATE DETAILS AT PIER G5
STRUCTURE NO. 082-0254
STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.
SHEET NO. 31 OF 56
87S520 PRF: DET9AE
35 56 57 58 63

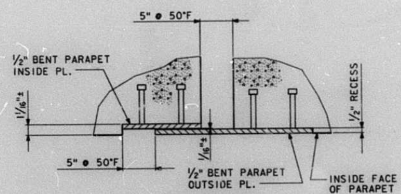
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	73

• 82-3HVB-2R-1

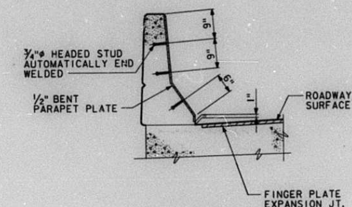
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



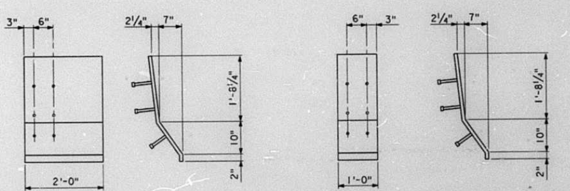
PARAPET SLIDING PLATE DETAIL AT PIER G5



SECTION B-B



SECTION C-C



PARAPET PLATE DETAILS

NOTES

FURNISHING OF STRUCTURAL STEEL AND REINFORCED NEOPRENE ELASTOMERIC TROUGH ARE NOT PART OF THIS CONTRACT.

FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

R. BUTTERFIELD	DESIGNED
B. CARLSON	CHECKED
D. RIEHL	DRAWN
B. CARLSON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G - DECK REHABILITATION
EXPANSION JOINT DETAILS

STRUCTURE NO. 082-0254
STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.

SHEET NO. 32 OF 56

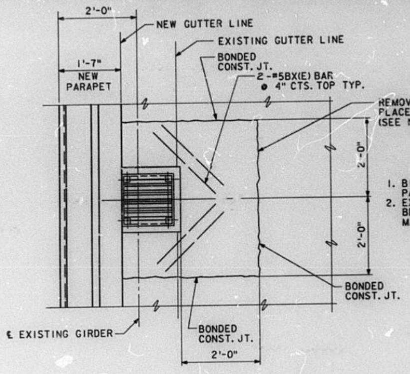
875521 PRF: DET10E

35 56 57 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	74
		ILLINOIS	PROJECT	

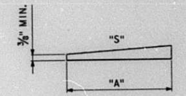
*82-3HVB-2R-1



PLAN

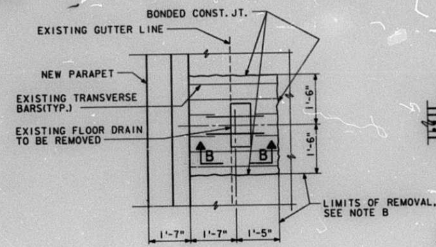
NOTE A

1. BILL OF MATERIAL FOR BX(E) BARS IS ON THE PARAPET DETAIL SHEET PER EACH ROADWAY SECTION.
2. EXISTING TRANSVERSE REINFORCEMENT BARS SHALL BE BENT TO MISS SCUPPER. LONGITUDINAL REINFORCEMENT BARS MAY BE CUT TO ACCOMODATE SCUPPER AS REQUIRED.

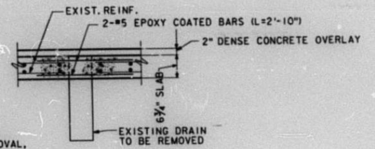


BEVELED WASHER DETAIL

1. "S" EQUALS THE SLOPE OF THE SUPERELEVATION AT THE INDIVIDUAL SCUPPER LOCATION.
2. THE BEVEL SHALL BE SUFFICIENT TO ALLOW VERTICAL INSTALLATION OF DOWN-SPOUT.
3. DIMENSION "A" SHALL BE AS REQUIRED FOR THE PARTICULAR SCUPPER TYPE.



PLAN

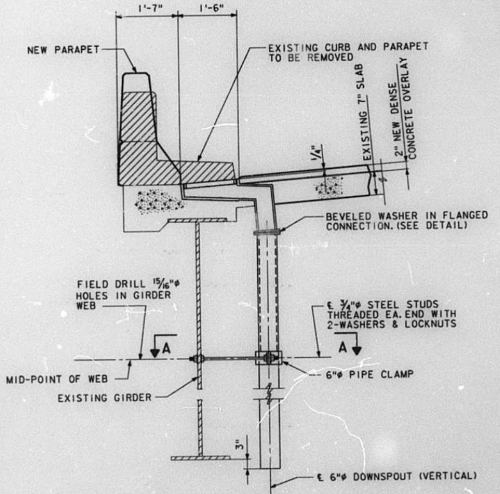


SECTION B-B

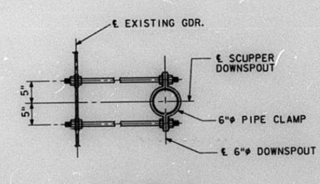
NOTE B

1. REMOVE THE EXISTING DRAIN TO LIMITS SHOWN WITHOUT DAMAGE TO EXISTING REINFORCEMENT BARS.
2. CLEAN EXISTING REINFORCEMENT BARS AND TIE NEW #5 BARS TO SPAN DRAIN HOLE.
3. REPLACE REMOVED CONCRETE WITH CLASS X CONCRETE TO THE LEVEL OF EXISTING CONCRETE.
4. NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
5. COST OF NEW CLASS X CONCRETE AND #5 BARS TO BE INCIDENTAL TO DECK SLAB REPAIR (FULL DEPTH).
6. IT IS ESTIMATED THAT IN SPANS G1 THROUGH G13 THERE ARE 149 FLOOR DRAINS TO BE REMOVED.

FLOOR DRAIN REMOVAL



SECTION



SECTION A-A

DRAINAGE SCUPPER

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
DRAINAGE SCUPPERS	EACH	12

NOTE: FOR SPACING OF DRAINAGE SCUPPERS SEE SHEETS 25 THRU 27.

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
J. CORLEY	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY G - DECK REHABILITATION
SCUPPER DETAILS
STRUCTURE NO. 082-0254
STA. 75+67.00 TO STA. 88+11.83 (FAI-70) ST. CLAIR CO.

SHEET NO. 33 OF 56

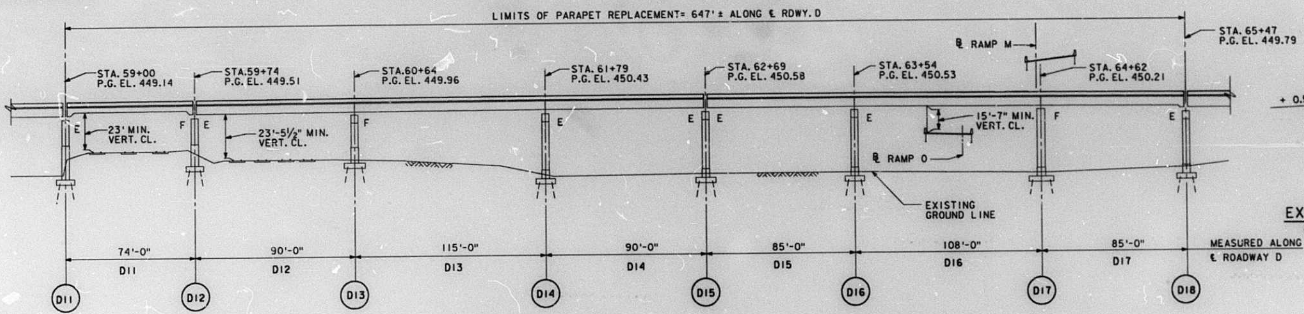
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	75
		ILLINOIS	PROJECT	

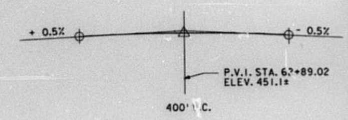
• 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCH MARK D-14

CHISELED "▭" IN CONCRETE FOUNDATION AT N. END OF PIER D14 ON E.B. C-D. ELEV. 409.86.

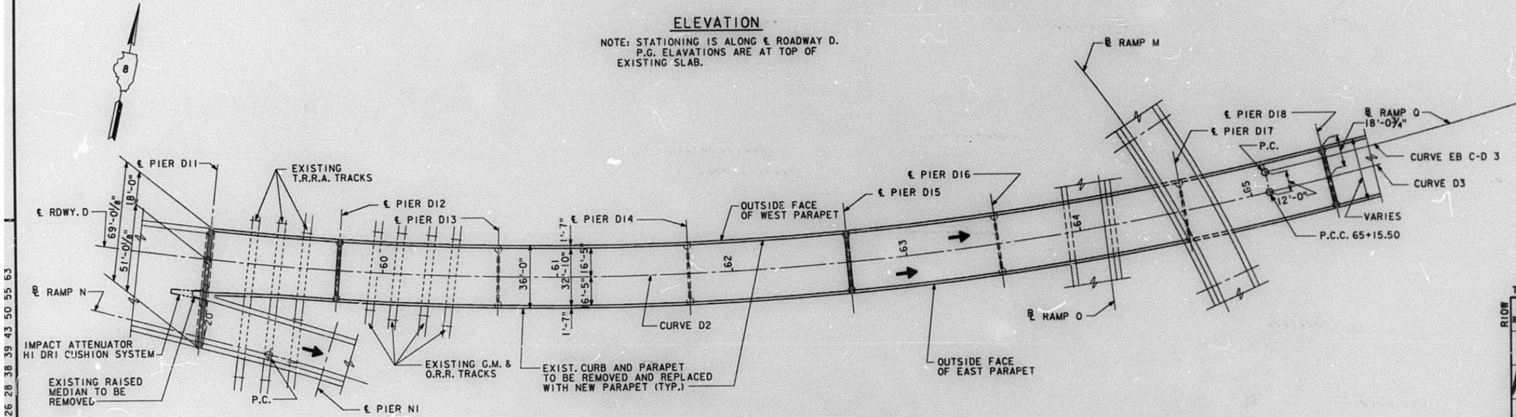




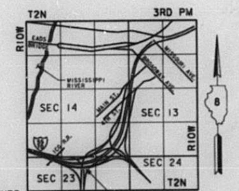
EXIST. PROFILE GRADE - ℄ ROADWAY D
(ELEVATION SHOWN IS AT TOP OF EXISTING SLAB)

ELEVATION

NOTE: STATIONING IS ALONG ℄ ROADWAY D. P.G. ELAVATIONS ARE AT TOP OF EXISTING SLAB.



PLAN



PROPOSED STRUCTURE MODIFICATION

LOCATION SKETCH

DESIGN STRESSES

	EXISTING STRUCTURES	NEW CONSTRUCTION
DESIGN SPECIFICATIONS:	AASHO 1961 AND APPLICABLE 1962 AND 1963 INTERIMS.	AASHTO 1983 AND APPLICABLE 1984 AND 1985 INTERIMS.
LOADING:	HS20-44 AND ALTERNATE	HS20-44 AND ALTERNATE
REINFORCED CONCRETE: DECK SLAB	fc=1400 psi n=10	f'c=3500 psi
SUBSTRUCTURE	fc=1400 psi n=10 Vc=75 psi - FOOTINGS	
REINFORCING	fs=20,000 psi	fy=60,000 psi (REINFORCEMENT)
STRUCTURAL STEEL:	fs=20,000 psi	fy=36,000 psi (M183)

CURVE DATA - D2

P.I. STA. = 61+28.36
Δ = 24°-52'-53.00"LT.
D = 3°-09'-43"
R = 1812.00'
T = 399.74'
L = 786.88'
E = 43.57'
P.C. STA. = 57+28.62
P.C.C. STA. = 65+15.50

DESIGNED
CHECKED
D. RIEHL
DRAWN
G. DEE
CHECKED

87S522 PRF: GFEDIIE

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. Rayburn

CARLOS A. LIZANA-FARIAS
81-3956
CHICAGO

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY D-DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS D11 THRU D17

STRUCTURE NO. 082-0144

STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 34 OF 56

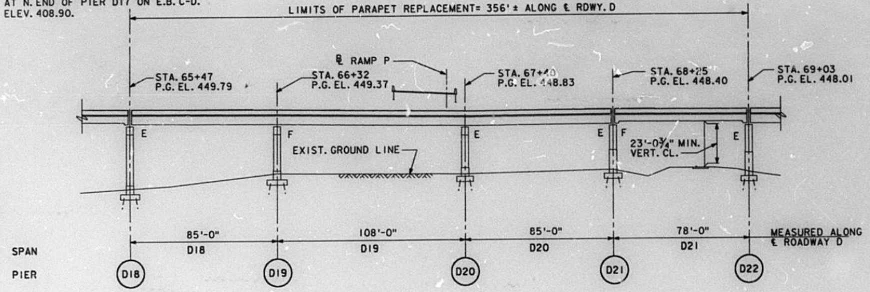
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	76

• 82-3HVB-2R-1

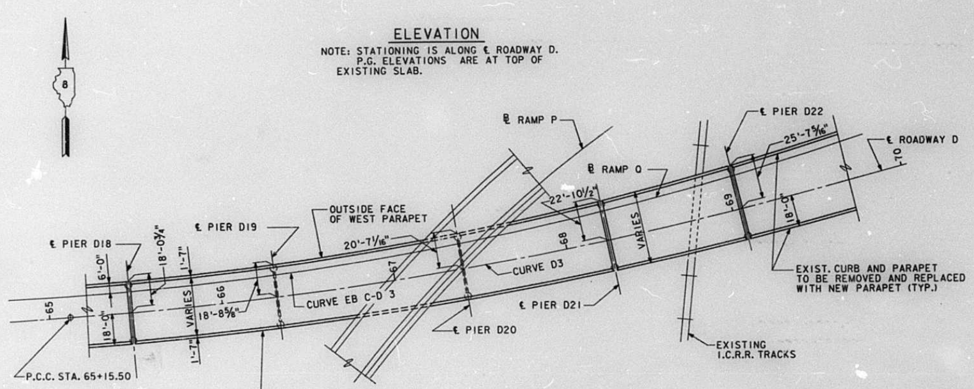
BENCH MARK D-17

CHISELED "□" IN CONCRETE FOUNDATION AT N. END OF PIER D17 ON E.B. C-D. ELEV. 408.90.



ELEVATION

NOTE: STATIONING IS ALONG ℄ ROADWAY D. P.G. ELEVATIONS ARE AT TOP OF EXISTING SLAB.



PLAN

NOTES

WORK THIS SHEET WITH SHEETS 34, 36 & 37.

EXISTING BITUMINOUS OVERLAY AND WATERPROOFING MEMBRANE TO BE REMOVED AND CONCRETE SLAB TO BE PATCHED, AS NOTED HEREIN.

EXISTING SLAB SHALL RECEIVE ¼" SCARIFICATION AND A 2" DENSE CONCRETE OVERLAY BETWEEN PIER D11 AND PIER D33.

IN SPANS D11 THROUGH D21 IT IS ESTIMATED THAT 5% OF THE EXISTING DECK AREA REQUIRES FULL DEPTH REPAIR AND THAT 32% OF THE EXISTING DECK AREA REQUIRES PARTIAL DEPTH PATCHING.

IN SPANS D22 THROUGH D32 IT IS ESTIMATED THAT 5% OF THE EXISTING DECK AREA REQUIRES FULL DEPTH REPAIR AND THAT 11% OF THE EXISTING DECK AREA REQUIRES PARTIAL DEPTH PATCHING.

ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

EXISTING FLOOR DRAINS TO BE REMOVED AND SLAB TO BE PATCHED AT LOCATIONS SHOWN ON PARAPET DRAWINGS.

STAGE I CONSTRUCTION WILL BEGIN ON THE EASTSIDE PORTION OF ROADWAY D.

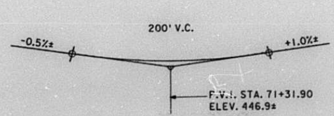
STAGE III CONSTRUCTION WILL BEGIN ON THE WESTSIDE PORTION.

CURVE DATA - D3

P.I. STA. = 68+99.16
△ = 19°-41'-11.00"LT.
D = 2°-35'-28.00"
R = 2211.24'
T = 383.66'
L = 759.76'
E = 33.04'
P.C.C. STA. = 65+15.50
P.T. STA. = 72+75.26

CURVE DATA - EB C-D 3

P.I. STA. = 69+41.61
△ = 26°-38'-13.00"LT.
D = 3°-10'-59"
R = 1800.00'
T = 426.11'
L = 836.82'
E = 49.75'
P.C. STA. = 65+15.50
P.C.C. STA. = 73+52.32



PROFILE GRADE - ℄ ROADWAY D

(STATIONING ALONG ℄ ROADWAY D)
(ELEVATION SHOWN IS AT TOP OF EXISTING SLAB.)

DESIGNED
CHECKED D. RIEHL
DRAWN G. DEE
CHECKED

PRF: GPED18E

87S323

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D-DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS D18 THRU D21

STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

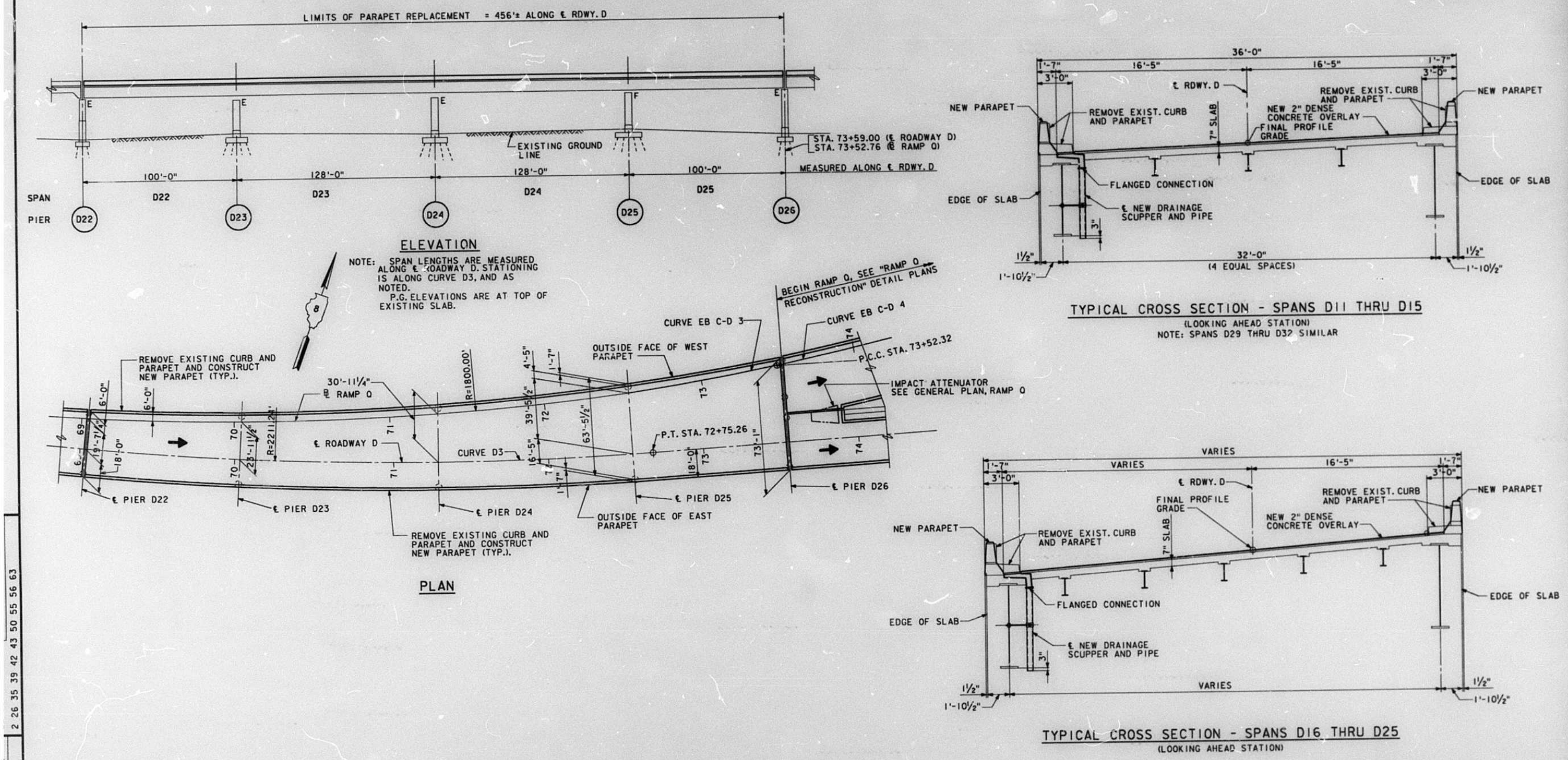
SHEET NO. 35 OF 56

2 3 20 26 28 38 39 43 50 55 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	77

* 82-3HVB-2R-1



REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D-DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS D22 THRU D25
STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

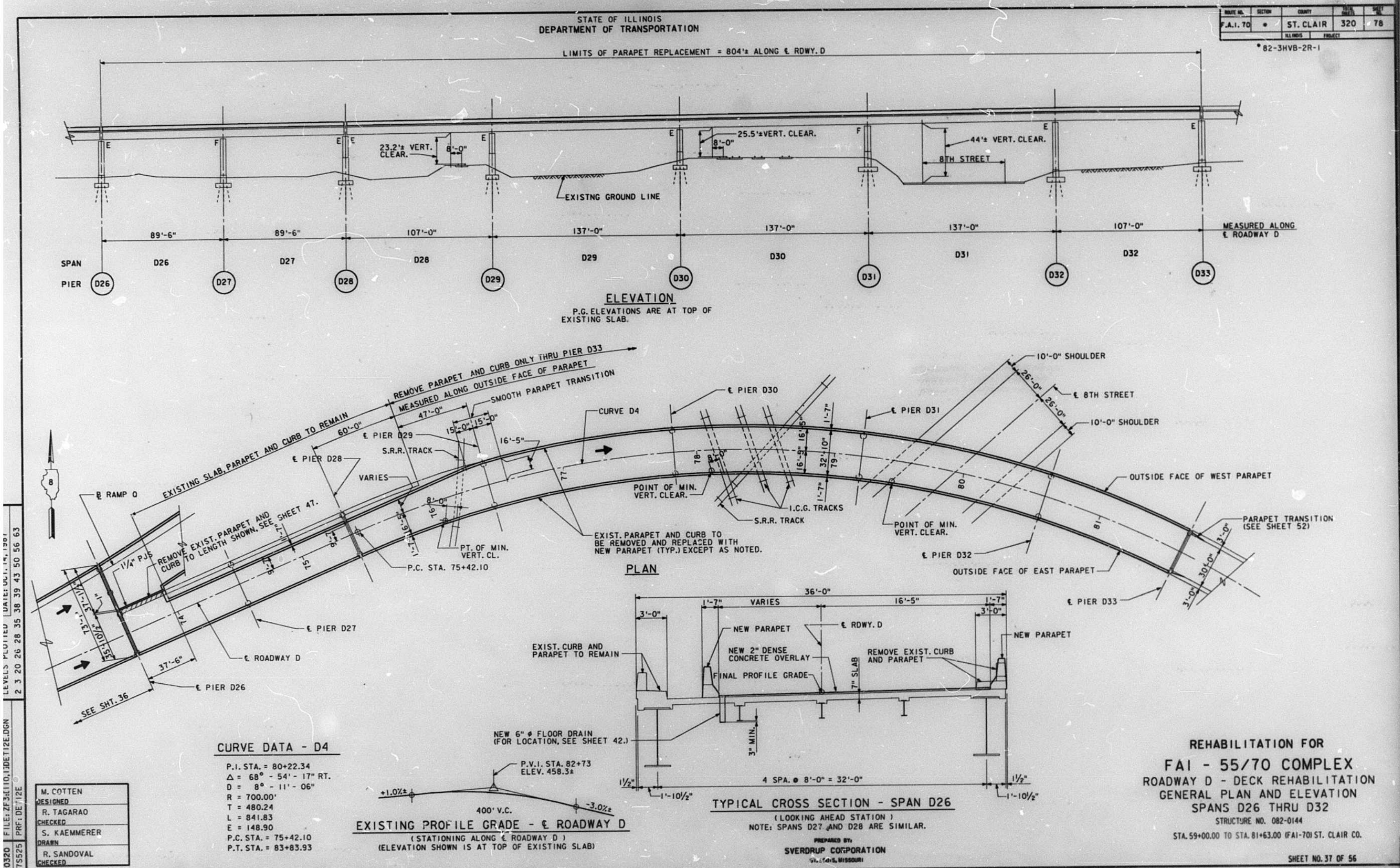
M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. STEGMAN	DRAWN
R. SANDOVAL	CHECKED

87S524 PRF: DETIIE

2 26 35 39 42 43 50 55 56 63

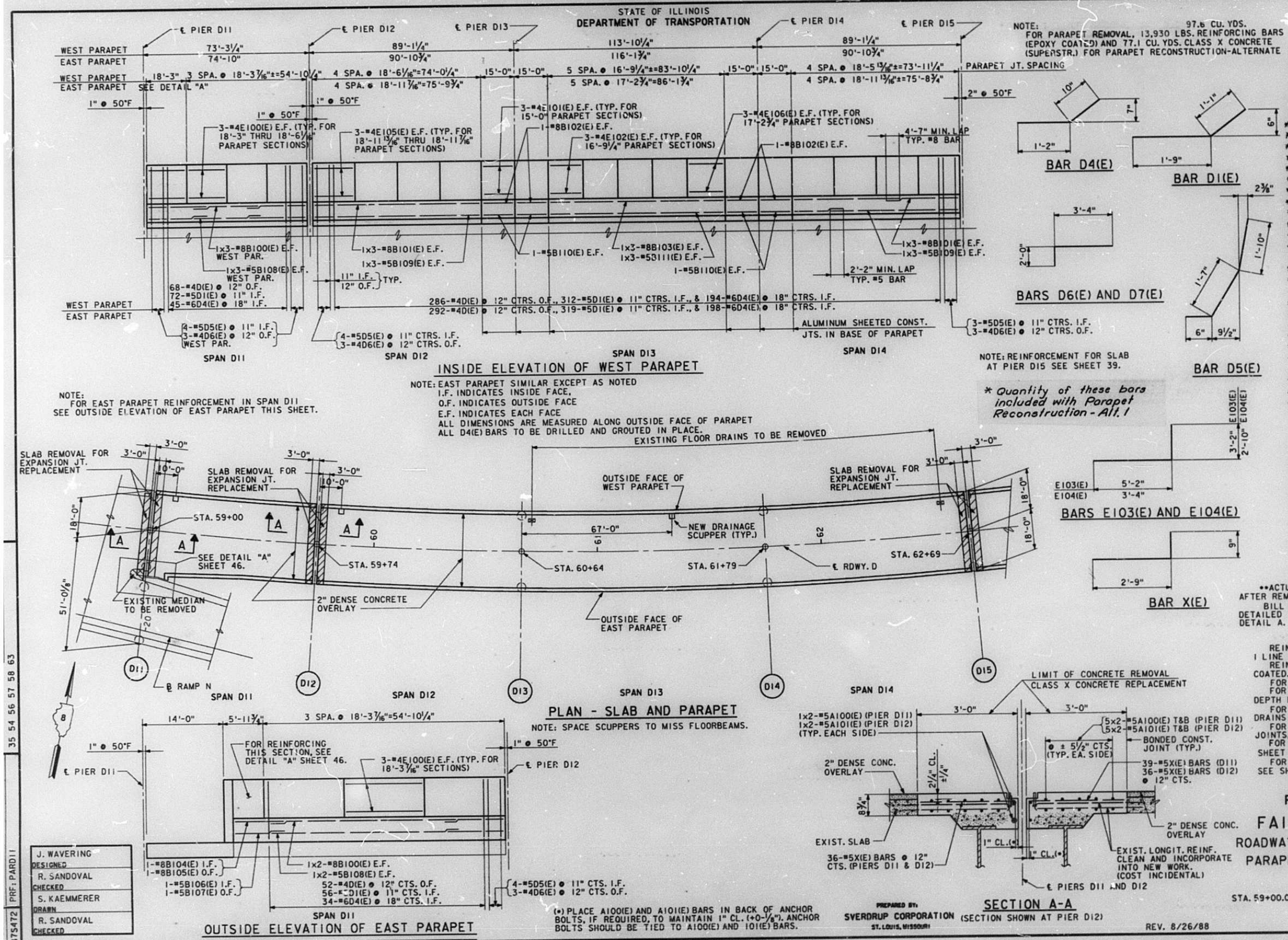
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SHEET NO. 36 OF 56



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 78
82-3HVB-2R-1
LIMITS OF PARAPET REPLACEMENT = 804'± ALONG ℄ RDWY. D
23.2'± VERT. CLEAR.
8'-0"
25.5'±VERT. CLEAR.
44'± VERT. CLEAR.
8TH STREET
EXISTNG GROUND LINE
89'-6"
89'-6"
107'-0"
137'-0"
137'-0"
137'-0"
107'-0"
MEASURED ALONG ℄ ROADWAY D
SPAN
D26
D27
D28
D29
D30
D31
D32
PIER
D26
D27
D28
D29
D30
D31
D32
D33
ELEVATION
P.G. ELEVATIONS ARE AT TOP OF EXISTING SLAB.
REMOVE PARAPET AND CURB ONLY THRU PIER D33
MEASURED ALONG OUTSIDE FACE OF PARAPET
SMOOTH PARAPET TRANSITION
EXISTING SLAB, PARAPET AND CURB TO REMAIN
℄ PIER D30
℄ PIER D31
10'-0" SHOULDER
℄ 8TH STREET
10'-0" SHOULDER
CURVE D4
℄ PIER D29
S.R.R. TRACK
℄ PIER D28
VARIES
℄ RAMP Q
REMOVE EXIST. PARAPET AND CURB TO LENGTH SHOWN, SEE SHEET 47.
1¼" PJS
POINT OF MIN. VERT. CLEAR.
I.C.G. TRACKS
S.R.R. TRACK
POINT OF MIN. VERT. CLEAR.
OUTSIDE FACE OF WEST PARAPET
PARAPET TRANSITION (SEE SHEET 52)
EXIST. PARAPET AND CURB TO BE REMOVED AND REPLACED WITH NEW PARAPET (TYP.) EXCEPT AS NOTED.
PT. OF MIN. VERT. CL.
P.C. STA. 75+42.10
PLAN
℄ PIER D32
OUTSIDE FACE OF EAST PARAPET
℄ PIER D33
℄ PIER D27
℄ ROADWAY D
℄ PIER D26
SEE SHT. 36
37'-6"
36'-0"
VARIES
16'-5"
NEW PARAPET
℄ RDWY. D
NEW PARAPET
EXIST. CURB AND PARAPET TO REMAIN
NEW 2" DENSE CONCRETE OVERLAY
REMOVE EXIST. CURB AND PARAPET
FINAL PROFILE GRADE
7" SLAB
3" MIN.
NEW 6" ⌀ FLOOR DRAIN (FOR LOCATION, SEE SHEET 42.)
4 SPA. @ 8'-0" = 32'-0"
TYPICAL CROSS SECTION - SPAN D26
(LOOKING AHEAD STATION)
NOTE: SPANS D27 AND D28 ARE SIMILAR.
CURVE DATA - D4
P.I. STA. = 80+22.34
Δ = 68° - 54' - 17" RT.
D = 8° - 11' - 06"
R = 700.00'
T = 480.24
L = 841.83
E = 148.90
P.C. STA. = 75+42.10
P.T. STA. = 83+83.93
P.V.I. STA. 82+73
ELEV. 458.3±
+1.0%±
-3.0%±
400' V.C.
EXISTING PROFILE GRADE - ℄ ROADWAY D
(STATIONING ALONG ℄ ROADWAY D)
(ELEVATION SHOWN IS AT TOP OF EXISTING SLAB)
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
M. COTTEN
DESIGNED
R. TAGARAO
CHECKED
S. KAEMMERER
DRAWN
R. SANDOVAL
CHECKED
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D - DECK REHABILITATION
GENERAL PLAN AND ELEVATION
SPANS D26 THRU D32
STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.
SHEET NO. 37 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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

BILL OF MATERIAL

SPANS D11 THRU D14

	BAR	NO.	SIZE	LENGTH	SHAPE
	A100(E)	48	#5	20'-3"	—
	A101(E)	48	#5	18'-9"	—
*	B100(E)	10	#8	27'-4"	—
*	B101(E)	24	#8	28'-3"	—
*	B102(E)	16	#8	14'-8"	—
*	B103(E)	12	#8	31'-8"	—
*	B104(E)	1	#8	13'-0"	—
*	B105(E)	1	#8	14'-6"	—
*	B106(E)	1	#5	[illegible]'-0"	—
*	B107(E)	1	#5	12'-6"	—
*	B108(E)	10	#5	25'-9"	—
*	B109(E)	[illegible]	#5	26'-6"	—
*	B110(E)	16	#5	14'-8"	—
*	B111(E)	12	#5	30'-0"	—
	BX(E)	12	#5	2'-10"	—
*	D(E)	702	#4	2'-8"	—
*	D1(E)	764	#5	2'-10"	
*	D4(E)	474	#6	2'-0"	
*	D5(E)	28	#5	3'-11"	
*	D6(E)	21	#4	5'-4"	
*	D7(E)	8	#5	5'-4"	
*	E100(E)	90	#4	18'-1"	—
*	E101(E)	48	#4	14'-8"	—
*	E102(E)	30	#4	16'-5"	—
*	E103(E)	3	#4	8'-4"	
*	E104(E)	3	#4	6'-2"	
*	E105(E)	48	#4	18'-6"	—
*	E106(E)	30	#4	16'-11"	—
	H3(E)	6	#4	8'-0"	—
	H4(E)	10	#5	3'-9"	—
	H5(E)	8	#5	2'-9"	—
	X(E)	147	#5	3'-6"	

CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	23.4
REINFORCEMENT BARS (EPOXY COATED)	LBS.	2550
•• DECK SLAB REPAIR (PARTIAL)	SQ. YDS.	421
•• DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	70
BRIDGE DECK CONCRETE OVERLAY *OPTION*	SQ. YDS.	1,310
CONCRETE REMOVAL	CU. YDS.	21.2

••ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIERS D11 & D12 AND DETAIL A.

NOTES

REINFORCEMENT BARS MARKED 1x3 ETC. INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 45.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING, SEE SHEET 53.

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEETS 48 AND 55.

FOR DETAIL OF RETURN WALL AT PIER D11, SEE SHEET 46.

FOR DETAILS OF PARAPET RECONSTRUCTION SEE SHEET 44.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D - DECK REHABILITATION
PARAPETS - SPANS D11 THRU D14

STRUCTURE NO. 082-0144

STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

J. WAVERING	DESIGNED
R. SANDOVAL	CHECKED
S. KAEMMERER	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

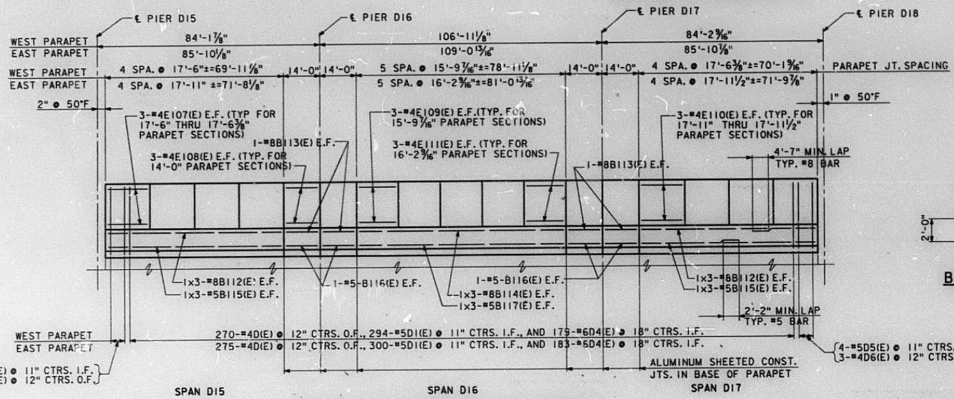
REV. 8/26/88

875472 PRF: PARD11

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	**	ST. CLAIR	320	80
		ILLINOIS	PROJECT	

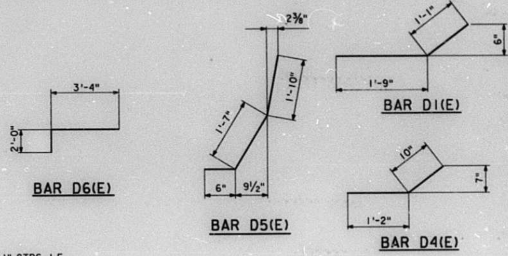
NOTE:
FOR PARAPET REMOVAL, 10,590 LBS. REINFORCING BARS (EPOXY COATED) AND 57.8 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1. 71.3 CU. YDS.



INSIDE ELEVATION OF WEST PARAPET

EAST PARAPET SIMILAR EXCEPT AS NOTED
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE
E.F. INDICATES EACH FACE
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET
ALL D4(E) BARS TO BE DRILLED AND GROUTED IN PLACE.

NOTE: FOR SLAB REINFORCING AT PIER D18 SEE SECTION A-A SHEET 40.



** Quantity of these bars included with Parapet Reconstruction - Alt. 1*

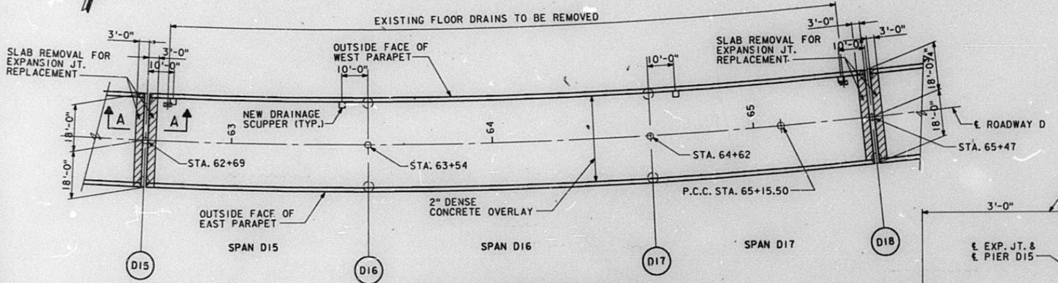
**82-3HVB-2R-1

BILL OF MATERIAL

SPANS D15 THRU D17				
BAR	NO.	SIZE	LENGTH	SHAPE
A101(E)	36	#5	18'-9"	—
* B112(E)	24	#8	26'-10"	—
* B113(E)	16	#8	13'-8"	—
* B114(E)	12	#8	30'-0"	—
* B115(E)	24	#5	25'-6"	—
* B116(E)	16	#5	13'-8"	—
* B117(E)	12	#5	28'-4"	—
BX(E)	16	#5	2'-10"	—
* D(E)	545	#4	2'-8"	—
* D1(E)	594	#5	2'-10"	
* D4(E)	362	#6	2'-0"	
* D5(E)	16	#5	3'-11"	
* D6(E)	12	#4	5'-4"	
* E107(E)	48	#4	17'-2"	—
* E108(E)	48	#4	13'-8"	—
* E109(E)	30	#4	15'-6"	—
* E110(E)	48	#4	17'-7"	—
* E111(E)	30	#4	15'-11"	—
X2(E)	72	#5	2'-5"	—
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	17.8
REINFORCEMENT BARS (EPOXY COATED)			LBS.	920
•• DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	54
•• DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	319
BRIDGE DECK CONCRETE OVERLAY *OPTION*			SQ. YDS.	991
CONCRETE REMOVAL			CU. YDS.	15.9

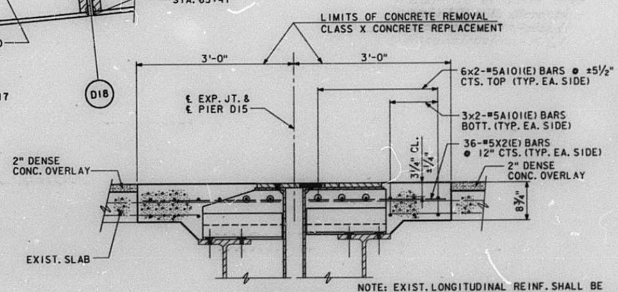
••ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIER D15.



PLAN - SLAB AND PARAPET

NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.



SECTION A-A

NOTE: EXIST. LONGITUDINAL REINF. SHALL BE CLEANED AND INCORPORATED INTO NEW WORK. (COST INCIDENTAL)

NOTES

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

REINFORCEMENT BARS MARKED 1x3 ETC. INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 45.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING, SEE SHEET 53.

FOR LOCATION AND DETAILS OF EXPANSION JOINT, SEE SHEETS 48 AND 55.

FOR DETAILS OF PARAPET RECONSTRUCTION SEE SHEET 44.

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY D - DECK REHABILITATION
PARAPETS - SPANS D15 THRU D17

STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. KAEMMERER	DRAWN
R. SANDOVAL	CHECKED

87S295 PRF: PARD15
35 54 56 57 58 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

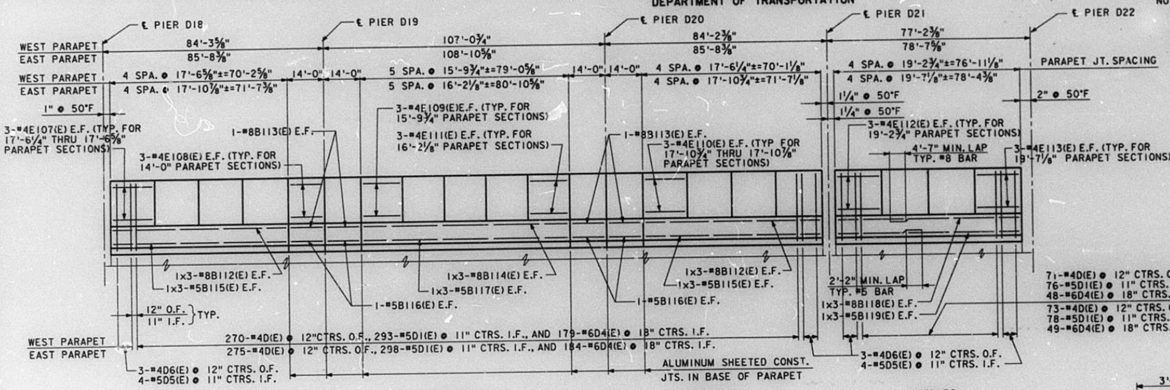
REV. 8/26/88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	**	ST. CLAIR	320	81
		ILLINOIS	PROJECT	

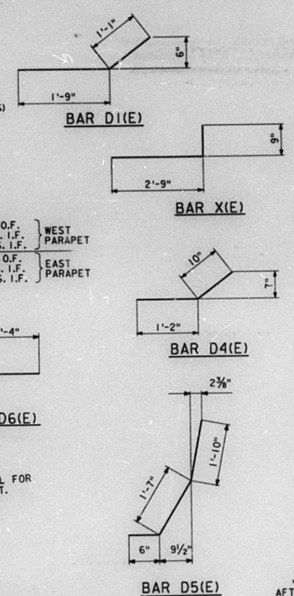
**82-3HVB-2R-1

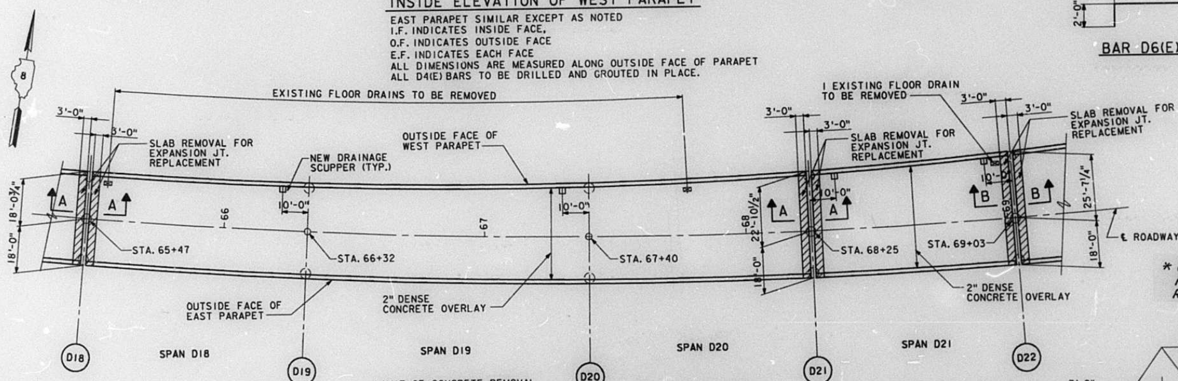
NOTE:
FOR PARAPET REMOVAL, 13,580 LBS. REINFORCING BARS (EPOXY COATED) AND 73.9 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1. 91.2 CU. YDS.



INSIDE ELEVATION OF WEST PARAPET

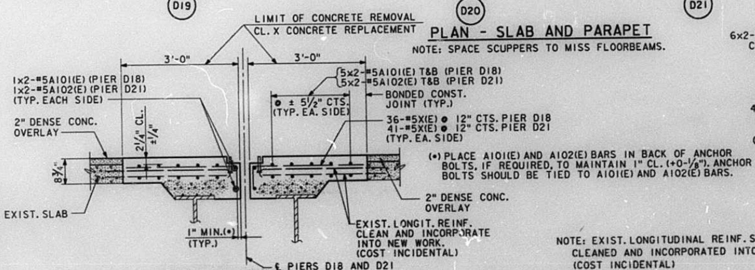
EAST PARAPET SIMILAR EXCEPT AS NOTED
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE
E.F. INDICATES EACH FACE
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET
ALL D4(E) BARS TO BE DRILLED AND GROUTED IN PLACE.





PLAN - SLAB AND PARAPET

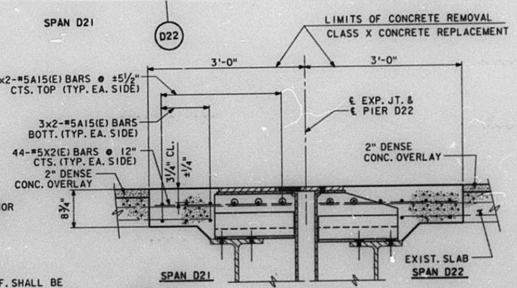
NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.



SECTION A-A

(*) PLACE A101(E) AND A102(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A101(E) AND A102(E) BARS.

NOTE: EXIST. LONGITUDINAL REINF. SHALL BE CLEANED AND INCORPORATED INTO NEW WORK. (COST INCIDENTAL)



SECTION B-B

Quantity of these bars included with Parapet Reconstruction - Alt. 1

BILL OF MATERIAL

SPANS D18 THRU D21					
	BAR	NO.	SIZE	LENGTH	SHAPE
	A15 (E)	36	#5	22'-9"	—
	A101(E)	48	#5	18'-9"	—
	A102(E)	48	#5	21'-3"	—
*	B112(E)	24	#8	26'-10"	—
*	B113(E)	16	#8	13'-8"	—
*	B114(E)	12	#8	30'-0"	—
*	B115(E)	24	#5	25'-6"	—
*	B116(E)	16	#5	13'-8"	—
*	B117(E)	12	#5	28'-4"	—
*	B118(E)	12	#8	29'-0"	—
*	B119(E)	12	#5	27'-5"	—
	BX(E)	16	#5	2'-10"	—
*	D(E)	689	#4	2'-8"	—
*	D1(E)	745	#5	2'-10"	
*	D4(E)	460	#6	2'-0"	
*	D5(E)	32	#5	3'-11"	
*	D6(E)	24	#4	5'-4"	
*	E107(E)	48	#4	17'-2"	—
*	E108(E)	48	#4	13'-8"	—
*	E109(E)	30	#4	15'-6"	—
*	E110(E)	48	#4	17'-7"	—
*	E111(E)	30	#4	15'-11"	—
*	E112(E)	24	#4	18'-11"	—
*	E113(E)	24	#4	19'-3"	—
	X(E)	154	#5	3'-6"	
	X2(E)	88	#5	2'-5"	—

Item	Unit	Quantity
CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	34.2
REINFORCEMENT BARS (EPOXY COATED)	LBS.	3670
** DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	72
** DECK SLAB REPAIR (PARTIAL)	SQ. YDS.	437
BRIDGE DECK CONCRETE OVERLAY *OPTION*	SQ. YDS.	1,359
CONCRETE REMOVAL	CU. YDS.	30.1

**ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIERS D18 AND D21 AND SECTION B-B AT PIER D22.

NOTES

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

REINFORCEMENT BARS MARKED 1x3 ETC. INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB, SEE SHEET 45.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING, SEE SHEET 53.

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEETS 49, 50 & 55.

FOR DETAILS OF PARAPET RECONSTRUCTION, SEE SHEET 44.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D - DECK REHABILITATION
PARAPETS - SPANS D18 THRU D21

STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

M. COTTEN	DESIGNED
J. WAVERING	CHECKED
S. KAEMMERER	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

SHEET NO. 40 OF 56

FILE: ZF3:[10,1]PARD18.DGN
PRF: PARD18
LEVELS PLOTTED: 2 35 54 56 57 58 63
DATE: OCT. 14, 1987
10320
875986

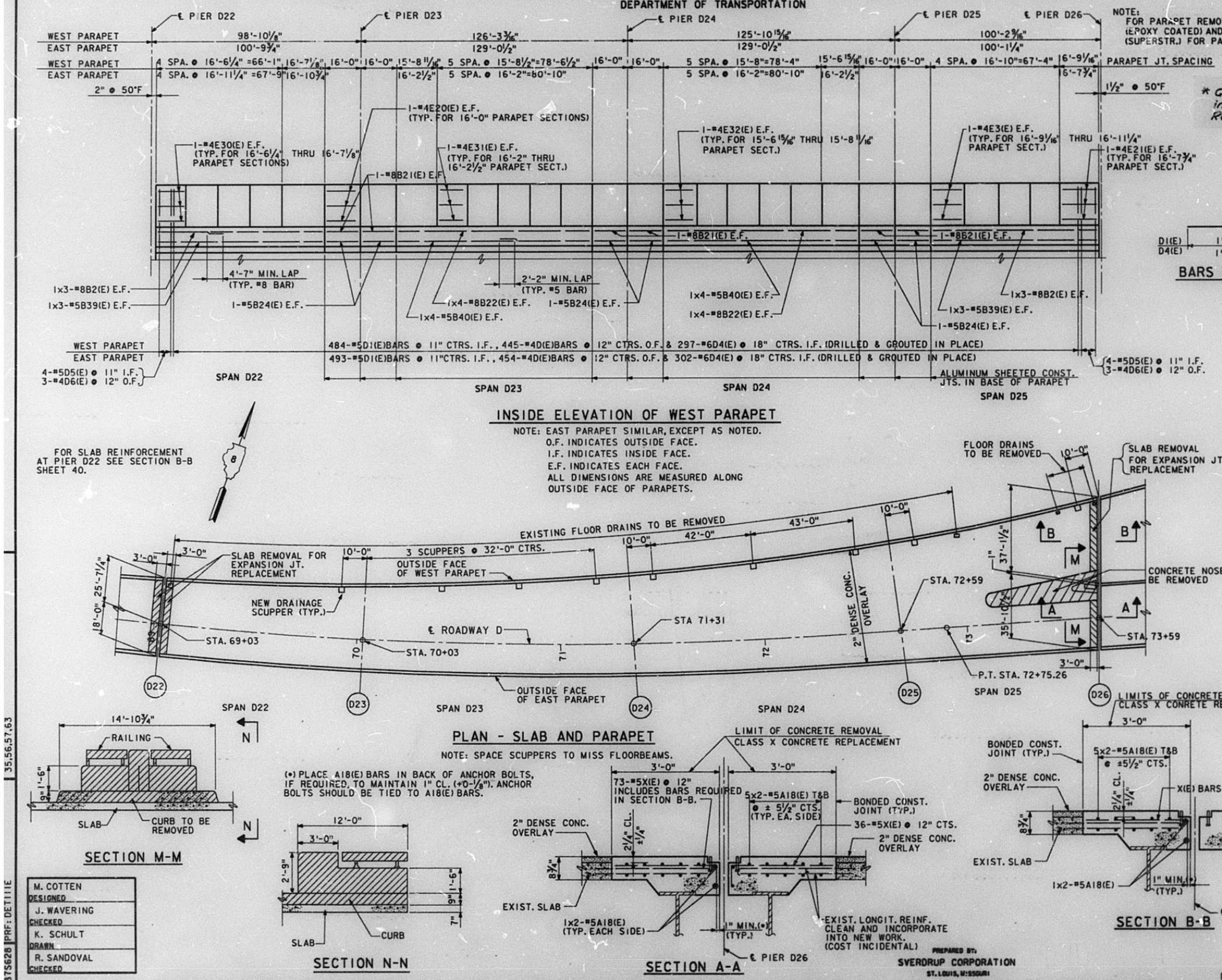
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

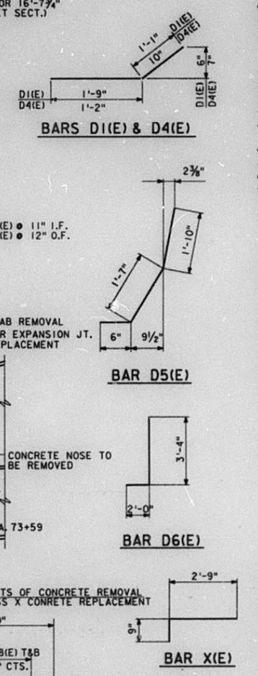
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	* **	ST. CLAIR	320	82
		ILLINOIS	PROJECT	

** 82-3HVB-2R-1

NOTE:
FOR PARAPET REMOVAL, 17,370 LBS. REINFORCING BARS (EPOXY COATED) AND 94.6 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1. 129.7 CU. YDS.

* Quantity of these bars included with Parapet Reconstruction - Alt. 1





BILL OF MATERIAL

SPANS D22 THRU D25					
	BAR	NO.	SIZE	LENGTH	SHAPE
	A18(E)	72	#5	19'-9"	—
*	B2(E)	24	#8	31'-4"	—
*	B21(E)	24	#8	15'-9"	—
*	B22(E)	32	#6	27'-8"	—
*	B24(E)	24	#5	15'-9"	—
*	B39(E)	24	#5	29'-8"	—
*	B40(E)	32	#5	25'-11"	—
	BX(E)	36	#5	2'-10"	—
*	D(E)	899	#4	2'-8"	—
*	D1(E)	977	#5	2'-10"	
*	D4(E)	599	#6	2'-0"	
*	D5(E)	16	#5	3'-11"	
*	D6(E)	12	#4	5'-4"	
*	E3(E)	84	#4	16'-7"	—
*	E20(E)	72	#4	15'-9"	—
*	E21(E)	6	#4	16'-5"	—
*	E30(E)	30	#4	16'-3"	—
*	E31(E)	72	#4	15'-11"	—
*	E32(E)	72	#4	15'-4"	—
	X(E)	109	#5	3'-6"	
	CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	30.6
	REINFORCEMENT BARS (EPOXY COATED)			LBS.	1980
	** DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	284
	** DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	142
	BRIDGE DECK CONCRETE OVERLAY *OPTION*			SQ. YDS.	2644
	CONCRETE REMOVAL			CU. YDS.	29.4

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTIONS A-A AND B-B AT PIER D26.

** ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB SEE SHEET 45.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING SEE SHEET 53.

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 55.

FOR DETAILS OF PARAPET RECONSTRUCTION SEE SHEET 44.

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY D - DECK REHABILITATION
PARAPETS - SPANS D22 THRU D25

STRUCTURE NO. 082-0144

STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

M. COTTEN DESIGNED
J. WAVERING CHECKED
K. SCHULT DRAWN
R. SANDOVAL CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

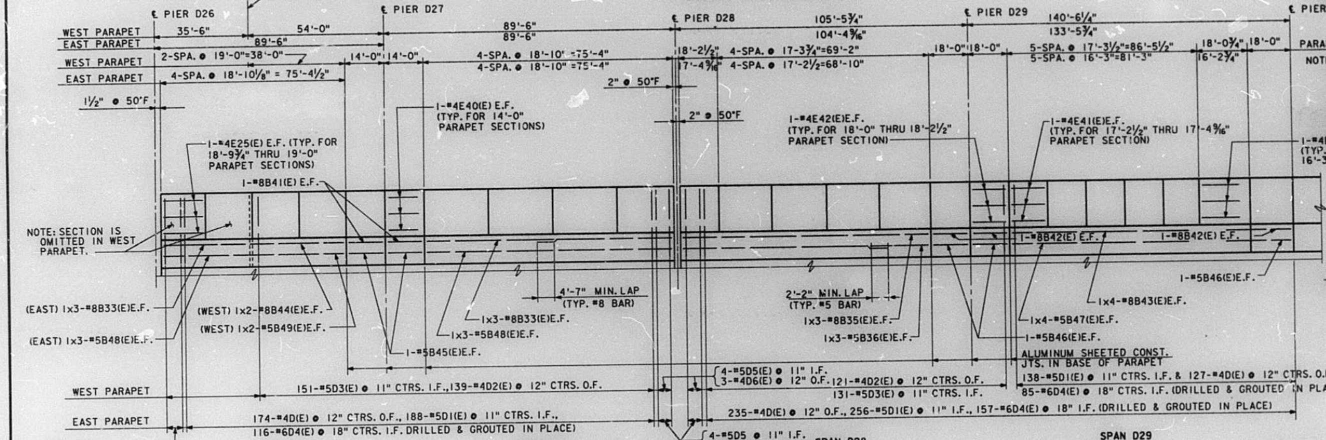
REV. 8/26/88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Quantity of these bars included with Parapet Reconstruction - Alt. I

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	***	ST. CLAIR	320	83

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



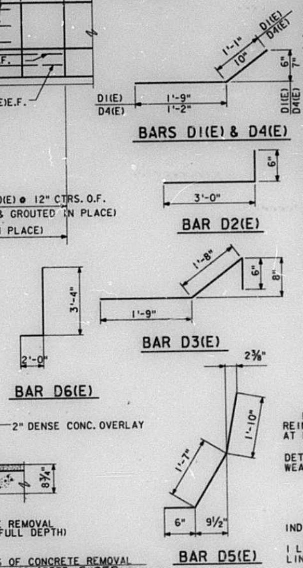
NOTE:
84.3 CU. YDS. FOR PARAPET REMOVAL, 15,310 LBS. REINFORCING BARS (EPOXY COATED) AND 86.0 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.

SPAN D26 SPAN D27 SPAN D28 SPAN D29

OUTSIDE ELEVATION OF EAST PARAPET

NOTE: WEST PARAPET SIMILAR, EXCEPT AS NOTED.
O.F. INDICATES OUTSIDE FACE.
I.F. INDICATES INSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.

NOTE: FOR SECTIONS A-A AND B-B SEE SHEET 41.



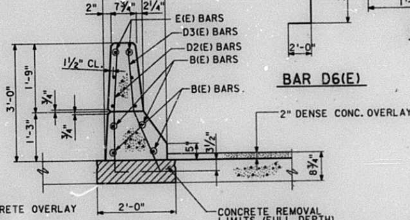
BARS D1(E) & D4(E)

BAR D2(E)

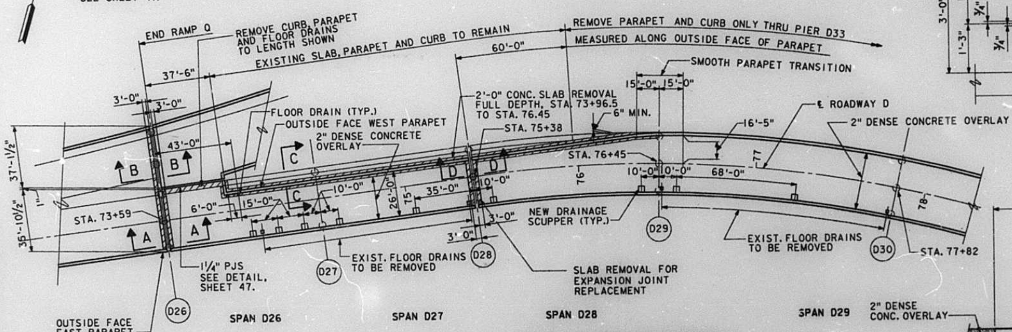
BAR D3(E)

BAR D6(E)

BAR D5(E)



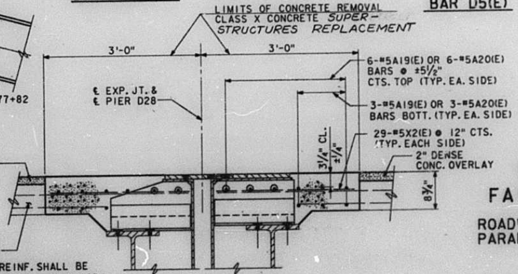
SECTION C-C



SPAN D26 SPAN D27 SPAN D28 SPAN D29

PLAN - SLAB AND PARAPET

NOTE: SPACE SCUPPERS AND FLOOR DRAINS TO MISS FLOORBEAMS.



NOTE: EXIST. LONGITUDINAL REINF. SHALL BE CLEANED AND INCORPORATED INTO NEW WORK. (COST INCIDENTAL)

SECTION D-D

BILL OF MATERIAL

SPANS D26 THRU D29					
	BAR	NO.	SIZE	LENGTH	SHAPE
	A19(E)	18	#5	20'-0"	—
	A20(E)	18	#5	11'-0"	—
*	B33(E)	18	#8	28'-2"	—
*	B35(E)	12	#8	32'-0"	—
*	B36(E)	12	#5	30'-5"	—
*	B41(E)	8	#8	13'-9"	—
*	B42(E)	12	#8	17'-9"	—
*	B43(E)	16	#8	29'-7"	—
*	B44(E)	4	#8	21'-2"	—
*	B45(E)	8	#5	13'-9"	—
*	B46(E)	12	#5	17'-9"	—
*	B47(E)	16	#5	27'-9"	—
*	B48(E)	18	#5	26'-7"	—
*	B49(E)	4	#5	20'-0"	—
	BX(E)	36	#5	2'-10"	—
*	D(E)	536	#4	2'-8"	—
*	D1(E)	582	#5	2'-10"	
*	D2(E)	260	#4	3'-6"	
*	D3(E)	282	#5	3'-11"	
*	D4(E)	358	#6	2'-0"	
*	D5(E)	20	#5	3'-11"	
*	D6(E)	15	#4	5'-4"	
*	E25(E)	84	#4	18'-7"	—
*	E31(E)	36	#4	16'-0"	—
*	E40(E)	24	#4	13'-9"	—
*	E41(E)	84	#4	16'-11"	—
*	E42(E)	48	#4	17'-9"	—
	X2(E)	58	#5	2'-5"	—
	CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	18.7
	REINFORCEMENT BARS (EPOXY COATED)			LBS.	850
	Bridge Deck Concrete Concrete Overlay Option			SQ. YDS.	1371
	**DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	71
	**DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	142
	CONCRETE REMOVAL			CU. YDS.	28.4

BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION D-D AT PIER D28.

** ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS SEE SHEET 56.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB SEE SHEET 45.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING SEE SHEET 53.

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEETS 49 & 50.

FOR DETAILS OF PARAPET RECONSTRUCTION SEE SHEET 44.

REHABILITATION FOR
FAi - 55/70 COMPLEX

ROADWAY D-DECK REHABILITATION PARAPETS - SPANS D26 THRU D29

STRUCTURE NO. 082-0144

STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

M. COTTEN	DESIGNED
J. WAVERING	CHECKED
K. SCHULT	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

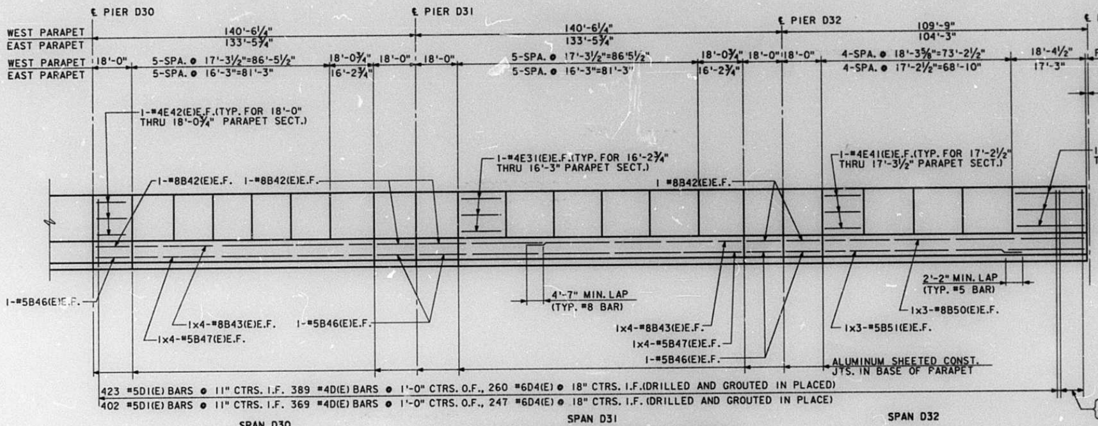
REV. 8/26/88

10320 875629 FILE: ZF3{E110,1}DET112E.DGN PRF: DET112E LEVELS PLOTTED 35,56,57,63 DATE: OCT. 14, 1987

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	F●F	ST. CLAIR	320	84
	ILLINOIS	PROJECT		

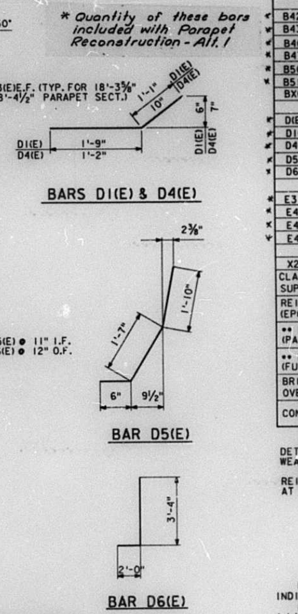
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

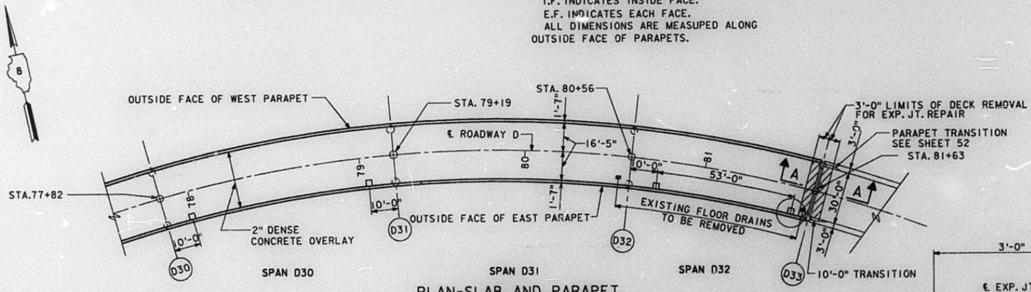
NOTE: 97.1 CU. YDS.
FOR PARAPET REMOVAL, 14,600 LBS. REINFORCING BARS (EPOXY COATED) AND 79.2 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE I.



INSIDE ELEVATION OF WEST PARAPET

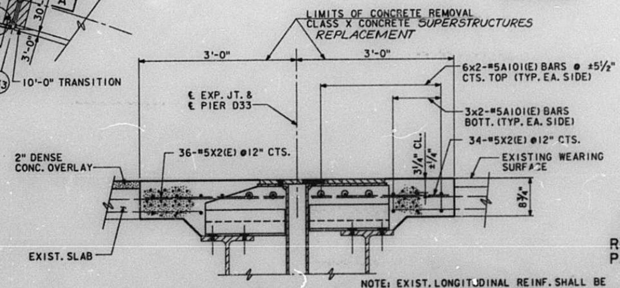
NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
O.F. INDICATES OUTSIDE FACE.
I.F. INDICATES INSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.





PLAN-SLAB AND PARAPET

NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.



SECTION A-A

NOTE: EXIST. LONGITUDINAL REINF. SHALL BE CLEANED AND INCORPORATED INTO NEW WORK. (COST INCIDENTAL)

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

BILL OF MATERIAL

SPANS D30 THRU D32				
BAR	NO.	SIZE	LENGTH	SHAPE
A101(E)	36	#5	18'-9"	—
* B42(E)	20	#8	17'-9"	—
* B43(E)	32	#8	29'-7"	—
* B46(E)	20	#5	17'-9"	—
* B47(E)	32	#5	27'-9"	—
* B50(E)	12	#8	33'-6"	—
* B51(E)	12	#5	32'-0"	—
BX(E)	16	#5	2'-10"	—
* D(E)	758	#4	2'-8"	—
* D1(E)	825	#5	2'-10"	
* D4(E)	507	#6	2'-0"	
* D5(E)	8	#5	3'-11"	
* D6(E)	6	#4	5'-4"	
* E31(E)	72	#4	15'-11"	—
* E41(E)	90	#4	16'-11"	—
* E42(E)	72	#4	17'-9"	—
* E43(E)	30	#4	18'-0"	—
X2(E)	70	#5	2'-5"	—
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	11.5
REINFORCEMENT BARS (EPOXY COATED)			LBS.	930
•• DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	147
•• DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	74
BRIDGE DECK CONCRETE OVERLAY OPTION			SQ. YDS.	1379
CONCRETE REMOVAL			CU. YDS.	9.6

•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.
BILL OF MATERIAL INCLUDES ALL REINFORCEMENT DETAILED IN SECTION A-A AT PIER D33.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.
BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.
FOR DRAINAGE SCUPPER DETAILS SEE SHEET 56.
FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB SEE SHEET 45.
FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING SEE SHEET 53.
FOR LOCATION AND DETAILS OF EXPANSION JOINT, SEE SHEETS 49 & 50.
FOR DETAILS OF PARAPET RECONSTRUCTION SEE SHEET 44.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D-DECK REHABILITATION PARAPETS - SPANS D30 THRU D32

STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
K. SCHULT	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

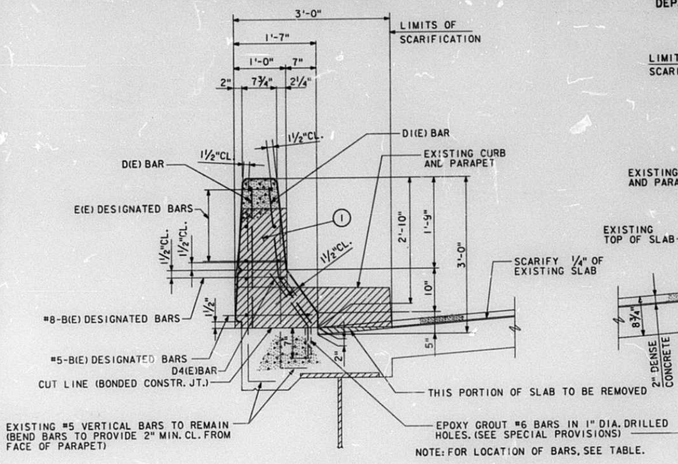
REV. 8/26/88

875630 | PRF: DET113E | 35,56,57,63

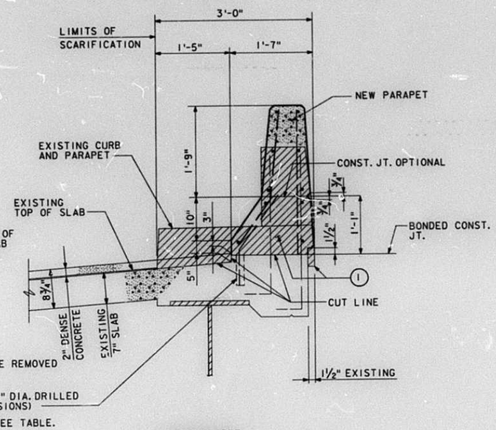
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	85

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



LOW PARAPET



HIGH PARAPET

NOTE: FOR DETAILS NOT SHOWN, SEE LOW PARAPET.

SECTION THRU PARAPETS

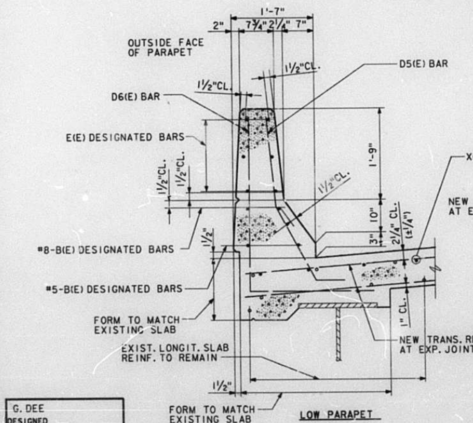
(1) REMOVE EXISTING CURB, PARAPET AND PORTION OF EXISTING SLAB TO LIMITS SHOWN BY HATCHING.

LOCATION - PARAPET REINFORCEMENT				
SPANS	#4(E) BARS	#5(E) BARS	#6(E) BARS	#8(E) BARS
D11 THRU D14	E100(E) THRU E106(E), D(E) AND D6(E)	B106(E) THRU B111(E) D1(E), D5(E) AND D7(E)	D4(E)	B100(E) THRU B105(E)
D15 THRU D17	E107(E) THRU E111(E), D(E) AND D6(E)	B115(E) THRU B117(E) D1(E) AND D5(E)	D4(E)	B112(E) THRU B114(E)
D18 THRU D21	E107(E) THRU E113(E), D(E) AND D6(E)	B115(E) THRU B117(E) AND B119(E), D1(E), D5(E)	D4(E)	B112(E) THRU B114(E) AND B118(E)
D22 THRU D25	E3(E), E20(E), E21(E), & E30(E) THRU E32(E) D(E), D6(E)	B24(E), B39(E) & B40(E), D1(E), D5(E)	D4(E)	B2(E), B21(E) & B22(E)
D26 THRU D29	E25(E),E31(E) & E40(E) THRU E42(E), D(E), D2(E), D6(E)	B36(E), B45(E) THRU B49(E) & D1(E), D3(E), D5(E)	D4(E)	B33(E), B35(E) & B41(E) THRU B44(E)
D30 THRU D32	E31(E), E41(E), E42(E) & E43(E), D(E), D6(E)	B46(E), B47(E), B51(E) & D1(E), D5(E)	D4(E)	B42(E), B43(E) & B50(E)

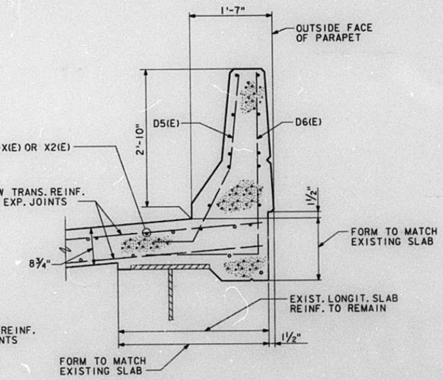
NOTE: SEE PARAPET ELEVATIONS FOR COMPLETE BAR BILLINGS.

SPANS D11 THRU D32	PARAPET RECONSTRUCTION ALTERNATE 1		
	ITEM	UNIT	QUANTITY
	PARAPET REMOVAL	CU.YDS.	571.2
	REINFORCING BARS (EPOXY COATED)	LBS.	85,380
	CLASS X CONCRETE SUPERSTRUCTURE	CU.YDS.	468.6

NOTE: QUANTITIES SHOWN ARE FOR CONTRACTOR INFORMATION ONLY. PARAPET RECONSTRUCTION SHALL BE PAID FOR ON A LIN. FT. BASIS.



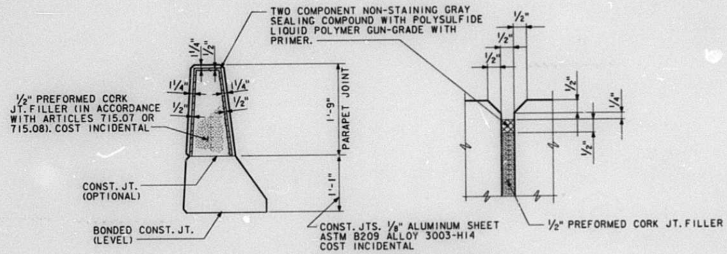
LOW PARAPET



HIGH PARAPET

NOTE: FOR DETAILS NOT SHOWN, SEE LOW PARAPET.

SECTION THRU PARAPETS AT EXP. JOINT



PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.

NOTE

THE CONTRACTOR SHALL TEST 10% OF THE D4(E) BARS IN THE FRONT FACE OF THE NEW PARAPET, AS DIRECTED BY THE ENGINEER, TO MEET A MIN. CERTIFIED PULL OUT LOAD OF 13.3 KIPS FOR EVERY BAR THAT FAILS TO MEET THE PULL OUT LOAD OF 13.3 KIPS, THE CONTRACTOR SHALL TEST TWO ADDITIONAL BARS AND REGROUT AN ADDITIONAL D4(E) BAR EITHER SIDE OF THE FAILED BAR. COST OF TESTING AND ADDITIONAL BARS SHALL BE INCIDENTAL TO "REINF. BARS (EPOXY COATED)".

G. DEE	DESIGNED
C. LIZANA	CHECKED
S. KAEMMERER	DRAWN
C. LIZANA	CHECKED

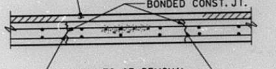
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D-DECK REHABILITATION
PARAPET RECONSTRUCTION
ALTERNATE 1
STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	86
		ILLINOIS	PROJECT	

•82-3HVB-2R-1



FULL DEPTH PATCHING

NOTES:

1. AS DIRECTED BY ENGINEER REMOVE EXISTING CONCRETE THE FULL DEPTH OF THE DECK, WITHOUT DAMAGING EXISTING REINFORCING BARS.
2. REMOVE ANY STAY-IN-PLACE PANELS THAT ARE WITHIN FULL DEPTH PATCH AREA.
3. CLEAN EXISTING REINFORCING BARS AND INCORPORATE INTO NEW WORK.
4. REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE.
5. NEW CONCRETE IS TO ATTAIN 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
6. SEE SPECIAL PROVISIONS.

PARTIAL DEPTH PATCHING

NOTES:

1. AS DIRECTED BY ENGINEER REMOVE EXISTING CONCRETE TO A DEPTH OF MINIMUM 3/4" BELOW THE TOP REINFORCING BARS, WITHOUT DAMAGING EXISTING REINFORCING.
2. CLEAN EXISTING REINFORCING BARS AND INCORPORATE IN THE NEW WORK.
3. CLEAN PATCH AREA OF ANY LOOSE MATERIAL.
4. PEPLACE 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

35 54 56 57 63

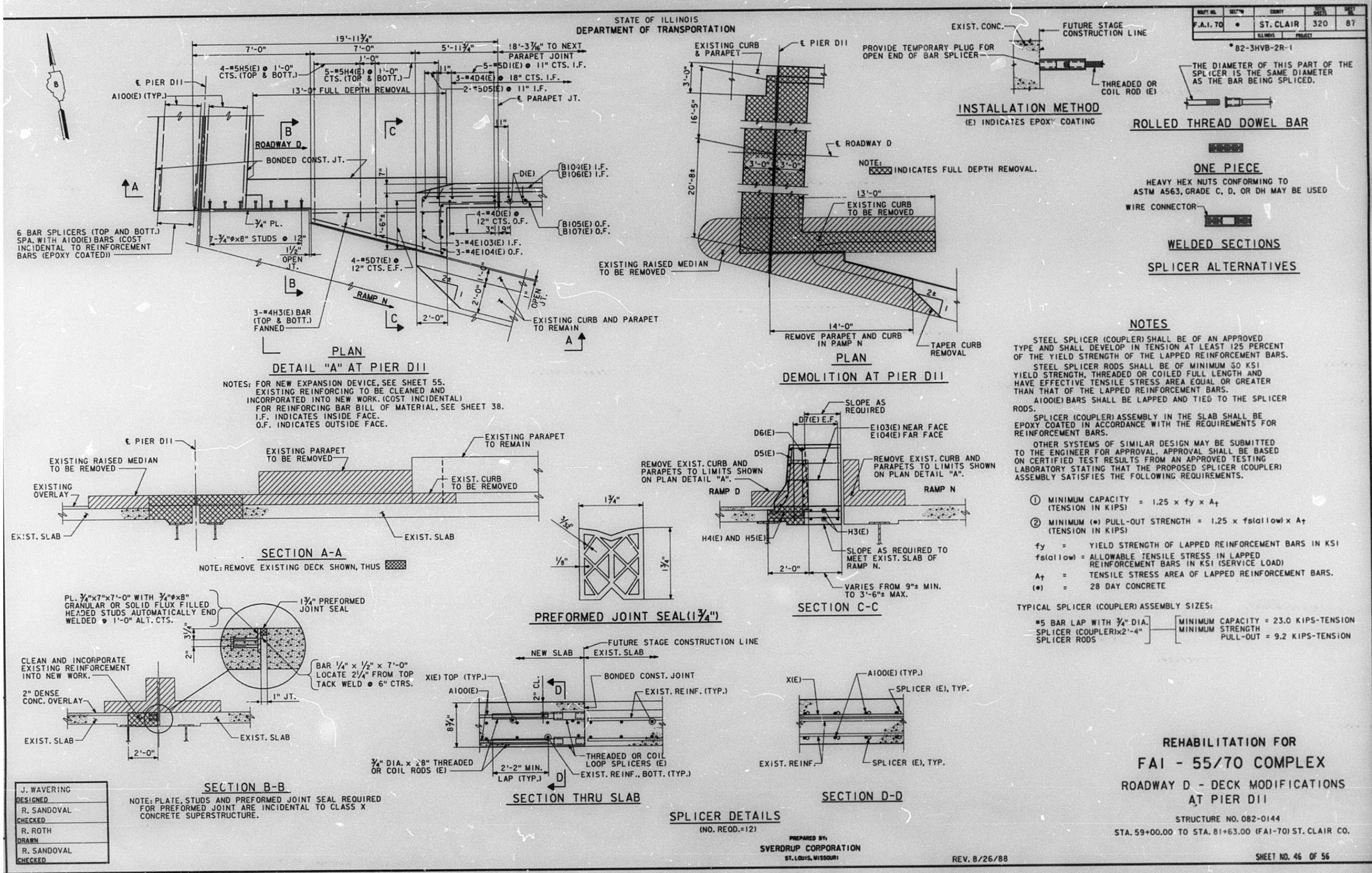
875631 PRF:DET114E.DGN

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
D. RIEHL	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D - DECK REHABILITATION
SLAB REPAIR DETAILS
STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

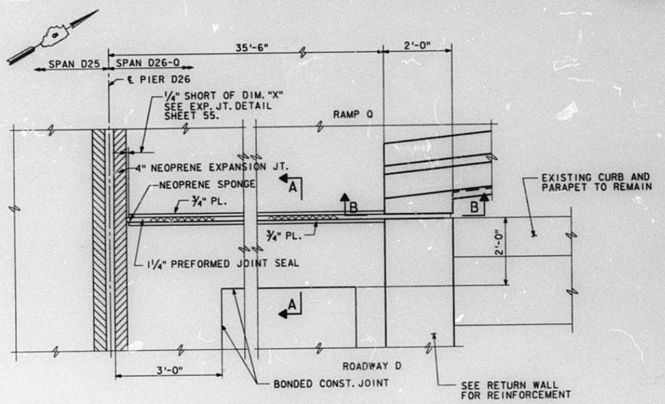
SHEET NO. 45 OF 56


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 87
82-3HVB-2R-1
PLAN
DETAIL "A" AT PIER D11
NOTES: FOR NEW EXPANSION DEVICE, SEE SHEET 55.
EXISTING REINFORCING TO BE CLEANED AND INCORPORATED INTO NEW WORK. (COST INCIDENTAL)
FOR REINFORCING BAR BILL OF MATERIAL, SEE SHEET 38.
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE.
19'-11¾"
7'-0"
5'-11¾"
18'-3⅞" TO NEXT PARAPET JOINT
℄ PIER D11
A100(E) (TYP.)
4-#5H5(E) @ 1'-0" CTS. (TOP & BOTT.)
5-#5H4(E) @ 1'-0" CTS. (TOP & BOTT.)
5-#5D1(E) @ 11" CTS. I.F.
3-#4D4(E) @ 18" CTS. I.F.
2-#5D5(E) @ 11" I.F.
13'-0" FULL DEPTH REMOVAL
℄ PARAPET JT.
ROADWAY D
BONDED CONST. JT.
D(E)
B104(E) I.F.
B106(E) I.F.
4-#4D(E) @ 12" CTS. O.F.
B105(E) O.F.
B107(E) O.F.
3-#4E103(E) I.F.
3-#4E104(E) O.F.
6 BAR SPLICERS (TOP AND BOTT.) SPA. WITH A100(E) BARS (COST INCIDENTAL TO REINFORCEMENT BARS (EPOXY COATED))
¾" PL.
7-¾"ø×8" STUDS @ 12"
OPEN JT.
4-#5D7(E) @ 12" CTS. E.F.
RAMP N
3-#4H3(E) BAR (TOP & BOTT.) FANNED
EXISTING CURB AND PARAPET TO REMAIN
PLAN
DEMOLITION AT PIER D11
EXISTING CURB & PARAPET
℄ PIER D11
℄ ROADWAY D
NOTE: INDICATES FULL DEPTH REMOVAL.
EXISTING CURB TO BE REMOVED
EXISTING RAISED MEDIAN TO BE REMOVED
REMOVE PARAPET AND CURB IN RAMP N
TAPER CURB REMOVAL
14'-0"
13'-0"
20'-8±
16'-5"
INSTALLATION METHOD
(E) INDICATES EPOXY COATING
EXIST. CONC.
FUTURE STAGE CONSTRUCTION LINE
PROVIDE TEMPORARY PLUG FOR OPEN END OF BAR SPLICER
THREADED OR COIL ROD (E)
ROLLED THREAD DOWEL BAR
THE DIAMETER OF THIS PART OF THE SPLICER IS THE SAME DIAMETER AS THE BAR BEING SPLICED.
ONE PIECE
HEAVY HEX NUTS CONFORMING TO ASTM A563, GRADE C, D, OR DH MAY BE USED
WIRE CONNECTOR
WELDED SECTIONS
SPLICER ALTERNATIVES
SECTION A-A
NOTE: REMOVE EXISTING DECK SHOWN, THUS
EXISTING RAISED MEDIAN TO BE REMOVED
EXISTING OVERLAY
EXISTING PARAPET TO BE REMOVED
EXISTING PARAPET TO REMAIN
EXIST. CURB TO BE REMOVED
EXIST. SLAB
PREFORMED JOINT SEAL (1¾")
SECTION C-C
SLOPE AS REQUIRED
D7(E) E.F.
E103(E) NEAR FACE
E104(E) FAR FACE
D6(E)
D5(E)
REMOVE EXIST. CURB AND PARAPETS TO LIMITS SHOWN ON PLAN DETAIL "A".
RAMP D
RAMP N
H4(E) AND H5(E)
H3(E)
SLOPE AS REQUIRED TO MEET EXIST. SLAB OF RAMP N.
VARIES FROM 9"± MIN. TO 3'-6"± MAX.
SECTION B-B
NOTE: PLATE, STUDS AND PREFORMED JOINT SEAL REQUIRED FOR PREFORMED JOINT ARE INCIDENTAL TO CLASS X CONCRETE SUPERSTRUCTURE.
PL. ¾"×7"×7'-0" WITH ¾"ø×8" GRANULAR OR SOLID FLUX FILLED HEADED STUDS AUTOMATICALLY END WELDED @ 1'-0" ALT. CTS.
1¾" PREFORMED JOINT SEAL
CLEAN AND INCORPORATE EXISTING REINFORCEMENT INTO NEW WORK.
2" DENSE CONC. OVERLAY
BAR ¼" × ½" × 7'-0" LOCATE 2¼" FROM TOP TACK WELD @ 6" CTRS.
1" JT.
EXIST. SLAB
SECTION THRU SLAB
FUTURE STAGE CONSTRUCTION LINE
NEW SLAB
EXIST. SLAB
X(E) TOP (TYP.)
A100(E)
BONDED CONST. JOINT
EXIST. REINF. (TYP.)
¾" DIA. × 28" THREADED OR COIL RODS (E)
THREADED OR COIL LOOP SPLICERS (E)
EXIST. REINF., BOTT. (TYP.)
2'-2" MIN. LAP (TYP.)
SECTION D-D
A100(E) (TYP.)
SPLICER (E), TYP.
EXIST. REINF.
SPLICER DETAILS
(NO. REQD.=12)
NOTES
STEEL SPLICER (COUPLER) SHALL BE OF AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125 PERCENT OF THE YIELD STRENGTH OF THE LAPPED REINFORCEMENT BARS.
STEEL SPLICER RODS SHALL BE OF MINIMUM 60 KSI YIELD STRENGTH, THREADED OR COILED FULL LENGTH AND HAVE EFFECTIVE TENSILE STRESS AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.
A100(E) BARS SHALL BE LAPPED AND TIED TO THE SPLICER RODS.
SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.
OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY STATING THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENTS.
① MINIMUM CAPACITY (TENSION IN KIPS) = 1.25 × fy × At
② MINIMUM (•) PULL-OUT STRENGTH (TENSION IN KIPS) = 1.25 × fs(allow) × At
fy = YIELD STRENGTH OF LAPPED REINFORCEMENT BARS IN KSI
fs(allow) = ALLOWABLE TENSILE STRESS IN LAPPED REINFORCEMENT BARS IN KSI (SERVICE LOAD)
At = TENSILE STRESS AREA OF LAPPED REINFORCEMENT BARS.
(•) = 28 DAY CONCRETE
TYPICAL SPLICER (COUPLER) ASSEMBLY SIZES:
#5 BAR LAP WITH ¾" DIA. SPLICER (COUPLER)×2'-4" SPLICER RODS
MINIMUM CAPACITY = 23.0 KIPS-TENSION
MINIMUM STRENGTH PULL-OUT = 9.2 KIPS-TENSION
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D - DECK MODIFICATIONS AT PIER D11
STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.
SHEET NO. 46 OF 56
J. WAVERING DESIGNED
R. SANDOVAL CHECKED
R. ROTH DRAWN
R. SANDOVAL CHECKED
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI
REV. 8/26/88

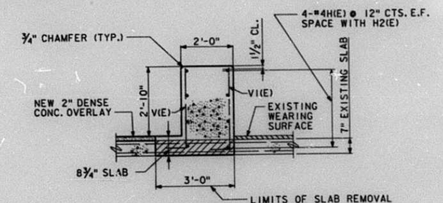
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	88
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

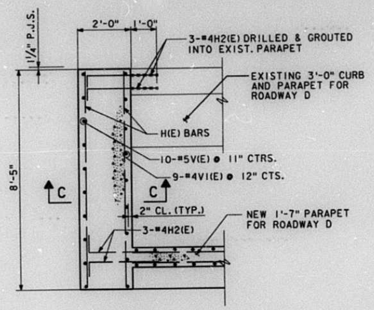


PART PLAN NEAR PIER D26

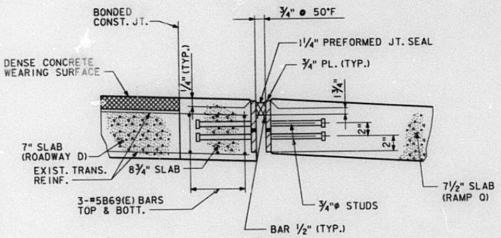


SECTION C-C

NOTE: CLEAN EXISTING REINFORCING AND INCORPORATE INTO NEW WORK.



PLAN
RETURN WALL NEAR PIER D26



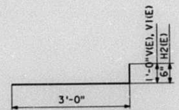
SECTION A-A

NOTE: FOR BILL OF MATERIAL AND DETAILS NOT SHOWN SEE RAMP O PLANS. FOR PREFORMED JOINT SEAL DETAIL, SEE RAMP O DETAILS.

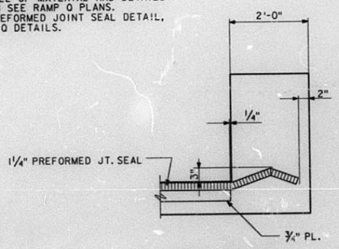
BILL OF MATERIAL

RETURN WALL				
BAR	NO.	SIZE	LENGTH	SHAPE
V(E)	10	#5	4'-0"	
V1(E)	9	#4	4'-0"	
H(E)	8	#4	8'-1"	
H2(E)	12	#4	3'-6"	
CLASS X CONCRETE SUPERSTRUCTURE		CU. YDS.	2.0	
REINFORCEMENT BARS (EPOXY COATED)		LBS.	140	

BARS MARKED (E) INDICATES EPOXY COATED



BARS V(E), V1(E) & H2(E)



SECTION B-B

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
D. RIEHL	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

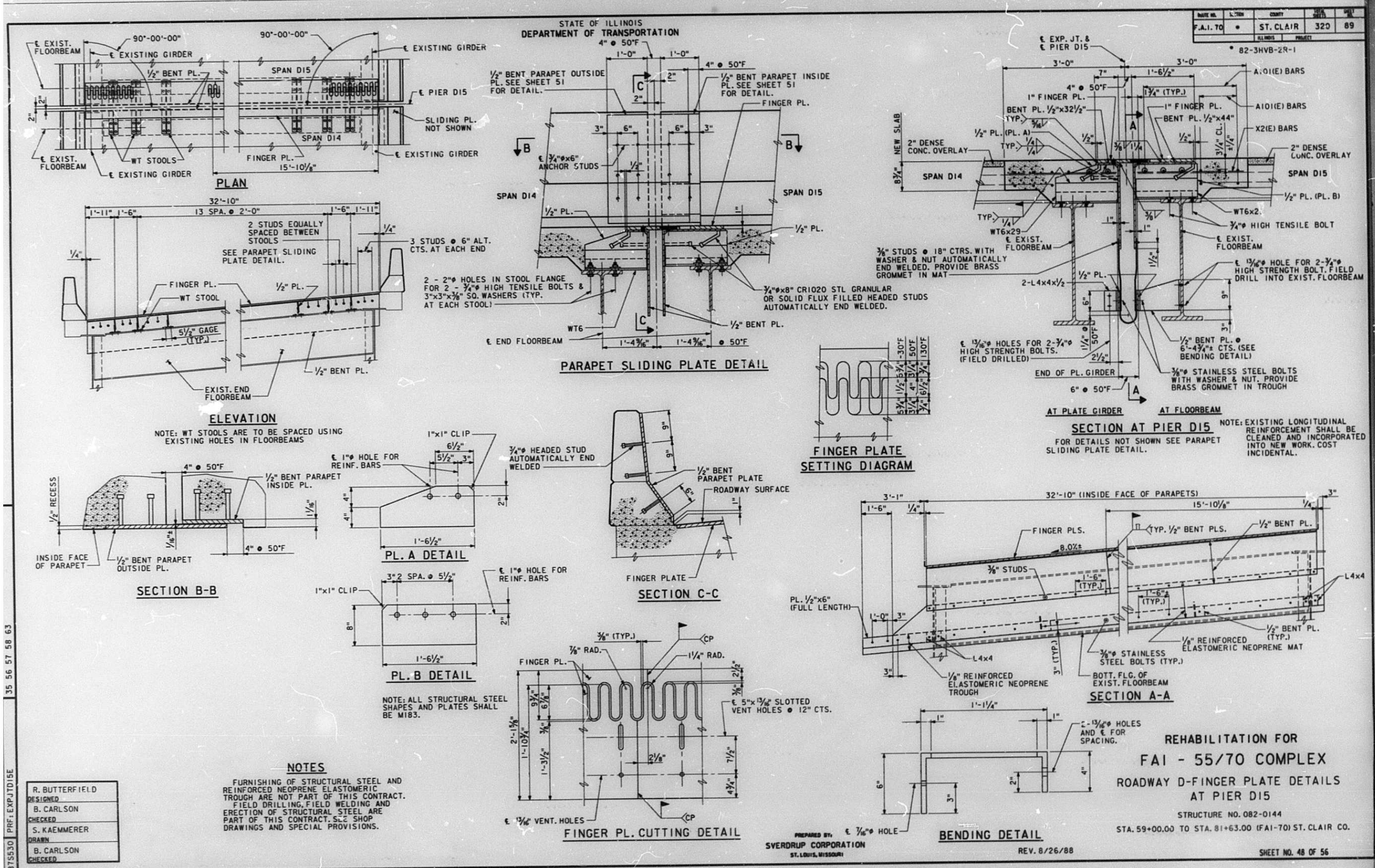
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D - DECK REHABILITATION
RETURN WALL NEAR PIER D26

STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 47 OF 56

875634 PRF: DETIITE

35 56 57 58 63



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70
ST. CLAIR
320
89
82-3HVB-2R-1
PLAN
ELEVATION
NOTE: WT STOOLS ARE TO BE SPACED USING EXISTING HOLES IN FLOORBEAMS
PARAPET SLIDING PLATE DETAIL
SECTION B-B
PL. A DETAIL
PL. B DETAIL
SECTION C-C
FINGER PLATE SETTING DIAGRAM
SECTION AT PIER D15
FOR DETAILS NOT SHOWN SEE PARAPET SLIDING PLATE DETAIL.
NOTE: EXISTING LONGITUDINAL REINFORCEMENT SHALL BE CLEANED AND INCORPORATED INTO NEW WORK. COST INCIDENTAL.
SECTION A-A
NOTE: ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE M183.
FINGER PL. CUTTING DETAIL
BENDING DETAIL
NOTES
FURNISHING OF STRUCTURAL STEEL AND REINFORCED NEOPRENE ELASTOMERIC TROUGH ARE NOT PART OF THIS CONTRACT. FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.
R. BUTTERFIELD
DESIGNED
B. CARLSON
CHECKED
S. KAEMMERER
DRAWN
B. CARLSON
CHECKED
PREPARED BY: SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
REV. 8/26/88
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D-FINGER PLATE DETAILS
AT PIER D15
STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.
SHEET NO. 48 OF 56
87S530
PRF.EXPJTD15E
35 56 57 58 63

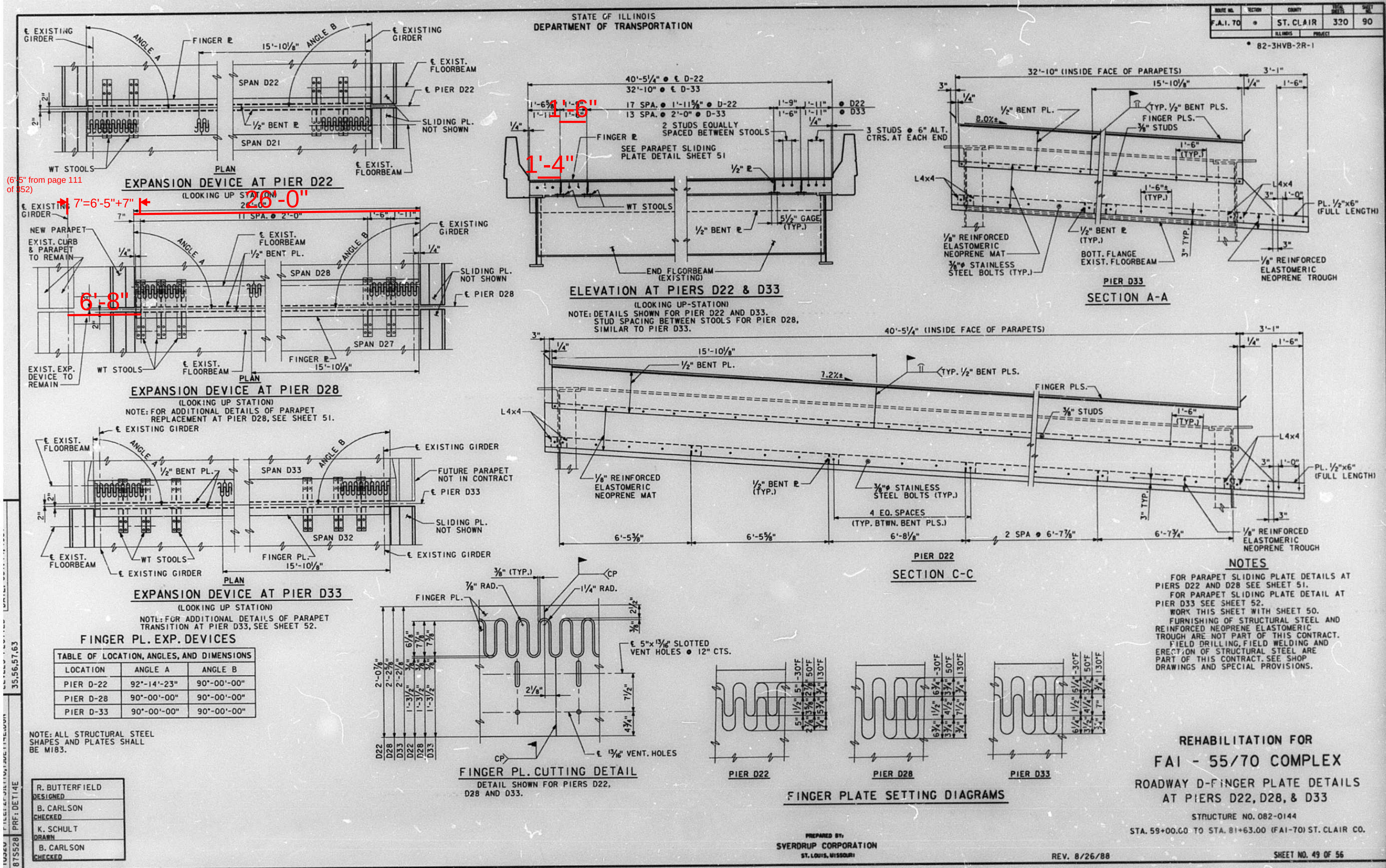


TABLE OF LOCATION, ANGLES, AND DIMENSIONS

LOCATION	ANGLE A	ANGLE B
PIER D-22	92°-14'-23"	90°-00'-00"
PIER D-28	90°-00'-00"	90°-00'-00"
PIER D-33	90°-00'-00"	90°-00'-00"

NOTE: ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE M183.

NOTES

FOR PARAPET SLIDING PLATE DETAILS AT PIERS D22 AND D28 SEE SHEET 51.
FOR PARAPET SLIDING PLATE DETAIL AT PIER D33 SEE SHEET 52.
WORK THIS SHEET WITH SHEET 50.
FURNISHING OF STRUCTURAL STEEL AND REINFORCED NEOPRENE ELASTOMERIC TROUGH ARE NOT PART OF THIS CONTRACT.
FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

R. BUTTERFIELD — DESIGNED
B. CARLSON — CHECKED
K. SCHULT — DRAWN
B. CARLSON — CHECKED

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D-FINGER PLATE DETAILS AT PIERS D22, D28, & D33
STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

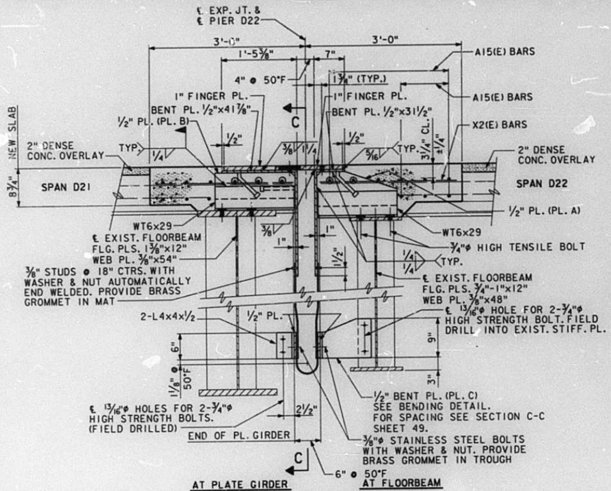
REV. 8/26/88

SHEET NO. 49 OF 56

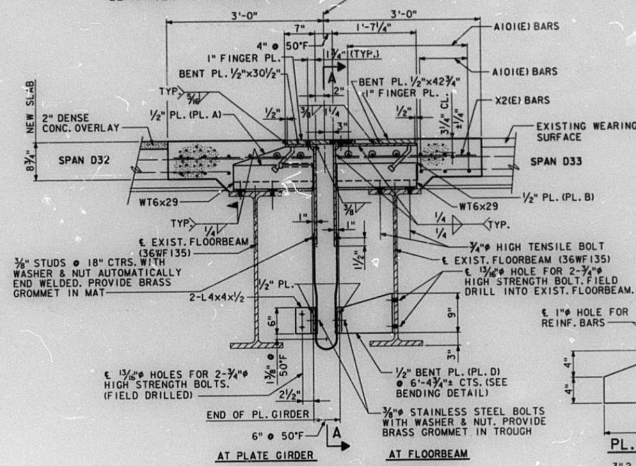
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	91
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

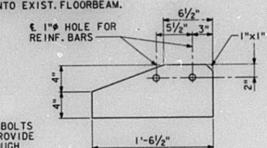
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



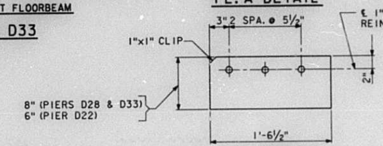
SECTION AT PIER D22



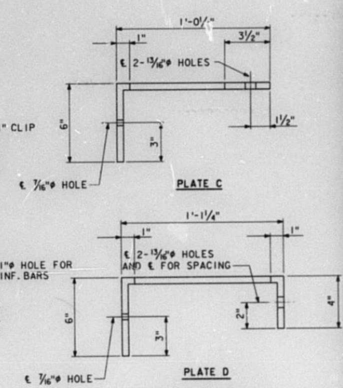
SECTION AT PIER D33



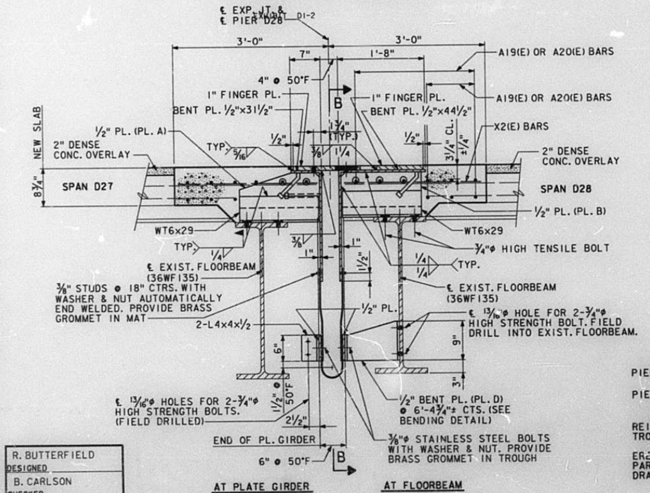
PL. A DETAIL



PL. B DETAIL



BENDING DETAIL



SECTION AT PIER D28

NOTES

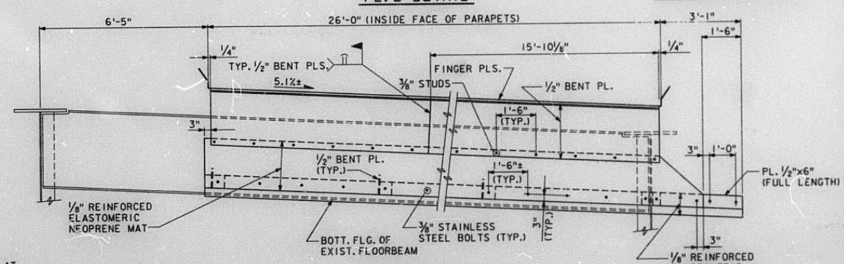
FOR PARAPET SLIDING PLATE DETAIL AT PIERS D22 AND D28, SEE SHEET 51.

FOR PARAPET SLIDING PLATE DETAIL AT PIER D33, SEE SHEET 52.

FOR SECTIONS A-A AND C-C, SEE SHEET 49.

FURNISHING OF STRUCTURAL STEEL AND REINFORCED NEOPRENE ELASTOMERIC TROUGH ARE NOT PART OF THIS CONTRACT.

FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.



SECTION B-B

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY D-FINGER PLATE DETAILS
AT PIERS D22, D28 & D33

STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 8/3/87

SHEET NO. 50 OF 56

R. BUTTERFIELD	DESIGNED
B. CARLSON	CHECKED
S. KAEMMERER	DRAWN
B. CARLSON	CHECKED

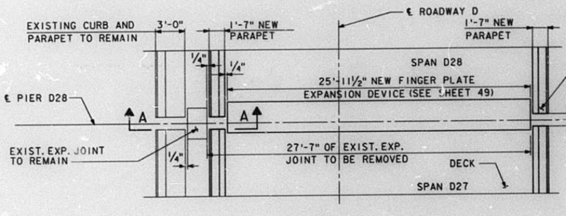
35 56 57 58 63

8TS529 PRF: DET14AE

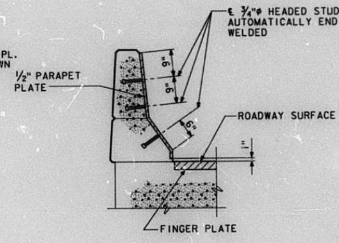
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	92
		ILLINOIS	PROJECT	

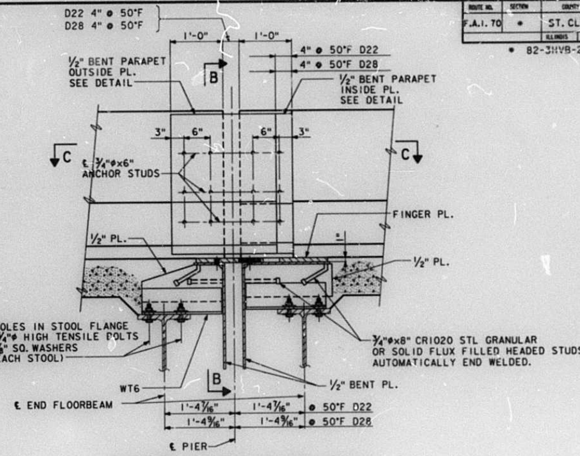
* 82-3HVB-2R-1



PLAN
EXPANSION JOINT MODIFICATION FOR PIER D28

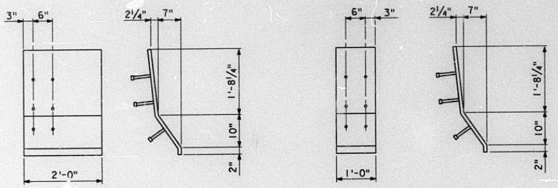


SECTION B-B



PARAPET SLIDING PLATE DETAIL
AT PIERS D22 AND D28

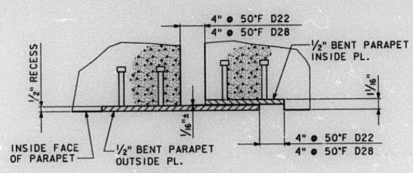
NOTE: FOR DETAILS NOT SHOWN SEE SHEET 50.



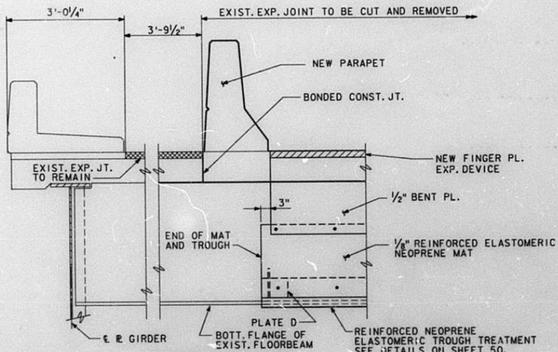
OUTSIDE PLATE

INSIDE PLATE

PARAPET PLATE DETAILS
(FOR PIERS D15, D22 AND D28)



SECTION C-C



SECTION A-A

NOTES

ALL PARAPET PLATES SHALL BE SHOP PAINTED WITH THE ZINC-SILICATE AND VINYL PAINT SYSTEM.

FOR FINGER PLATE DETAILS AT PIERS D22, D28 AND D33 SEE SHEETS 49 AND 50.

FURNISHING OF STRUCTURAL STEEL AND REINFORCED NEOPRENE ELASTOMERIC TROUGH ARE NOT PART OF THIS CONTRACT.

FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

R. BUTTERFIELD	DESIGNED
B. CARLSON	CHECKED
S. KAEMMERER	DRAWN
B. CARLSON	CHECKED

87S527 PRF.DET13E 35 56 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

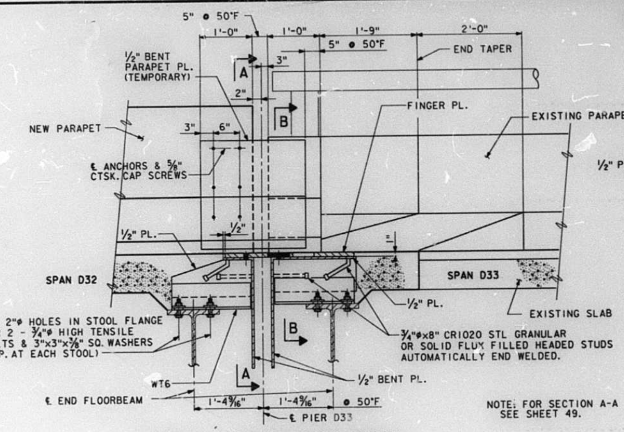
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D - DECK REHABILITATION
EXPANSION JOINT DETAILS
STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 51 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

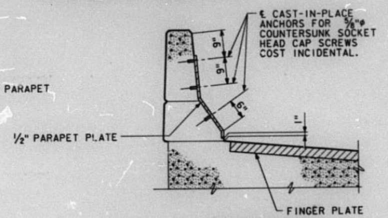
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	93

• 82-3HVB-2R-1

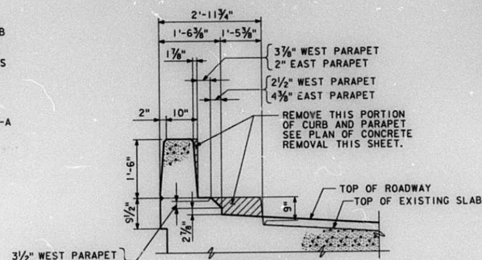


PARAPET SLIDING PLATE DETAIL

NOTE: FOR SECTION A-A SEE SHEET 49.



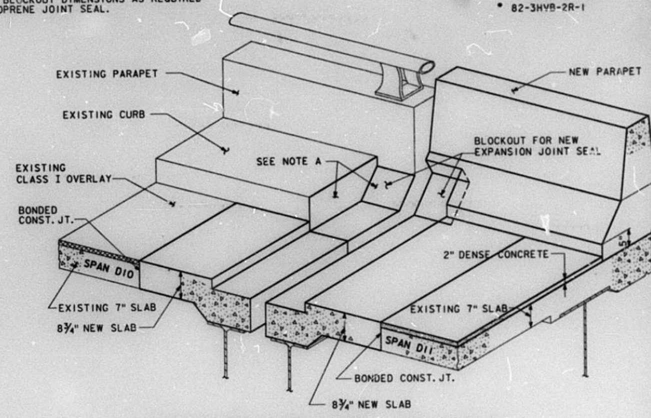
SECTION A-A



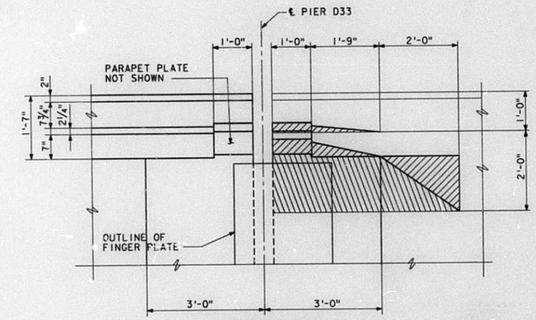
SECTION B-B

NOTE: EXISTING RAILING NOT SHOWN.

NOTE A: BLOCKOUT DIMENSIONS AS REQUIRED FOR NEOPRENE JOINT SEAL.

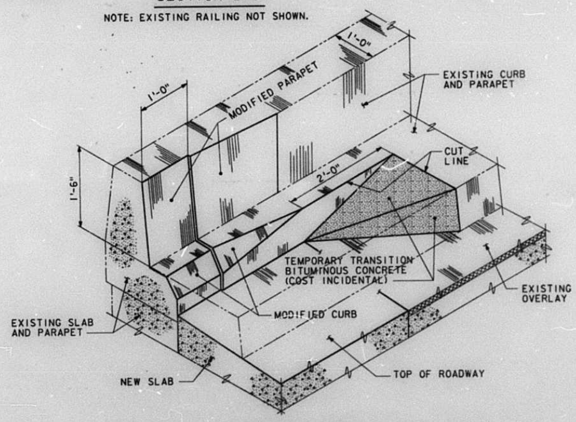


TRIMETRIC-DECK AND PARAPET MODIFICATIONS AT PIER D11



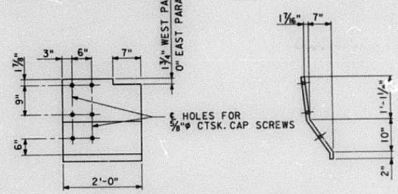
PLAN DETAIL

NOTE: ANY EXISTING REINFORCEMENT BARS THAT PROTRUDE OUT OF THE REMAINING CONCRETE AFTER REMOVAL, SHALL BE CUT OFF 1" INSIDE CONCRETE SURFACE AND PATCHED.
CONCRETE REMOVAL IS INCLUDED IN BILL OF MATERIAL ON SHEET 43.



TRIMETRIC-PARAPET TRANSITION AT PIER D33

NOTE: FINGER DEVICE AND PARAPET SLIDING PLATES NOT SHOWN.



PARAPET PLATE DETAIL

NOTES

FOR FINGER PLATE DETAIL AT PIER D33 SEE SHEETS 49 AND 50.
FURNISHING OF STRUCTURAL STEEL AND REINFORCED NEOPRENE ELASTOMERIC TROUGH ARE NOT PART OF THIS CONTRACT.
FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY D - EXPANSION JOINT DETAILS AND PARAPET TRANSITION

STRUCTURE NO. 082-0144

STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

R. BUTTERFIELD	DESIGNED
B. CARLSON	CHECKED
S. KAEMMERER	DRAWN
B. CARLSON	CHECKED

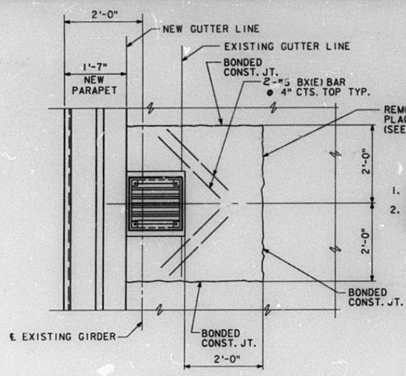
87S526 PRF: DET74E

35, 56, 57, 58, 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	94

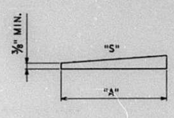
•82-3HVB-2R-1



PLAN

NOTE A

1. BILL OF MATERIAL FOR BX(E) BARS IS ON THE PARAPET DETAIL SHEET PER EACH ROADWAY SECTION.
2. EXISTING TRANSVERSE REINFORCEMENT BARS SHALL BE BENT TO MISS SCUPPER. LONGITUDINAL REINFORCEMENT BARS MAY BE CUT TO ACCOMODATE SCUPPER AS REQUIRED.



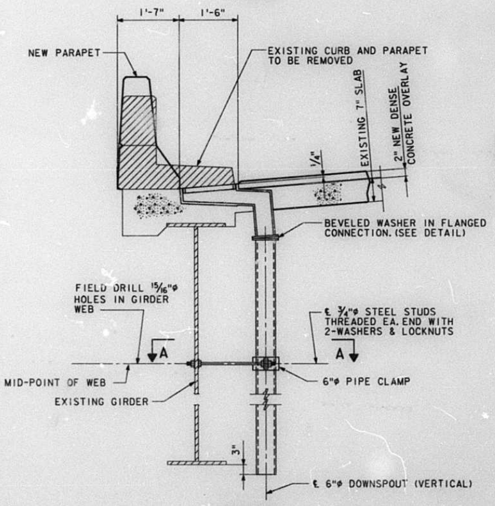
BEVELED WASHER DETAIL

1. "S" EQUALS THE SLOPE OF THE SUPERELEVATION AT THE INDIVIDUAL SCUPPER LOCATION.
2. THE BEVEL SHALL BE SUFFICIENT TO ALLOW VERTICAL INSTALLATION OF DOWN-SPOUT.
3. DIMENSION "A" SHALL BE AS REQUIRED FOR THE PARTICULAR SCUPPER TYPE.

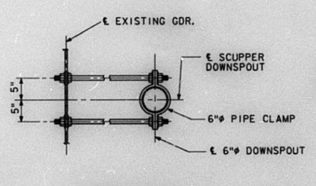
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
DRAINAGE SCUPPERS	EACH	33
FLOOR DRAINS	EACH	2

NOTE: FOR SPACING OF DRAINAGE SCUPPERS AND FLOOR DRAINS, SEE SHEETS 38 THRU 43.

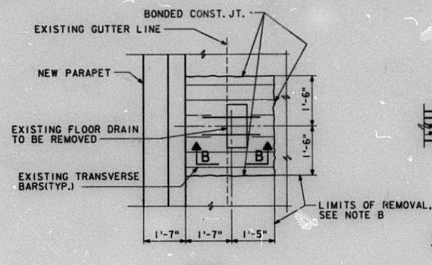


SECTION

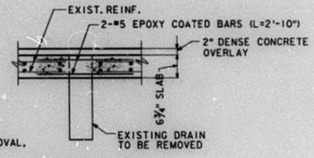


SECTION A-A

DRAINAGE SCUPPER



PLAN



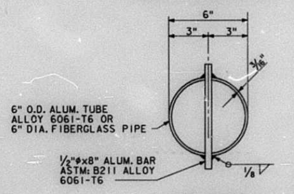
SECTION B-B

NOTE B

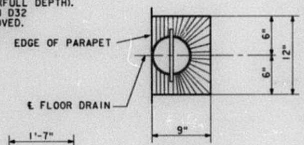
1. REMOVE THE EXISTING DRAIN TO LIMITS SHOWN WITHOUT DAMAGE TO EXISTING REINFORCEMENT BARS.
2. CLEAN EXISTING REINFORCEMENT BARS AND TIE NEW #5 BARS TO SPAN DRAIN HOLE.
3. REPLACE REMOVED CONCRETE WITH CLASS X CONCRETE TO THE LEVEL OF EXISTING CONCRETE.
4. NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
5. COST OF NEW CLASS X CONCRETE AND #5 BARS TO BE INCIDENTAL TO DECK SLAB REPAIR (FULL DEPTH).
6. IT IS ESTIMATED THAT IN SPANS D11 THRU D32 THERE ARE 248 FLOOR DRAINS TO BE REMOVED.

FLOOR DRAIN REMOVAL

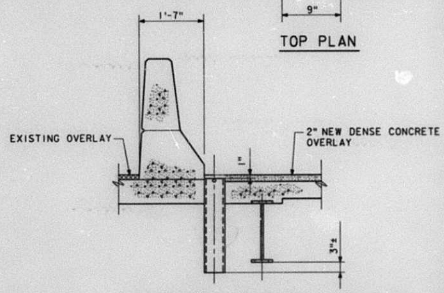
FIBERGLASS PIPE



TOP PLAN
ALUMINUM TUBE SHOWN



TOP PLAN



SECTION AT PARAPET - SPAN A20

NOTE: THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.

FLOOR DRAINS

SEE NOTE C

NOTE C

FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.

THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE ZINC - SILICATE AND VINYL PAINT SYSTEM SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING.

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
J. CORLEY	DRAWN
R. SANDOVAL	CHECKED

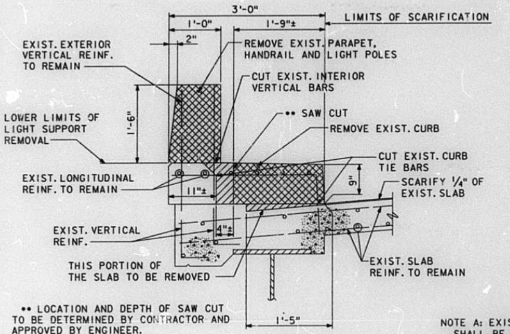
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY D - DECK REHABILITATION
SCUPPER DETAILS
STRUCTURE NO. 082-0144
STA. 59+00.00 TO STA. 81+63.00 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

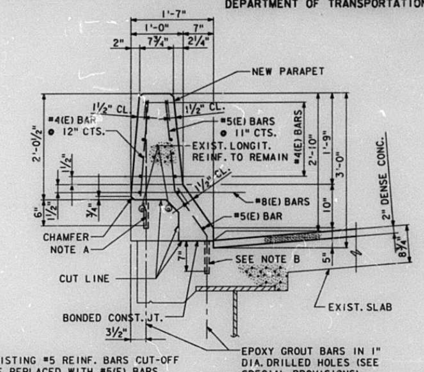
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	95

• 82-3HVB-2R-1



•• LOCATION AND DEPTH OF SAW CUT TO BE DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER.

REMOVAL



NOTE A: EXISTING #5 REINF. BARS CUT-OFF SHALL BE REPLACED WITH #5(E) BARS GROUTED IN PLACE.

MODIFICATION

PARAPET RECONSTRUCTION - ALTERNATE 2

NOTE: EXPANSION ANCHORS FOR SIGN SUPPORT IN NEW PARAPET NOT SHOWN, SEE SIGN SUPPORT DETAILS.
REINFORCING SHOWN IS TYPICAL EXCEPT FOR SLAB AND PARAPET SECTION 3'-0"± EACH SIDE OF EXPANSION JOINT. SEE PARAPET SECTION AT EXPANSION JOINT.

SPANS A1 THRU A24	PARAPET RECONSTRUCTION ALTERNATE 2			PARAPET RECONSTRUCTION ALTERNATE 3		
	PARAPET REMOVAL	CU. YDS.	483.0	PARAPET REMOVAL	CU. YDS.	304.4
	REINFORCING BARS (EPOXY COATED)	LBS.	82,121	REINFORCING BARS (EPOXY COATED)	LBS.	48,489
	CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	356.1	CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	203.0
				EXPANSION BOLTS 1/2"φx12"	EACH	4768

SPANS G1 THRU G13	PARAPET RECONSTRUCTION ALTERNATE 2			PARAPET RECONSTRUCTION ALTERNATE 3		
	PARAPET REMOVAL	CU. YDS.	259.7	PARAPET REMOVAL	CU. YDS.	163.5
	REINFORCING BARS (EPOXY COATED)	LBS.	43,510	REINFORCING BARS (EPOXY COATED)	LBS.	25,200
	CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	191.4	CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	109.0
				EXPANSION BOLTS 1/2"φx12"	EACH	2617

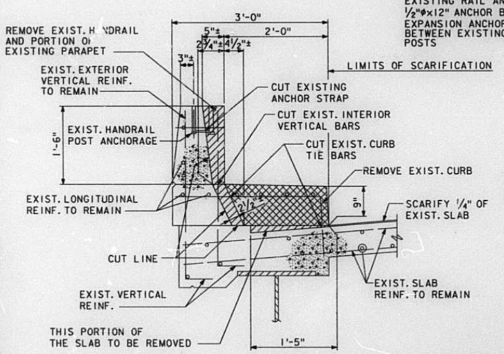
SPANS D11 THRU D32	PARAPET RECONSTRUCTION ALTERNATE 2			PARAPET RECONSTRUCTION ALTERNATE 3		
	PARAPET REMOVAL	CU. YDS.	467.1	PARAPET REMOVAL	CU. YDS.	294.4
	REINFORCING BARS (EPOXY COATED)	LBS.	78,540	REINFORCING BARS (EPOXY COATED)	LBS.	45,590
	CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	344.3	CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	196.4
				EXPANSION BOLTS 1/2"φx12"	EACH	4608

SPANS H1 THRU H4	PARAPET RECONSTRUCTION ALTERNATE 2			PARAPET RECONSTRUCTION ALTERNATE 3		
	PARAPET REMOVAL	CU. YDS.	80.9	PARAPET REMOVAL	CU. YDS.	51.1
	REINFORCING BARS (EPOXY COATED)	LBS.	11,700	REINFORCING BARS (EPOXY COATED)	LBS.	6,830
	CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	59.6	CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	34.1
				EXPANSION BOLTS 1/2"φx12"	EACH	786

NOTE: QUANTITIES SHOWN ARE FOR CONTRACTOR'S INFORMATION ONLY. PARAPET RECONSTRUCTION SHALL BE PAID FOR ON A LIN. FT. BASIS. SEE TOTAL BILL OF MATERIAL.

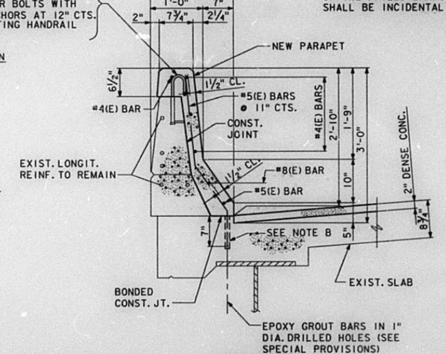
NOTE B

WHICHEVER ALTERNATIVE IS SELECTED, THE CONTRACTOR SHALL TEST 10% OF THE #5(E) BARS IN THE FRONT FACE OF THE NEW PARAPET, AS DIRECTED BY THE ENGINEER TO MEET A MIN. CERTIFIED PULL OUT LOAD OF 13.3 KIPS. FOR EVERY BAR THAT FAILS TO MEET THE PULL OUT LOAD OF 13.3 KIPS, THE CONTRACTOR SHALL TEST TWO ADDITIONAL BARS AND REGROUT AN ADDITIONAL #5(E) BAR EITHER SIDE OF THE FAILED BAR. COST OF TESTING AND ADDITIONAL BARS SHALL BE INCIDENTAL TO "REINF. BARS (EPOXY COATED)".



REMOVAL

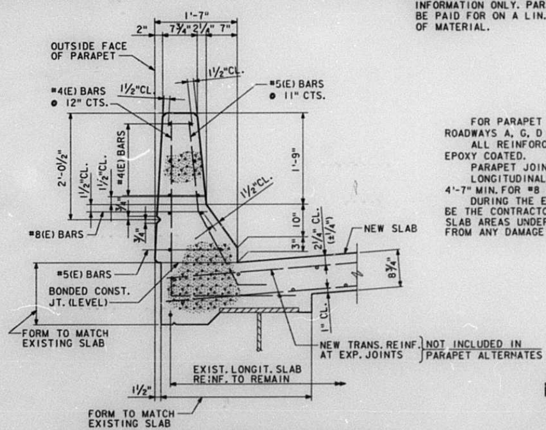
2-1/2"φx12" ANCHOR BOLTS AT EXISTING RAIL ANCORS AND 1/2"φx12" ANCHOR BOLTS WITH EXPANSION ANCHORS AT 12" CTS. BETWEEN EXISTING HANDRAIL POSTS



MODIFICATION

PARAPET RECONSTRUCTION - ALTERNATE 3

NOTE: EXPANSION ANCHORS FOR SIGN SUPPORT IN NEW PARAPET NOT SHOWN, SEE SIGN SUPPORT DETAILS.
REINFORCING SHOWN IS TYPICAL EXCEPT FOR SLAB AND PARAPET SECTION 3'-0"± EACH SIDE OF EXPANSION JOINT. SEE PARAPET SECTION AT EXPANSION JOINT.
LIGHT POLES SHALL BE REMOVED. LIGHT POLE SUPPORTS TO REMAIN IN PLACE AS NOTED.



SECTION THRU PARAPET AT EXP. JOINT

NOTES

FOR PARAPET RECONSTRUCTION - ALTERNATE 1 FOR ROADWAYS A, G, D AND H, SEE PARAPET DETAILS.
ALL REINFORCING BARS AND EXPANSION BOLTS SHALL BE EPOXY COATED.
PARAPET JOINT DETAILS SAME AS SHOWN FOR ALTERNATE 1.
LONGITUDINAL PARAPET REINFORCEMENT SHALL LAP 4'-7" MIN. FOR #8 BARS AND 2'-2" MIN. FOR #5 BARS.
DURING THE ENTIRE DEMOLITION OPERATION IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT SLAB AREAS UNDERNEATH THE PARAPET BEING REPLACED FROM ANY DAMAGE TO THE CONCRETE OR REBARS.

LEGEND:

- LIMITS OF REMOVAL BY LARGE HAMMER (90 LB.)
- LIMITS OF REMOVAL BY SMALL HAMMER (45 LB.) OR WATER JET.

G.J. DEE	DESIGNED
C. LIZANA	CHECKED
S. KAEMMERER	DRAWN
P. HANSON	CHECKED

FILE: ZF3:[110.1]PARALT2.DGN PRF: PARALT2
LEVELS PLOTTED 35 56 57 58 63
DATE: OCT. 14, 1987
10320 87S766

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAYS A, G, D AND H
PARAPET RECONSTRUCTION
ALTERNATES 2 AND 3
STRUCTURE NO. 082-0141 (RDWY. A)
STRUCTURE NO. 082-0254 (RDWY. G)
STRUCTURE NO. 082-0144 (RDWY. D)
STRUCTURE NO. 082-0256 (RDWY. H)
(FAI-70) ST. CLAIR CO.

SHEET NO. 54 OF 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	96

✱ 82-3HVB-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
2"	2"	1½" Min.	Piers A5, A11, A12, Abut. G14, D11, D12 & D18
2½"	2½"	1¾" Min.	Piers A21, G1, G9 & D21
4"	3"	2½" Min.	Piers A1, A8, A15, A18, D26 & G12

INSTALLATION NOTES

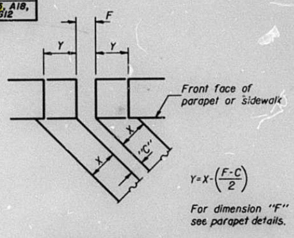
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

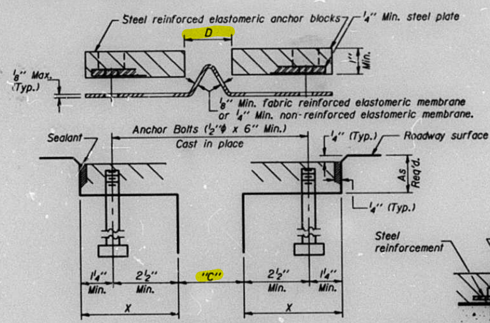
SKEW LIMITATIONS

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

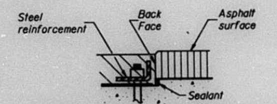
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also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



FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK 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.

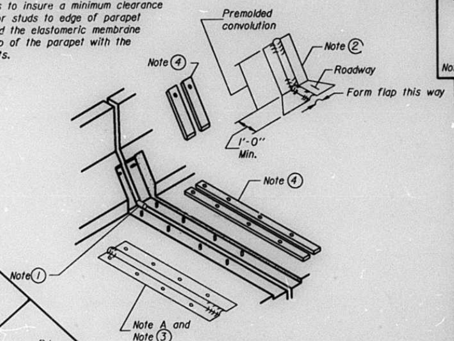
The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

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.

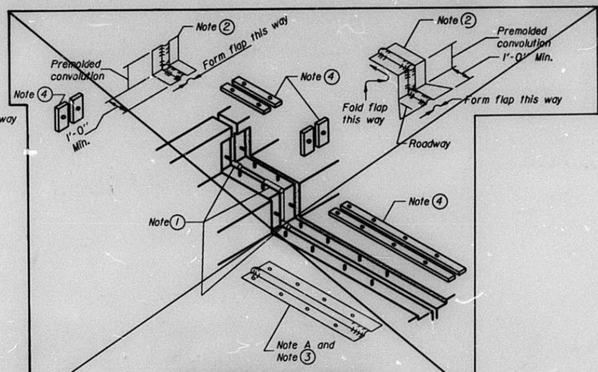
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

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.

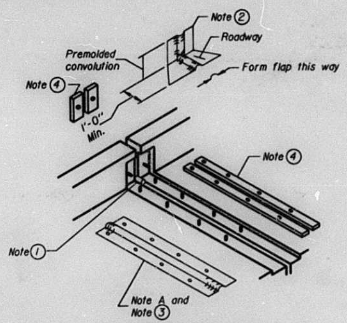
Anchor bolts, washers and nuts, to be plated against corrosion in accordance with the special provisions, shall be zinc-coated by the mechanical plating method conforming to ASTM B695, class 50. Zinc-coated nuts shall be tapped oversize in accordance with the requirements of AASHTO M291 and shall meet the supplementary requirements S1.1 thru S1.2.1 of the same specifications for lubricant and testing.



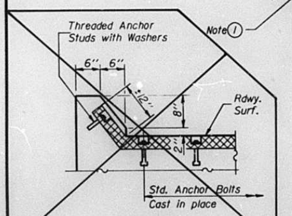
AT PARAPET



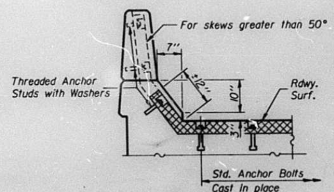
AT SIDEWALK OR MEDIAN



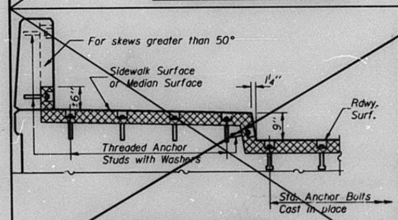
AT VERTICAL PARAPET WALL
East Parapet - Abut. G14



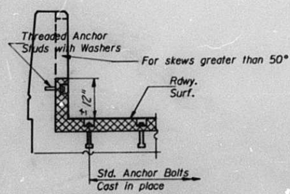
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN
TYPICAL END TREATMENTS



AT VERTICAL PARAPET WALL
East Parapet - Abut. G14

DESIGNED	
CHECKED	
DRAWN	
CHECKED	R. Sandoval

EJ-CS 12-1-83

7/20/87

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
CONTINUOUS SEAL TYPE
NEOPRENE EXPANSION JOINTS
FOR 2", 2½" AND 4" MOVEMENT

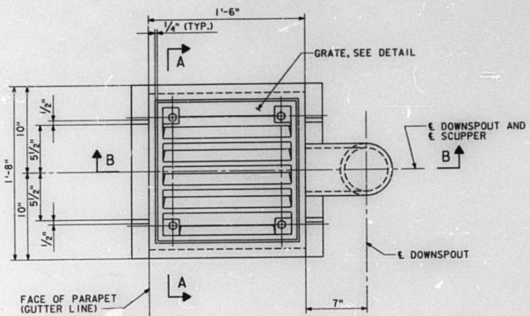
STRUCTURE NO. 082-0141 (RDWY. A)
STRUCTURE NO. 082-0144 (RDWY. D)
STRUCTURE NO. 082-0254 (RDWY. G)

(FAI -70) ST. CLAIR CO.
SHEET NO. 55 OF 56

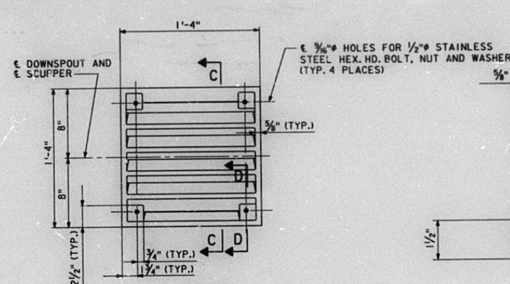
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	97

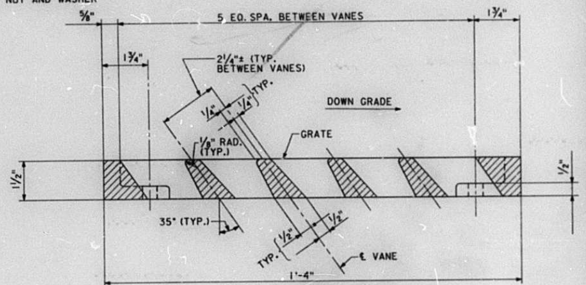
• 82-3HVB-2R-1



PLAN



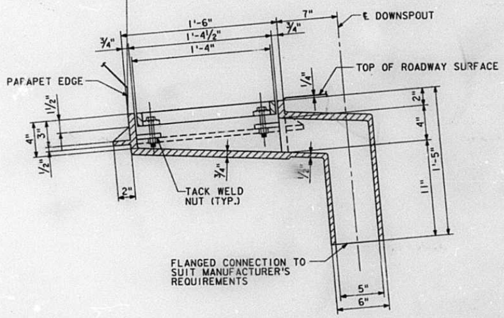
PLAN



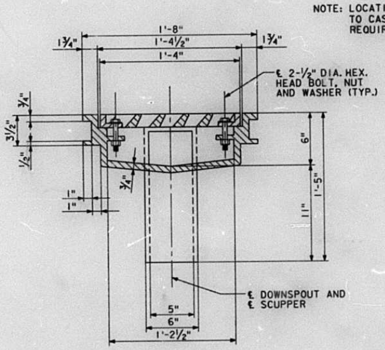
SECTION C-C

GRATE

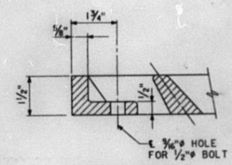
NOTE: LOCATION OF HOLES FOR FASTENING GRATE TO CASTING TO SUIT MANUFACTURER'S REQUIREMENTS.



SECTION B-B



SECTION A-A



SECTION D-D

NOTES

ALL CAST IRON PARTS SHALL BE GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 30.

BOLTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307.

ALL BOLTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.

AS AN ALTERNATE BOLTS AND WASHERS MAY BE STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-193 TYPE 304.

COST OF THE GRATE, FRAME, DOWNSPOUT, BOLTS AND WASHERS INCLUDING COMPLETE INSTALLATION OF SCUPPER SHALL BE PAID FOR AT THE UNIT BID PRICE FOR "DRAINAGE SCUPPERS".

A MATERIAL SUCH AS GREASE SHOULD BE USED AS A TREATMENT FOR THE BOLTS ANCHORING THE GRATE TO THE FRAME.

DRAINAGE SCUPPER

NOTE: FOR CONNECTION OF SCUPPER TO DOWNSPOUT AND DOWNSPOUT TO GIRDER, SEE SCUPPER DETAILS FOR EACH ROADWAY SET OF PLANS.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY RDWY. A	RDWY. G	RDWY. D
DRAINAGE SCUPPERS	EACH	39	12	33

G.J. DEE	DESIGNED
C. LIZANA	CHECKED
R. ROTH	DRAWN
R. BUTTERFIELD	CHECKED

87S729 PRF: CISCUP
35,56,57,58

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
CAST IRON DRAINAGE SCUPPER

STRUCTURE NO. 082-0141 (RDWY. A)
STRUCTURE NO. 082-0144 (RDWY. D)
STRUCTURE NO. 082-0254 (RDWY. G)
(FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	98
ILLINOIS	PROJECT			

82-3HVB-2R-1

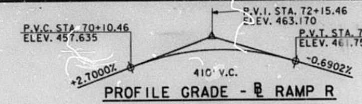
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCH MARK S-12

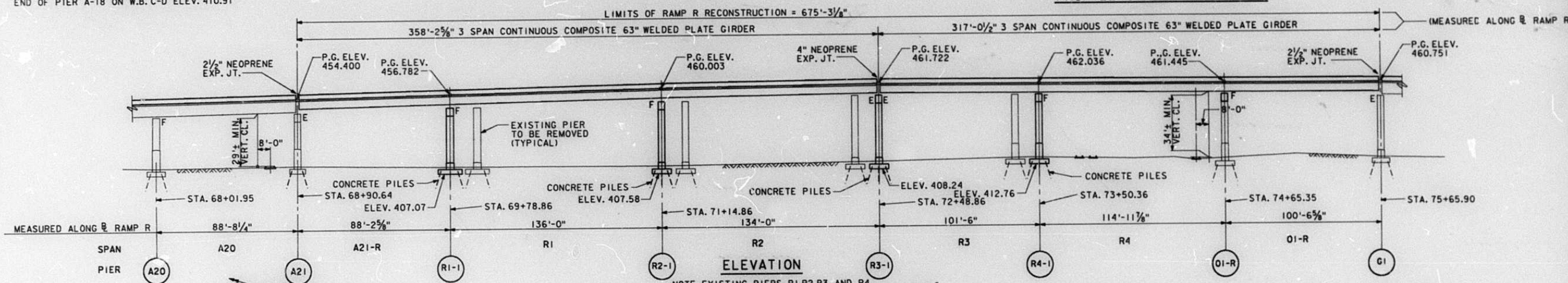
CHISELED "□" ON CONCRETE FOUNDATION AT PIER S-11 ABOUT 10' E. OF W.B. C-D. ELEV. 419.37

BENCH MARK A-18

CHISELED "□" IN CONCRETE FOUNDATION AT N. END OF PIER A-18 ON W.B. C-D ELEV. 410.91

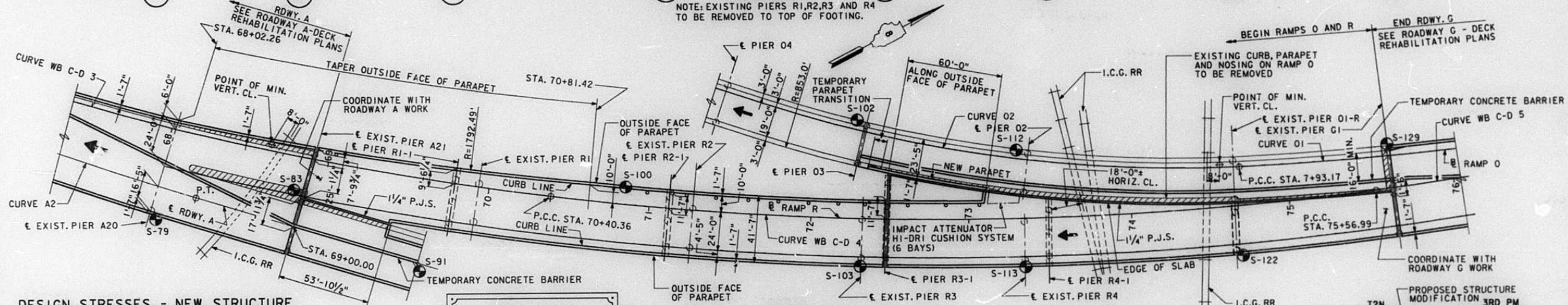


PROFILE GRADE - ℄ RAMP R



ELEVATION

NOTE: EXISTING PIERS R1,R2,R3 AND R4 TO BE REMOVED TO TOP OF FOOTING.



PLAN

NOTE: EXISTING RAMP R TO BE REMOVED AND RECONSTRUCTED AS SHOWN FROM PIER A21-R TO PIER G1.

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

NOTES

PILE DATA FOR CAPACITY AND LENGTH ARE ESTIMATED FROM THE ORIGINAL CONSTRUCTION PLANS.
FOR PAY ITEM "TEMPORARY CONCRETE BARRIER", SEE ROADWAY PLANS.

DESIGN STRESSES - NEW STRUCTURE

DESIGN SPECIFICATIONS: AASHTO 1983 *AND* APPLICABLE 1984 *thru* 1987 INTERIMS. AASHTO 1980 GUIDE TO HORIZONTAL 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=50,000 psi M223 (GR.50)
fy=36,000 psi M183

FUTURE WEARING SURFACE = 25 psf

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. 082-0253

NAME PLATE

(SEE ILL. STD. 2113)

NOTE: LOCATION OF NEW NAME PLATE SHALL BE LOCATED ADJACENT TO EXISTING NAME PLATE ON WINGWALL OF ABUT. O11.

CURVE DATA WB C-D 3

P.I. STA. = 64+79.39
Δ = 37° - 18' - 32" LT.
D = 3° - 12' - 10"
R = 1789.00'
T = 603.96'
L = 1164.93'
E = 99.20'
P.C. STA. = 58+75.43
P.C.C. STA. = 70+40.36

CURVE DATA WB C-D 4

P.I. STA. = 72+99.95
Δ = 13° - 53' - 57" LT.
D = 2° - 41' - 25"
R = 2129.67'
T = 259.59'
L = 516.63'
E = 15.76'
P.C.C. STA. = 70+40.36
P.C.C. STA. = 75+56.99

CURVE DATA WB C-D 5

P.I. STA. = 76+67.48
Δ = 7° - 07' - 12" LT.
D = 3° - 13' - 34"
R = 1776.00'
T = 110.49'
L = 220.70'
E = 3.43'
P.C.C. STA. = 75+56.99
P.C.C. STA. = 77+77.69

CURVE DATA - O2

P.I. STA. = 9+45.17
Δ = 20° - 43' - 52" RT.
D = 6° - 53' - 41"
R = 831.00'
T = 152.00'
L = 300.68'
E = 13.79'
P.C.C. STA. = 7+93.17
P.T. STA. = 10+93.85

CURVE DATA - O1

P.I. STA. = 4+42.29
Δ = 20°-38'-35" RT.
D = 2°-54'-34"
R = 1969.33'
T = 358.65'
L = 709.52'
E = 32.39'
P.C. STA. = 0+83.64
P.C.C. STA. = 7+93.16

S. YORDY	DESIGNED
T. DILLON	CHECKED
S. STEGMAN	DRAWN
R. NIEMIETZ	CHECKED

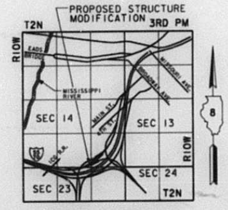
87S531 PRF; DET16E

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

James T. Fayburn
Engineer of Bridges and Structures

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

STATE OF ILLINOIS
CARLOS A. LIZANA-FARIAS
81-3956
CHICAGO
REGISTERED STRUCTURAL ENGINEER



LOCATION SKETCH

REHABILITATION FOR
FAI - 55/70 COMPLEX

RAMPS R AND O
GENERAL PLAN AND ELEVATION

STRUCTURE NO. 082-0253 (RAMP R)
STRUCTURE NO. 082-0201 (RAMP O)
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 42

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	99
		ILLINOIS	PROJECT	

• 82-3HVB-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:*

573,180 LBS. (M183) AND 250,600 LBS. (M223 GRADE 50) FABRICATED UNDER SEPARATE CONTRACT *(SEE SPECIAL PROVISIONS FOR FIELD PAINTING REQUIREMENTS).*

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 STRUCTURAL 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 ONE CONCRETE TEST PILE IN A PERMANENT LOCATION, AS SHOWN ON PLANS, ONE EACH AT PIERS R1-1, R2-1, R3-1 AND R4-1 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE 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 25.

FOR BEARING NOTES SEE SHEET 32.

FOR MAINTENANCE AND CONSTRUCTION SIGN SUPPORT DETAILS AND LOCATION SEE SHEET 292 OF 320.

SEE PROPOSAL FOR BORING DATA.

INDEX OF DRAWINGS

TOTAL BILL OF MATERIAL RAMPS R AND O

ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
STRUCTURE EXCAVATION	CU.YDS.	——	597	597
CLASS X CONCRETE SUPERSTRUCTURE	CU.YDS.	811.9	——	811.9
CLASS X CONCRETE	CU.YDS.	——	706.6	706.6
REINFORCEMENT BARS	LBS.	——	128,620	128,620
REINFORCEMENT BARS, EPOXY COATED	LBS.	234,590	——	234,590
FURNISHING CONCRETE PILES	LIN. FT.	——	5101	5101
DRIVING CONCRETE PILES	LIN. FT.	——	5101	5101
TEST PILE CONCRETE	EACH	——	4	4
NEOPRENE EXPANSION JOINT (2½")	LIN. FT.	61	——	61
NEOPRENE EXPANSION JOINT (4")	LIN. FT.	41	——	41
PREFORMED JOINT SEAL (1¼")	LIN. FT.	370	——	370
REMOVAL OF EXISTING STRUCTURE (NO. 2)	EACH	——	——	1
CONCRETE REMOVAL	CU. YDS.	75.4	9.2	84.6
FURNISHING AND ERECTING STRUCTURAL STEEL	*LBS.*	*15,920*	——	*15,920*
ERECTING STRUCTURAL STEEL	LUMP SUM	1	——	1
STUD SHEAR CONNECTORS	EACH	7983	——	7983
FLOOR DRAINS	EACH	12	——	12
* PROTECTIVE COAT	SQ. YDS.	460	——	460
NAME PLATE	EACH	1	——	1
INSTALLING ELASTOMERIC BEARING ASSEMBLIES (SPECIAL)	EACH	36	——	36
IMPACT ATTENUATOR HI-DRI CUSHION SYSTEM (6 BAYS)	EACH	1	——	1

* *Quantity does not include deck surface.*

DESIGNED	C. LIZANA
CHECKED	G.J. DEE
DRAWN	D. RIEHL
CHECKED	P. CLARK R. BECK

10320 FILE: 2P3LT10, T3DET17E.DGN LEVELS PLOTTED DATE: OCT. 14, 1987
875532 PRF: DET17E 35, 56, 59, 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMPS R AND O
GENERAL NOTES, ESTIMATED QUANTITIES
AND INDEX OF DRAWINGS

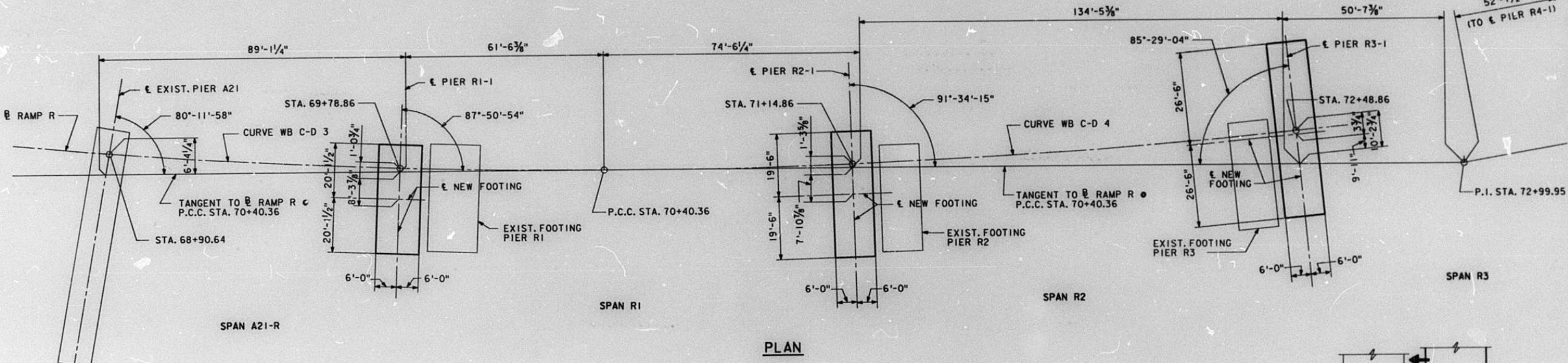
STRUCTURE NO. 082-0253 (RAMP R)
STRUCTURE NO. 082-0201 (RAMP O)
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 2 OF 42

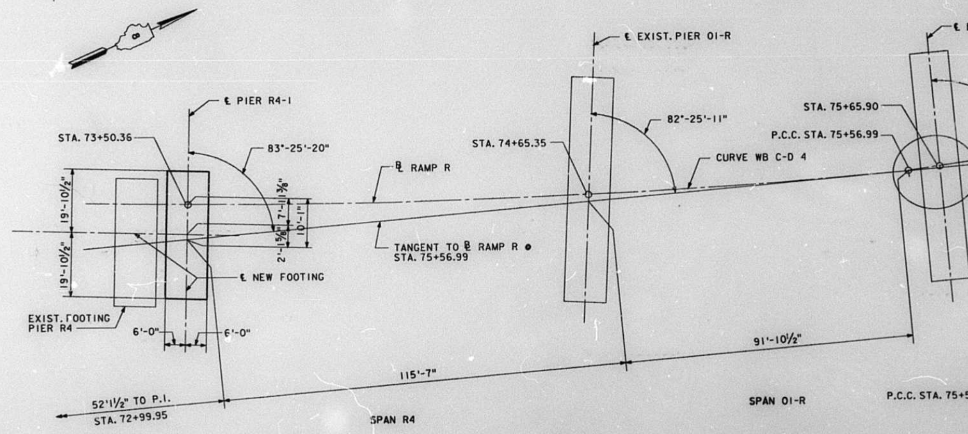
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	100
		ILLINOIS	PROJECT	

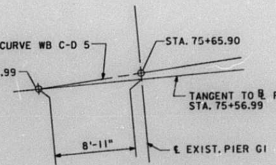
•82-3HVB-2R-1



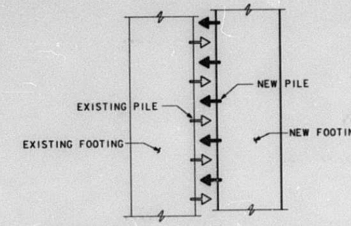
PLAN



PLAN



DETAIL A



SCHEMATIC PILE CLEARANCE DIAGRAM

NOTE: SPACING OF PILES SHOWN ON SHEETS 36 THRU 40 ARE COMPUTED TO CLEAR EXISTING PILES BASED ON ORIGINAL DESIGN PLAN DIMENSIONS. IT IS THE CONTRACTOR RESPONSIBILITY TO LOCATE THE EXISTING PILES PRIOR TO DRIVING THE NEW PILES. IF INTERFERENCE IS ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

NOTES

FOR CURVE DATA SEE SHEET 1.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
FOOTING LAYOUT
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 3 OF 42

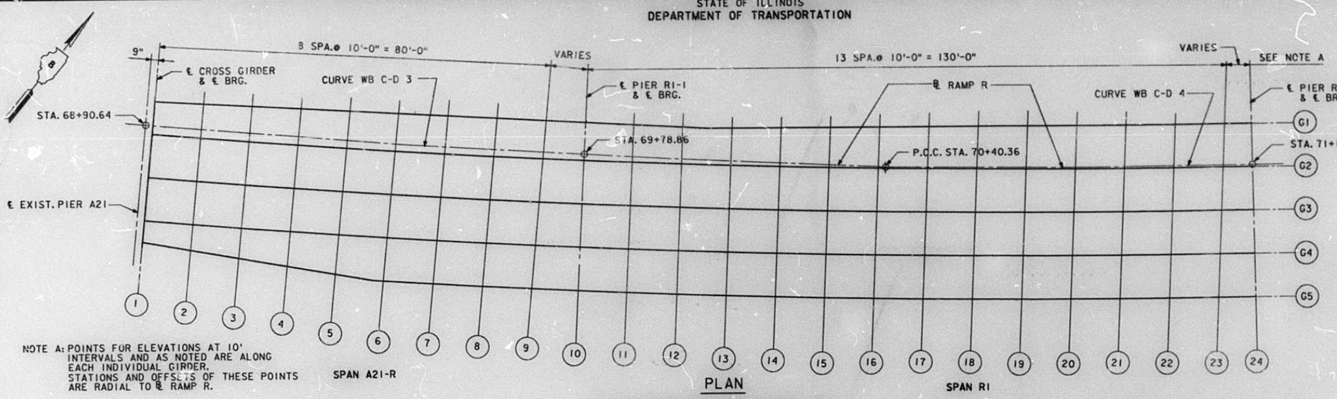
C. LIZANA	DESIGNED
C. PLIAKOS	CHECKED
D. FRIERDICH	DRAWN
C. PLIAKOS	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	101
		ILLINOIS	PROJECT	

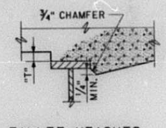
• 82-3HVB-2R-1



PLAN

NOTE A: POINTS FOR ELEVATIONS AT 10' INTERVALS AND AS NOTED ARE ALONG EACH INDIVIDUAL GIRDER. STATIONS AND OFFSETS OF THESE POINTS ARE RADIAL TO ℄ RAMP R.

NOTE: FOR TRANSVERSE GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLANS.



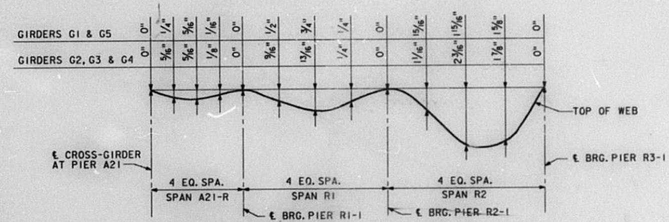
FILLET HEIGHTS

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE GIRDERS SHALL BE TAKEN AT THE INTERVALS SHOWN ON PLAN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "T" ABOVE TOP FLANGE OF GIRDERS.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
1	G 1	68 + 91.796	-4.567	454.073	454.073
1	G 2	68 + 91.278	1.306	454.519	454.519
1	G 3	68 + 90.499	10.213	455.194	455.194
1	G 4	68 + 89.728	19.120	455.866	455.866
1	G 5	68 + 89.348	23.543	456.198	456.198
2	G 1	69 + 01.803	-5.206	454.285	454.297
2	G 2	69 + 01.270	1.177	454.781	454.795
2	G 3	69 + 00.442	10.084	455.471	455.485
2	G 4	68 + 99.622	18.991	456.160	456.174
2	G 5	68 + 99.191	24.262	456.560	456.572
3	G 1	69 + 11.816	-5.789	454.509	454.530
3	G 2	69 + 11.263	1.058	455.041	455.065
3	G 3	69 + 10.385	9.964	455.730	455.754
3	G 4	69 + 09.516	18.871	456.419	456.443
3	G 5	69 + 09.025	25.035	456.876	456.897
4	G 1	69 + 21.836	-6.316	454.737	454.763
4	G 2	69 + 21.257	0.947	455.302	455.331
4	G 3	69 + 20.330	9.853	455.990	456.018
4	G 4	69 + 19.412	18.759	456.677	456.706
4	G 5	69 + 18.851	25.864	457.203	457.228
5	G 1	69 + 31.862	-6.787	454.970	454.995
5	G 2	69 + 31.252	0.845	455.564	455.592
5	G 3	69 + 30.275	9.751	456.250	456.278
5	G 4	69 + 29.308	18.656	456.936	456.964
5	G 5	69 + 28.668	26.747	457.547	457.572
6	G 1	69 + 41.893	-7.203	455.208	455.228
6	G 2	69 + 41.247	0.752	455.826	455.848
6	G 3	69 + 40.220	9.657	456.511	456.533
6	G 4	69 + 39.204	18.562	457.196	457.218
6	G 5	69 + 38.484	27.465	457.892	457.912
7	G 1	69 + 51.928	-7.562	455.450	455.462
7	G 2	69 + 51.242	0.668	456.090	456.103
7	G 3	69 + 50.167	9.572	456.773	456.787
7	G 4	69 + 49.101	18.477	457.457	457.470
7	G 5	69 + 48.333	27.380	458.177	458.189
8	G 1	69 + 61.966	-7.865	455.697	455.701
8	G 2	69 + 61.239	0.593	456.353	456.359
8	G 3	69 + 60.113	9.497	457.035	457.041
8	G 4	69 + 58.999	18.401	457.718	457.723
8	G 5	69 + 58.182	27.303	458.414	458.418
9	G 1	69 + 72.008	-8.112	455.948	455.948
9	G 2	69 + 71.235	0.526	456.618	456.618
9	G 3	69 + 70.060	9.430	457.299	457.299
9	G 4	69 + 68.897	18.333	457.979	457.979
9	G 5	69 + 68.031	27.234	458.668	458.668
10	G 1	69 + 78.890	-8.249	456.123	456.123
10	G 2	69 + 78.862	0.482	456.820	456.820
10	G 3	69 + 78.834	9.378	457.531	457.531
10	G 4	69 + 78.806	18.274	458.242	458.242
10	G 5	69 + 78.779	27.170	458.953	458.953

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
11	G 1	69 + 88.936	-8.401	456.382	456.391
11	G 2	69 + 88.860	0.431	457.086	457.097
11	G 3	69 + 88.782	9.327	457.796	457.806
11	G 4	69 + 88.705	18.224	458.506	458.516
11	G 5	69 + 88.629	27.120	459.215	459.224
12	G 1	69 + 98.983	-8.497	456.645	456.668
12	G 2	69 + 98.857	0.390	457.353	457.378
12	G 3	69 + 98.730	9.286	458.061	458.086
12	G 4	69 + 98.604	18.182	458.770	458.795
12	G 5	69 + 98.480	27.079	459.478	459.500
13	G 1	70 + 09.030	-8.539	456.915	456.950
13	G 2	70 + 08.855	0.357	457.620	457.662
13	G 3	70 + 08.679	9.253	458.327	458.369
13	G 4	70 + 08.504	18.150	459.034	459.076
13	G 5	70 + 08.331	27.046	459.741	459.778
14	G 1	70 + 19.078	-8.563	457.180	457.230
14	G 2	70 + 18.853	0.333	457.885	457.943
14	G 3	70 + 18.627	9.230	458.591	458.648
14	G 4	70 + 18.403	18.126	459.297	459.354
14	G 5	70 + 18.182	27.022	460.003	460.053
15	G 1	70 + 29.127	-8.578	457.438	457.497
15	G 2	70 + 28.851	0.319	458.143	458.209
15	G 3	70 + 28.576	9.215	458.848	458.914
15	G 4	70 + 28.303	18.111	459.553	459.619
15	G 5	70 + 28.033	27.007	460.257	460.316
16	G 1	70 + 39.175	-8.583	457.690	457.751
16	G 2	70 + 38.849	0.313	458.393	458.462
16	G 3	70 + 38.525	9.209	459.097	459.166
16	G 4	70 + 38.203	18.104	459.801	459.870
16	G 5	70 + 37.884	27.000	460.504	460.566
17	G 1	70 + 49.216	-8.583	457.933	457.991
17	G 2	70 + 48.848	0.313	458.636	458.701
17	G 3	70 + 48.480	9.208	459.338	459.404
17	G 4	70 + 48.115	18.104	460.041	460.107
17	G 5	70 + 47.753	27.000	460.744	460.803
18	G 1	70 + 59.257	-8.583	458.167	458.216
18	G 2	70 + 58.847	0.313	458.870	458.925
18	G 3	70 + 58.437	9.208	459.572	459.627
18	G 4	70 + 58.031	18.104	460.274	460.329
18	G 5	70 + 57.628	27.000	460.977	461.026
19	G 1	70 + 69.297	-8.583	458.394	458.429
19	G 2	70 + 68.845	0.313	459.096	459.135
19	G 3	70 + 68.394	9.208	459.797	459.837
19	G 4	70 + 67.947	18.104	460.499	460.538
19	G 5	70 + 67.503	27.000	461.201	461.236
20	G 1	70 + 79.338	-8.583	458.612	458.633
20	G 2	70 + 78.844	0.313	459.313	459.336
20	G 3	70 + 78.351	9.208	460.014	460.037
20	G 4	70 + 77.862	18.104	460.715	460.739
20	G 5	70 + 77.378	27.000	461.417	461.438
21	G 1	70 + 89.378	-8.583	458.822	458.829
21	G 2	70 + 88.842	0.313	459.522	459.530
21	G 3	70 + 88.308	9.208	460.223	460.231
21	G 4	70 + 87.778	18.104	460.924	460.932
21	G 5	70 + 87.253	27.000	461.625	461.632
22	G 1	70 + 99.418	-8.583	459.023	459.021
22	G 2	70 + 98.841	0.313	459.723	459.721
22	G 3	70 + 98.265	9.208	460.424	460.422
22	G 4	70 + 97.694	18.104	461.124	461.122
22	G 5	70 + 97.127	27.000	461.825	461.822

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
23	G 1	71 + 09.459	-8.583	459.216	459.214
23	G 2	71 + 08.839	0.313	459.916	459.914
23	G 3	71 + 08.222	9.208	460.616	460.614
23	G 4	71 + 07.609	18.104	461.316	461.314
23	G 5	71 + 07.002	27.000	462.016	462.014
24	G 1	71 + 14.930	-8.583	459.318	459.318
24	G 2	71 + 14.862	0.313	460.028	460.028
24	G 3	71 + 14.795	9.208	460.739	460.739
24	G 4	71 + 14.729	18.104	461.449	461.449
24	G 5	71 + 14.663	27.000	462.160	462.160



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 LOAD DEFLECTIONS".

A. MYERS	DESIGNED
R. WINKELMANN	CHECKED
D. FRIERDICH	DRAWN
R. WINKELMANN	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
TOP OF SLAB ELEVATIONS
SPANS A21-R AND R1

STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 4 OF 42

35 56 58 63

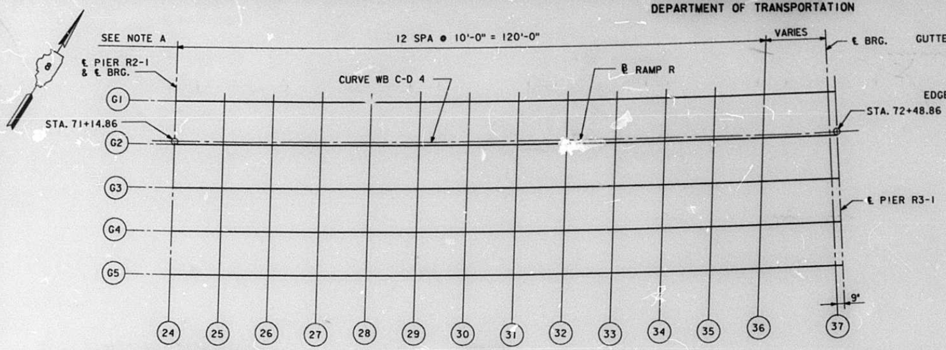
PRF: DET18E

87S533

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	102
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SPAN R2

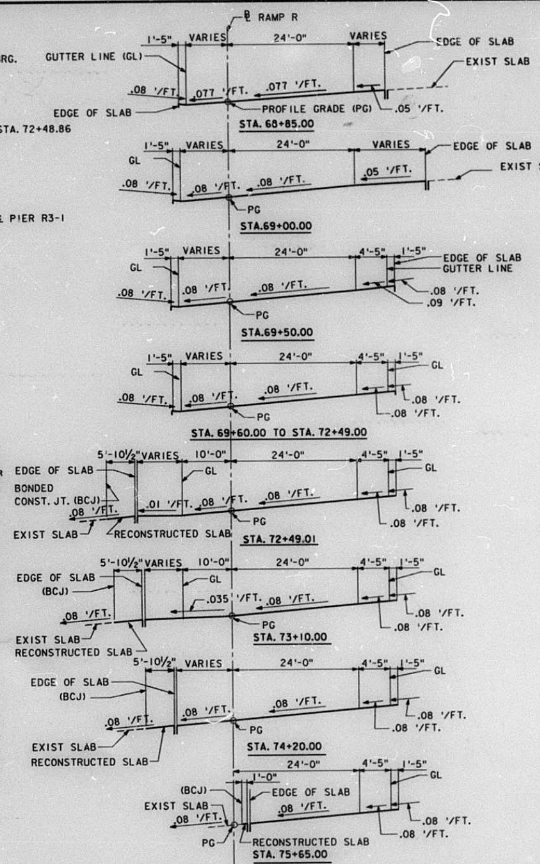
PLAN

NOTE A: POINTS FOR ELEVATIONS AT 10' INTERVALS AND AS NOTED ARE ALONG EACH INDIVIDUAL GIRDER. STATIONS AND OFFSETS OF THESE POINTS ARE RADIAL TO ℄ RAMP R.

NOTE: FOR TRANSVERSE GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLAN.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
24	G 1	71 + 14.930	-8.583	459.318	459.318
24	G 2	71 + 14.862	0.313	460.028	460.028
24	G 3	71 + 14.795	9.208	460.739	460.739
24	G 4	71 + 14.729	18.104	461.449	461.449
24	G 5	71 + 14.663	27.000	462.160	462.160
25	G 1	71 + 24.970	-8.583	459.498	459.514
25	G 2	71 + 24.861	0.313	460.208	460.225
25	G 3	71 + 24.752	9.208	460.918	460.935
25	G 4	71 + 24.645	18.104	461.627	461.645
25	G 5	71 + 24.538	27.000	462.337	462.353
26	G 1	71 + 35.011	-8.583	459.670	459.709
26	G 2	71 + 34.859	0.313	460.379	460.422
26	G 3	71 + 34.709	9.208	461.088	461.132
26	G 4	71 + 34.560	18.104	461.797	461.841
26	G 5	71 + 34.413	27.000	462.507	462.545
27	G 1	71 + 45.051	-8.583	459.833	459.901
27	G 2	71 + 44.858	0.313	460.542	460.618
27	G 3	71 + 44.666	9.208	461.251	461.326
27	G 4	71 + 44.476	18.104	461.959	462.035
27	G 5	71 + 44.287	27.000	462.668	462.736
28	G 1	71 + 55.092	-8.583	459.989	460.088
28	G 2	71 + 54.856	0.313	460.697	460.808
28	G 3	71 + 54.623	9.208	461.405	461.517
28	G 4	71 + 54.392	18.104	462.113	462.225
28	G 5	71 + 54.162	27.000	462.821	462.921
29	G 1	71 + 65.132	-8.583	460.135	460.263
29	G 2	71 + 64.855	0.313	460.843	460.987
29	G 3	71 + 64.580	9.208	461.551	461.695
29	G 4	71 + 64.307	18.104	462.259	462.403
29	G 5	71 + 64.037	27.000	462.966	463.094
30	G 1	71 + 75.173	-8.583	460.274	460.423
30	G 2	71 + 74.854	0.313	460.981	461.150
30	G 3	71 + 74.537	9.208	461.689	461.858
30	G 4	71 + 74.223	18.104	462.396	462.565
30	G 5	71 + 73.912	27.000	463.104	463.253
31	G 1	71 + 85.213	-8.583	460.404	460.568
31	G 2	71 + 84.852	0.313	461.111	461.296
31	G 3	71 + 84.494	9.208	461.818	462.003
31	G 4	71 + 84.139	18.104	462.526	462.711
31	G 5	71 + 83.787	27.000	463.233	463.397

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
32	G 1	71 + 95.254	-8.583	460.526	460.695
32	G 2	71 + 94.851	0.313	461.233	461.424
32	G 3	71 + 94.451	9.208	461.940	462.130
32	G 4	71 + 94.055	18.104	462.647	462.837
32	G 5	71 + 93.661	27.000	463.354	463.523
33	G 1	72 + 05.294	-8.583	460.639	460.798
33	G 2	72 + 04.849	0.313	461.346	461.525
33	G 3	72 + 04.408	9.208	462.053	462.232
33	G 4	72 + 03.970	18.104	462.760	462.939
33	G 5	72 + 03.536	27.000	463.467	463.625
34	G 1	72 + 15.335	-8.583	460.745	460.883
34	G 2	72 + 14.848	0.313	461.451	461.607
34	G 3	72 + 14.365	9.208	462.158	462.314
34	G 4	72 + 13.886	18.104	462.865	463.021
34	G 5	72 + 13.411	27.000	463.572	463.710
35	G 1	72 + 25.375	-8.583	460.841	460.949
35	G 2	72 + 24.846	0.313	461.548	461.670
35	G 3	72 + 24.322	9.208	462.255	462.377
35	G 4	72 + 23.802	18.104	462.962	463.083
35	G 5	72 + 23.286	27.000	463.669	463.776
36	G 1	72 + 35.415	-8.583	460.930	460.997
36	G 2	72 + 34.845	0.313	461.637	461.714
36	G 3	72 + 34.279	9.208	462.344	462.420
36	G 4	72 + 33.717	18.104	463.051	463.127
36	G 5	72 + 33.161	27.000	463.757	463.825
37	G 1	72 + 48.274	-8.583	461.031	461.031
37	G 2	72 + 48.107	0.313	461.742	461.742
37	G 3	72 + 47.941	9.208	462.452	462.452
37	G 4	72 + 47.776	18.104	463.162	463.162
37	G 5	72 + 47.613	27.000	463.873	463.873



SUPERELEVATION TRANSITION

NOTES

FOR DEAD LOAD DEFLECTION DIAGRAM SEE SHEET 4.

FOR FILLET HEIGHT DETAIL SEE SHEET 4.

A. MYERS	DESIGNED
R. WINKELMANN	CHECKED
D. FRIERDICH	DRAWN
R. WINKELMANN	CHECKED

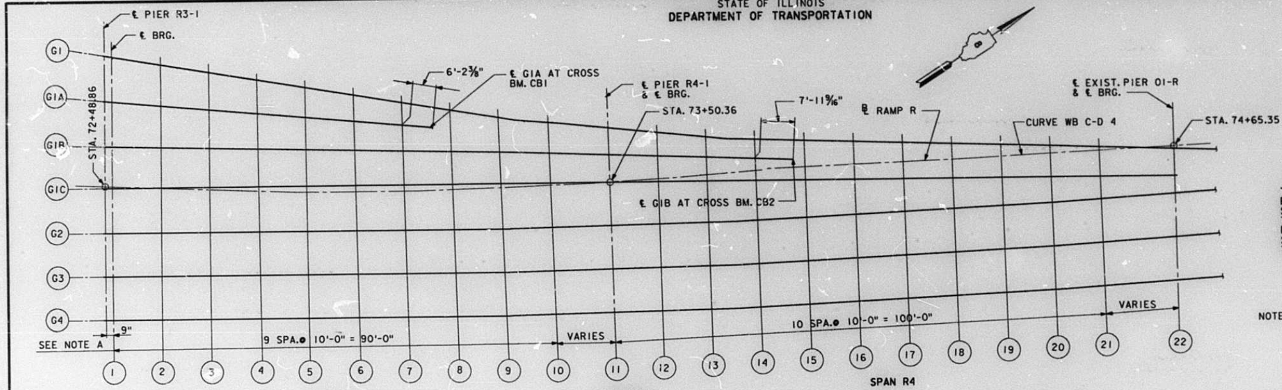
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
TOP OF SLAB ELEVATIONS
SPAN R2
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	103
		ILLINOIS PROJECT		

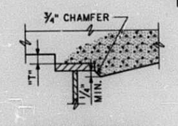
* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

NOTE: FOR TRANSVERSE GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLANS.



FILLET HEIGHTS

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE GIRDERS SHALL BE TAKEN AT THE INTERVALS SHOWN ON PLAN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "T" ABOVE TOP FLANGE OF GIRDERS.

NOTE A: POINTS FOR ELEVATIONS AT 10' INTERVALS AND AS NOTED ARE ALONG EACH INDIVIDUAL GIRDER. STATIONS AND OFFSETS OF THESE POINTS ARE RADIAL TO ℄ RAMP R.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
1	G 1	72 + 50.148	-27.161	460.760	460.760
1	G 1A	72 + 49.963	-17.872	460.855	460.855
1	G 1B	72 + 49.781	-8.583	461.047	461.047
1	G 1C	72 + 49.607	0.313	461.752	461.752
1	G 2	72 + 49.435	9.208	462.463	462.463
1	G 3	72 + 49.264	18.104	463.173	463.173
1	G 4	72 + 49.095	27.000	463.884	463.884
2	G 1	72 + 60.158	-25.657	460.853	460.880
2	G 1A	72 + 60.011	-17.042	460.977	461.002
2	G 1B	72 + 59.820	-8.455	461.188	461.225
2	G 1C	72 + 59.604	0.098	461.803	461.827
2	G 2	72 + 59.392	9.208	462.531	462.560
2	G 3	72 + 59.180	18.104	463.241	463.271
2	G 4	72 + 58.969	27.000	463.952	463.978
3	G 1	72 + 70.154	-24.105	460.951	461.000
3	G 1A	72 + 70.051	-16.166	461.098	461.145
3	G 1B	72 + 69.858	-8.280	461.322	461.391
3	G 1C	72 + 69.602	-0.070	461.851	461.895
3	G 2	72 + 69.349	9.208	462.591	462.645
3	G 3	72 + 69.095	18.104	463.301	463.356
3	G 4	72 + 68.844	27.000	464.011	464.059
4	G 1	72 + 80.135	-22.508	461.055	461.118
4	G 1A	72 + 80.082	-15.242	461.219	461.282
4	G 1B	72 + 79.894	-8.057	461.447	461.541
4	G 1C	72 + 79.602	-0.191	461.896	461.953
4	G 2	72 + 79.306	9.208	462.642	462.714
4	G 3	72 + 79.011	18.104	463.353	463.424
4	G 4	72 + 78.719	27.000	464.063	464.126
5	G 1	72 + 90.100	-20.864	461.164	461.234
5	G 1A	72 + 90.105	-14.271	461.341	461.413
5	G 1B	72 + 89.927	-7.787	461.564	461.669
5	G 1C	72 + 89.603	-0.265	461.937	461.999
5	G 2	72 + 89.262	9.208	462.686	462.765
5	G 3	72 + 88.927	18.104	463.396	463.475
5	G 4	72 + 88.594	27.000	464.106	464.177
6	G 1	73 + 00.050	-19.174	461.280	461.349
6	G 1A	73 + 00.117	-13.254	461.463	461.539
6	G 1B	72 + 99.958	-7.471	461.670	461.775
6	G 1C	72 + 99.604	-0.292	461.973	462.032
6	G 2	72 + 99.219	9.208	462.721	462.799
6	G 3	72 + 98.842	18.104	463.431	463.509
6	G 4	72 + 98.469	27.000	464.142	464.210
7	G 1	73 + 09.984	-17.439	461.403	461.464
7	G 1A	73 + 10.120	-12.190	461.586	461.659
7	G 1B	73 + 09.986	-7.107	461.764	461.859
7	G 1C	73 + 09.605	-0.272	462.003	462.052
7	G 2	73 + 09.176	9.208	462.748	462.816
7	G 3	73 + 08.758	18.104	463.459	463.526
7	G 4	73 + 08.343	27.000	464.169	464.229

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
8	G 1	73 + 19.901	-15.657	461.420	461.466
8	G 1B	73 + 20.010	-6.696	461.769	461.777
8	G 1C	73 + 19.606	-0.205	462.023	462.057
8	G 2	73 + 19.133	9.208	462.767	462.818
8	G 3	73 + 18.674	18.104	463.478	463.529
8	G 4	73 + 18.218	27.000	464.189	464.234
9	G 1	73 + 29.801	-13.829	461.445	461.475
9	G 1B	73 + 30.030	-6.238	461.772	461.821
9	G 1C	73 + 29.606	-0.091	462.037	462.056
9	G 2	73 + 29.090	9.208	462.777	462.810
9	G 3	73 + 28.590	18.104	463.489	463.521
9	G 4	73 + 28.093	27.000	464.200	464.228
10	G 1	73 + 39.750	-12.416	461.457	461.470
10	G 1B	73 + 40.046	-5.733	461.772	461.795
10	G 1C	73 + 39.605	0.070	462.048	462.054
10	G 2	73 + 39.047	9.208	462.780	462.794
10	G 3	73 + 38.505	18.104	463.491	463.506
10	G 4	73 + 37.968	27.000	464.203	464.216
11	G 1	73 + 50.561	-11.080	461.464	461.464
11	G 1B	73 + 50.455	-5.159	461.770	461.770
11	G 1C	73 + 50.358	0.296	462.059	462.059
11	G 2	73 + 50.200	9.208	462.773	462.773
11	G 3	73 + 50.044	18.104	463.484	463.484
11	G 4	73 + 49.889	27.000	464.196	464.196
12	G 1	73 + 60.527	-9.799	461.475	461.471
12	G 1B	73 + 60.460	-4.558	461.767	461.767
12	G 1C	73 + 60.352	0.554	462.065	462.074
12	G 2	73 + 60.157	9.208	462.758	462.758
12	G 3	73 + 59.959	18.104	463.470	463.470
12	G 4	73 + 59.764	27.000	464.182	464.182
13	G 1	73 + 70.482	-8.471	461.491	461.489
13	G 1B	73 + 70.459	-3.911	461.763	461.773
13	G 1C	73 + 70.344	0.859	462.066	462.092
13	G 2	73 + 70.114	9.208	462.734	462.740
13	G 3	73 + 69.875	18.104	463.447	463.452
13	G 4	73 + 69.638	27.000	464.159	464.164
14	G 1	73 + 80.473	-7.525	461.485	461.487
14	G 1B	73 + 80.451	-3.216	461.760	461.782
14	G 1C	73 + 80.333	1.211	462.062	462.109
14	G 2	73 + 80.071	9.208	462.703	462.718
14	G 3	73 + 79.791	18.104	463.416	463.430
14	G 4	73 + 79.513	27.000	464.128	464.141
15	G 1	73 + 90.463	-6.594	461.477	461.485
15	G 1C	73 + 90.319	1.610	462.054	462.121
15	G 2	73 + 90.028	9.208	462.664	462.687
15	G 3	73 + 89.706	18.104	463.377	463.400
15	G 4	73 + 89.388	27.000	464.090	464.110
16	G 1	74 + 00.443	-5.617	461.472	461.484
16	G 1C	74 + 00.300	2.056	462.042	462.125
16	G 2	73 + 99.965	9.208	462.616	462.644
16	G 3	73 + 99.622	18.104	463.329	463.358
16	G 4	73 + 99.263	27.000	464.043	464.069
17	G 1	74 + 10.415	-4.592	461.471	461.484
17	G 1C	74 + 10.277	2.549	462.025	462.118
17	G 2	74 + 09.942	9.208	462.560	462.590
17	G 3	74 + 09.538	18.104	463.274	463.304
17	G 4	74 + 09.138	27.000	463.988	464.015

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
18	G 1	74 + 20.376	-3.521	461.474	461.486
18	G 1C	74 + 20.250	3.088	462.004	462.099
18	G 2	74 + 19.898	9.208	462.496	462.522
18	G 3	74 + 19.454	18.104	463.210	463.237
18	G 4	74 + 19.012	27.000	463.925	463.949
19	G 1	74 + 30.327	-2.404	461.495	461.503
19	G 1C	74 + 30.217	3.674	461.982	462.069
19	G 2	74 + 29.855	9.208	462.427	462.446
19	G 3	74 + 29.369	18.104	463.142	463.161
19	G 4	74 + 28.887	27.000	463.857	463.874
20	G 1	74 + 40.268	-1.240	461.519	461.523
20	G 1C	74 + 40.178	4.307	461.964	462.034
20	G 2	74 + 39.812	9.208	462.358	462.368
20	G 3	74 + 39.285	18.104	463.073	463.083
20	G 4	74 + 38.762	27.000	463.789	463.797
21	G 1	74 + 50.249	-0.500	461.510	461.510
21	G 1C	74 + 50.133	4.986	461.949	461.994
21	G 2	74 + 49.769	9.208	462.289	462.292
21	G 3	74 + 49.201	18.104	463.005	463.007
21	G 4	74 + 48.637	27.000	463.721	463.723
22	G 1	74 + 65.314	0.387	461.476	461.476
22	G 1C	74 + 64.806	6.074	461.935	461.935
22	G 2	74 + 64.528	9.208	462.188	462.188
22	G 3	74 + 63.742	18.104	462.905	462.905
22	G 4	74 + 62.[illegible]	27.000	463.622	463.622

NOTES

FOR DEAD LOAD DEFLECTION DIAGRAMS SEE SHEET 7.

A. MYERS	DESIGNED
R. WINKELMANN	CHECKED
D. FRIERDICH	DRAWN
R. WINKELMANN	CHECKED

87S535 PRF: DET20E 35 56 58 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
TOP OF SLAB ELEVATIONS
SPANS R3 AND R4

STRUCTURE NO. 092-0253

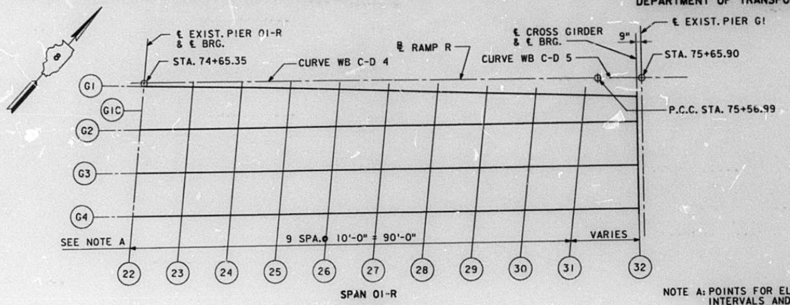
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST.CLAIR CO.

SHEET NO. 5 OF 42

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	104
	ILLINOIS	PROJECT		

* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

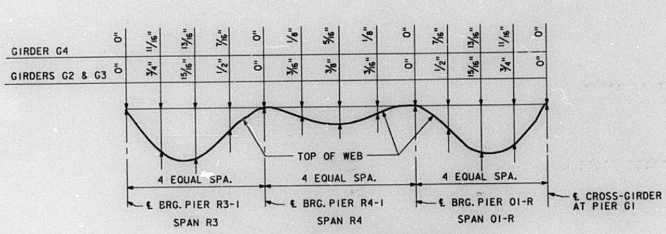


PLAN

NOTE: FOR TRANSVERSE GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLAN.

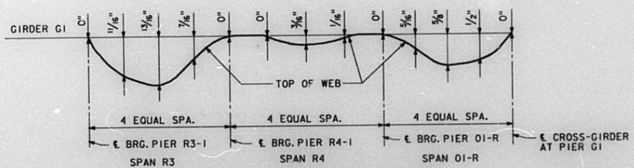
NOTE A: POINTS FOR ELEVATIONS AT 10' INTERVALS AND AS NOTED ARE ALONG EACH INDIVIDUAL GIRDER. STATIONS AND OFFSETS OF THESE POINTS ARE GIVEN ALONG AND RADIAL TO ℄ RAMP R.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
22	G 1	74 + 65.314	0.387	461.476	461.476
22	G 1C	74 + 64.806	6.074	461.935	461.935
22	G 2	74 + 64.528	9.208	462.188	462.188
22	G 3	74 + 63.742	18.104	462.905	462.905
22	G 4	74 + 62.962	27.000	463.622	463.622
23	G 1	74 + 75.290	1.033	461.459	461.468
23	G 2	74 + 74.485	9.208	462.119	462.130
23	G 3	74 + 73.657	18.104	462.836	462.848
23	G 4	74 + 72.837	27.000	463.554	463.563
24	G 1	74 + 85.265	1.575	461.434	461.454
24	G 2	74 + 84.442	9.208	462.050	462.079
24	G 3	74 + 83.573	18.104	462.768	462.796
24	G 4	74 + 82.712	27.000	463.485	463.511
25	G 1	74 + 95.257	1.713	461.376	461.409
25	G 2	74 + 94.399	9.208	461.981	462.029
25	G 3	74 + 93.489	18.104	462.699	462.747
25	G 4	74 + 92.586	27.000	463.417	463.460
26	G 1	75 + 05.246	1.898	461.322	461.366
26	G 2	75 + 04.356	9.208	461.913	461.978
26	G 3	75 + 03.404	18.104	462.631	462.696
26	G 4	75 + 02.461	27.000	463.349	463.407
27	G 1	75 + 15.234	2.129	461.271	461.322
27	G 2	75 + 14.312	9.208	461.844	461.920
27	G 3	75 + 13.320	18.104	462.562	462.639
27	G 4	75 + 12.336	27.000	463.281	463.348
28	G 1	75 + 25.220	2.408	461.225	461.277
28	G 2	75 + 24.269	9.208	461.775	461.855
28	G 3	75 + 23.236	18.104	462.494	462.574
28	G 4	75 + 22.211	27.000	463.213	463.283
29	G 1	75 + 35.203	2.733	461.182	461.229
29	G 2	75 + 34.226	9.208	461.707	461.780
29	G 3	75 + 33.152	18.104	462.426	462.499
29	G 4	75 + 32.086	27.000	463.145	463.210
30	G 1	75 + 45.182	3.105	461.143	461.178
30	G 2	75 + 44.183	9.208	461.638	461.696
30	G 3	75 + 43.067	18.104	462.357	462.416
30	G 4	75 + 41.960	27.000	463.076	463.128
31	G 1	75 + 55.158	3.524	461.107	461.127
31	G 2	75 + 54.140	9.208	461.569	461.604
31	G 3	75 + 52.983	18.104	462.289	462.323
31	G 4	75 + 51.835	27.000	463.008	463.039
32	G 1	75 + 65.114	3.992	461.076	461.076
32	G 2	75 + 65.063	9.211	461.494	461.494
32	G 3	75 + 64.976	18.107	462.206	462.206
32	G 4	75 + 64.890	27.003	462.918	462.918



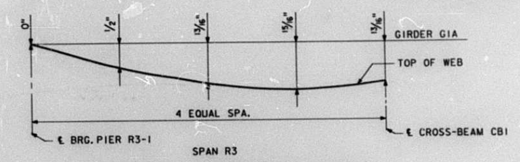
DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)



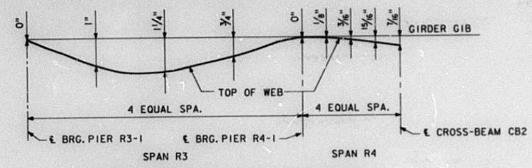
DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)



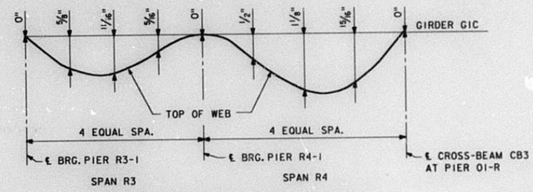
DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)



DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)



DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)

NOTES

THE DEFLECTIONS SHOWN IN DEAD LOAD DEFLECTION DIAGRAMS THIS SHEET ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS".
FOR FILLET HEIGHT DETAIL SEE SHEET 6.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
TOP OF SLAB ELEVATIONS
SPAN 01-R

STRUCTURE NO. 082-0253

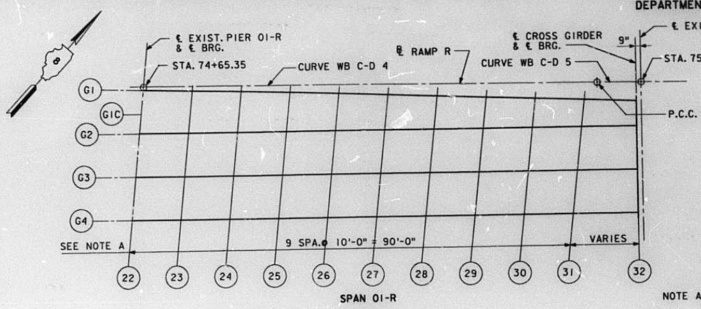
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

A. MYERS	DESIGNED
R. WINKELMANN	CHECKED
D. FRIERDICH	DRAWN
R. WINKELMANN	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

875536 PRF: DET21E 35 56 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

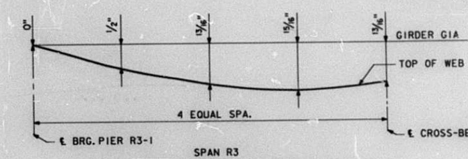


PLAN

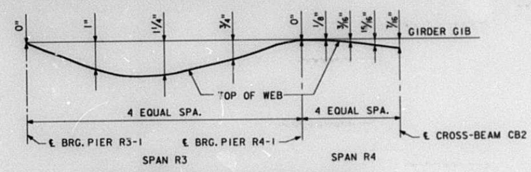
NOTE: FOR TRANSVERSE GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLAN.

NOTE A: POINTS FOR ELEVATIONS AT 10' INTERVALS AND AS NOTED ARE ALONG EACH INDIVIDUAL GIRDER. STATIONS AND OFFSETS OF THESE POINTS ARE GIVEN ALONG AND RADIAL TO ℄ RAMP R.

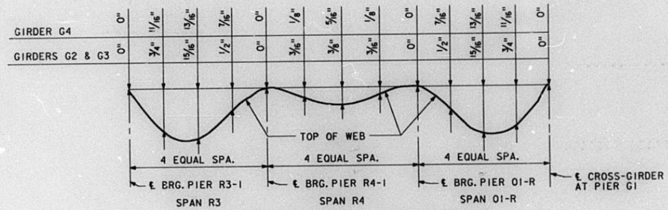
LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
22	G 1	74 + 65.314	0.387	461.476	461.476
22	G 1C	74 + 64.806	6.074	461.935	461.935
22	G 2	74 + 64.528	9.208	462.188	462.188
22	G 3	74 + 63.742	18.104	462.905	462.905
22	G 4	74 + 62.962	27.000	463.622	463.622
23	G 1	74 + 75.290	1.033	461.459	461.468
23	G 2	74 + 74.485	9.208	462.119	462.130
23	G 3	74 + 73.657	18.104	462.836	462.848
23	G 4	74 + 72.837	27.000	463.554	463.563
24	G 1	74 + 85.265	1.575	461.434	461.454
24	G 2	74 + 84.442	9.208	462.050	462.079
24	G 3	74 + 83.573	18.104	462.768	462.796
24	G 4	74 + 82.712	27.000	463.485	463.511
25	G 1	74 + 95.257	1.713	461.376	461.409
25	G 2	74 + 94.399	9.208	461.981	462.029
25	G 3	74 + 93.489	18.104	462.699	462.747
25	G 4	74 + 92.586	27.000	463.417	463.460
26	G 1	75 + 05.246	1.898	461.322	461.366
26	G 2	75 + 04.356	9.208	461.913	461.978
26	G 3	75 + 03.404	18.104	462.631	462.696
26	G 4	75 + 02.46	27.000	463.349	463.407
27	G 1	75 + 15.234	2.129	461.271	461.322
27	G 2	75 + 14.312	9.208	461.844	461.920
27	G 3	75 + 13.320	18.104	462.562	462.639
27	G 4	75 + 12.336	27.000	463.281	463.348
28	G 1	75 + 25.220	2.408	461.225	461.277
28	G 2	75 + 24.269	9.208	461.775	461.855
28	G 3	75 + 23.236	18.104	462.494	462.574
28	G 4	75 + 22.211	27.000	463.213	463.283
29	G 1	75 + 35.203	2.733	461.132	461.229
29	G 2	75 + 34.226	9.208	461.707	461.780
29	G 3	75 + 33.152	18.104	462.426	462.499
29	G 4	75 + 32.086	27.000	463.145	463.210
30	G 1	75 + 45.182	3.105	461.143	461.178
30	G 2	75 + 44.183	9.208	461.638	461.696
30	G 3	75 + 43.067	18.104	462.357	462.416
30	G 4	75 + 41.960	27.000	463.076	463.128
31	G 1	75 + 55.158	3.524	461.107	461.127
31	G 2	75 + 54.140	9.208	461.569	461.604
31	G 3	75 + 52.983	18.104	462.289	462.323
31	G 4	75 + 51.835	27.000	463.008	463.039
32	G 1	75 + 65.114	3.992	461.076	461.076
32	G 2	75 + 65.063	9.211	461.494	461.494
32	G 3	75 + 64.976	18.107	462.206	462.206
32	G 4	75 + 64.890	27.003	462.918	462.918



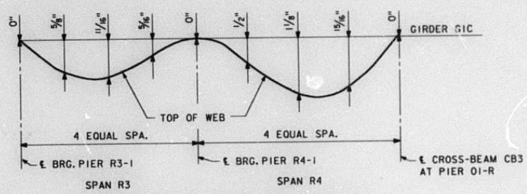
DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE ONLY)



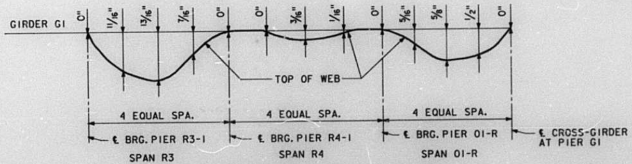
DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE ONLY)



DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE ONLY)



DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE ONLY)



DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE ONLY)

NOTES

THE DEFLECTIONS SHOWN IN DEAD LOAD DEFLECTION DIAGRAMS THIS SHEET ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS".
FOR FILLET HEIGHT DETAIL SEE SHEET 6.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
TOP OF SLAB ELEVATIONS
SPAN 01-R
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

A. MYERS
DESIGNED
R. WINKELMANN
CHECKED
D. FRIERDICH
DRAWN
R. WINKELMANN
CHECKED

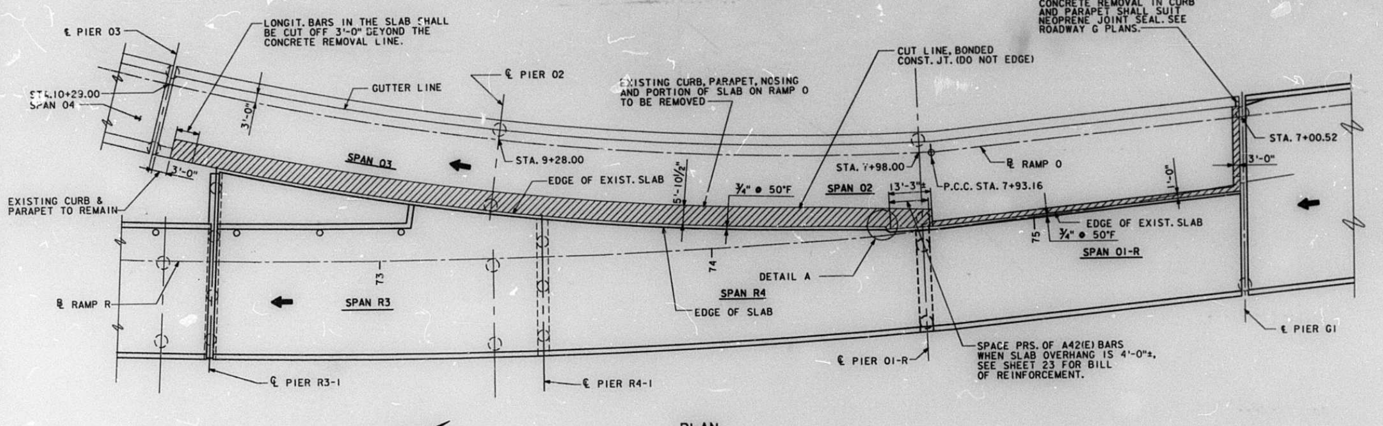
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

10320 | FILE: ZF3:[110,]3DET21E.DGN | LEVELS PLOTTED | DATE: OCT. 14, 1987
875536 | PRF: DET21E | 35 56 58 63

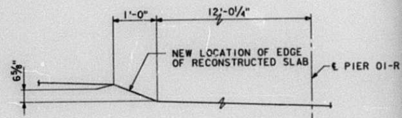
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	105
		ILLINOIS	PROJECT	

•82-3HVB-2R-1



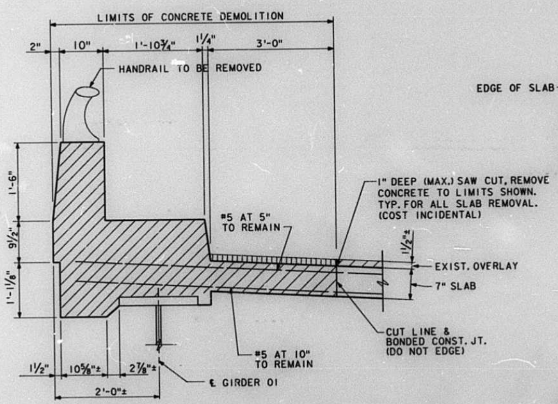
PLAN



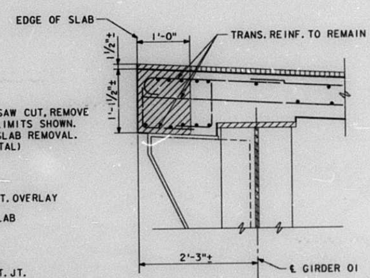
DETAIL A

BILL OF MATERIAL

SPANS 01 THRU 03 (RAMP O)	
CONCRETE REMOVAL	75.4 CU. YDS.



SECTION THRU CURB AND SLAB REMOVAL SPANS 02 AND 03



SECTION THRU SLAB REMOVAL SPAN 0 1-R

NOTE: LIMITS OF LONGITUDINAL REMOVAL:
SPAN 01-R = 100'-6"±
SPANS 02 & 03 = 233'-0"±

NOTES

HATCHED AREA INDICATED THUS ▨ REPRESENTS THE AREA OF CONCRETE TO BE REMOVED.

FOR SECTIONS SHOWING RECONSTRUCTION SEE SHEET 23 AND ROADWAY G PLANS.

CHIPPING HAMMERS HEAVIER THAN A NOMINAL 15 POUND CLASS SHALL NOT BE USED FOR CONCRETE REMOVAL IN AREA AT TOP FLANGE OF BEAMS.

EXISTING *Reinforcement* BARS EXTENDING INTO REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED AND INCORPORATED INTO THE NEW CONSTRUCTION. COST INCIDENTAL.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
DEMOLITION DETAILS
SPANS 01-R THRU 03 (RAMP O)
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

DESIGNED	
CHECKED	
DRAWN	L. SCHURMAN/ S. STEGMAN
CHECKED	R.F. BECK

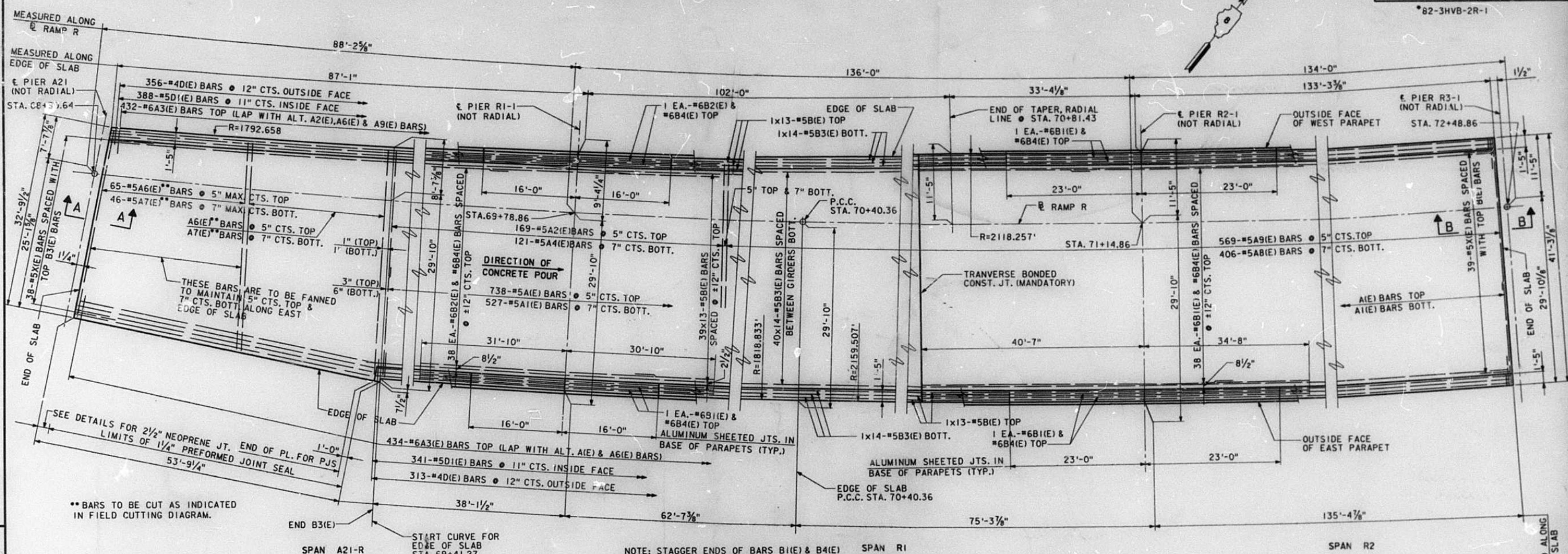
875636 PRF: DET119E

55, 56, 57, 58, 63

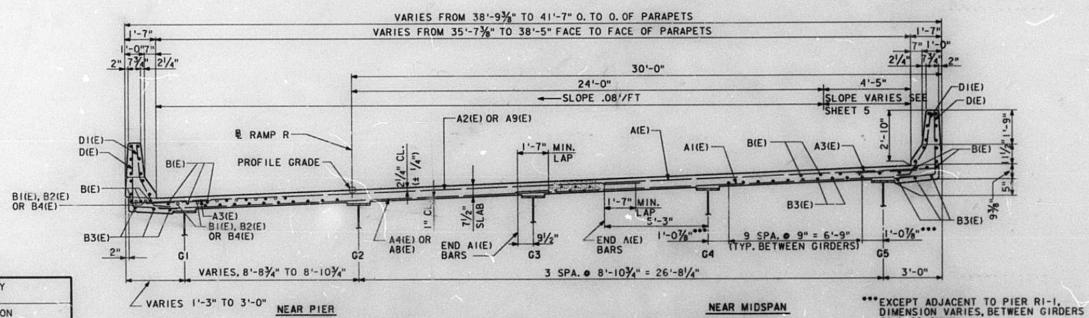
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	106

•82-3HVB-2R-1



PLAN



***EXCEPT ADJACENT TO PIER R1-1, DIMENSION VARIES, BETWEEN GIRDERS G1 & G2 ONLY.

NOTE: FIELD BEND LEG OF BARS D(E) & D1(E) TO CLEAR GIRDER FLANGE

CROSS SECTION - STA. 69+41.27 TO STA. 72+48.86
(LOOKING AHEAD STATION)

NOTES

WORK THIS SHEET WITH SHEETS 10, 11, AND 12.

D(E) BARS LOCATED NEAR THE ENDS OF PARAPETS SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXP. JT. BY 1 IN.

BARS BILLED AS: 52×6-#5 ETC. INDICATES 52 LINES OF BARS WITH 6 LENGTHS PER LINE.

FLOOR DRAINS NOT SHOWN. SEE SHEET 20 FOR LOCATION AND DETAILS.

SPACE BARS A3(E), D(E) AND D1(E) IN FIELD TO MISS FLOOR DRAINS.

SHIFT TRANSVERSE SLAB BARS IN FIELD TO MISS FLOOR DRAINS.

TRANSVERSE BARS SHALL BE PLACED RADIAL TO AND SPACED ALONG ℄ RAMP R, EXCEPT AS NOTED.

ALL LONGITUDINAL BARS SHALL BE SPLICED WITH A 1'-9" MINIMUM LAP, EXCEPT AS NOTED.

S. YORDY	DESIGNED
T. DILLON	CHECKED
S. KAEMMERER	DRAWN
P.W. CLARK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

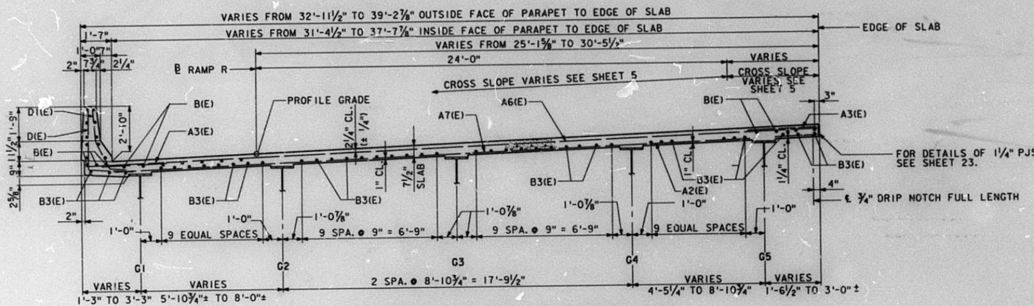
REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
SLAB - SPANS A21-R, R1 & R2

STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 9 OF 42

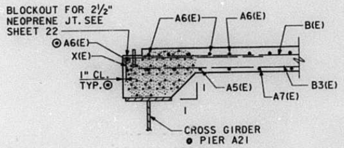
*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



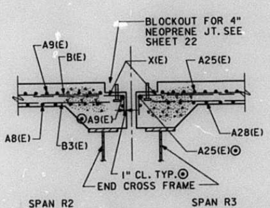
CROSS SECTION STA. 68+90.64 TO STA. 69+41.27
(LOOKING AHEAD STATION)

NOTE: FIELD BEND LEG OF BARS D(E) & D1(E) TO CLEAR GIRDER FLANGE.



SECTION A-A

⊙ PLACE A6(E) BAR IN BACK OF ANCHOR BOLT IF REQUIRED TO MAINTAIN 1"CL. (+0-⅛"), ANCHOR BOLTS SHOULD BE TIED TO A6(E) BARS.



SECTION B-B

⊙ PLACE A9(E) AND A25(E) BARS IN BACK OF ANCHOR BOLT AS SHOWN IF REQUIRED TO MAINTAIN 1"CL. (+0-⅛"), ANCHOR BOLTS SHOULD BE TIED TO A9(E) AND A25(E) BARS.

NOTES

WORK THIS SHEET WITH SHEETS 9, 11 AND 12.

S. YORDY	DESIGNED
T.V. DILLON	CHECKED
S. KAEMMERER	DRAWN
P.W. CLARK	CHECKED

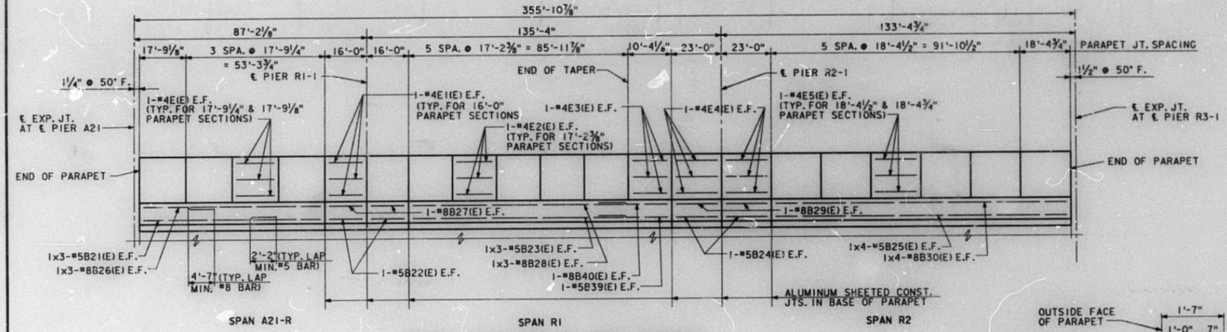
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
SLAB - SPANS A21-R, R1 AND R2
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

St Clair 82-3HVB-2R-1

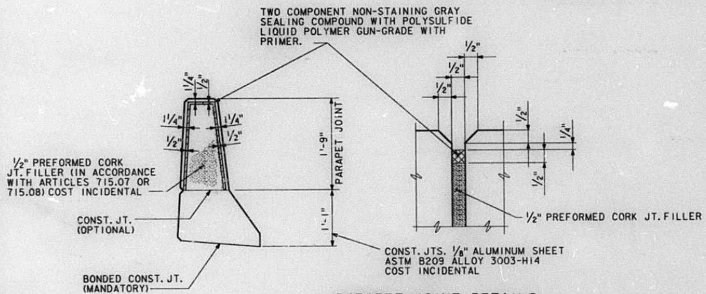
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	108
		ILLINOIS	PROJECT	



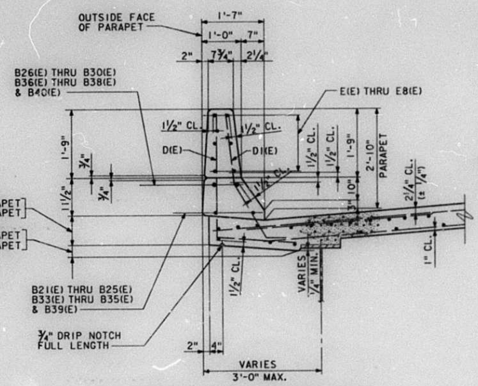
INSIDE ELEVATION OF WEST PARAPET

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.

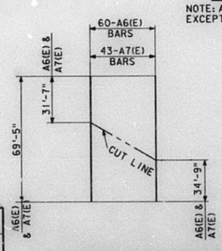


PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER, EXCEPT AS SHOWN.

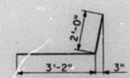


TYP. SECTION THRU PARAPET

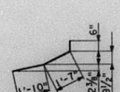


FIELD CUTTING DIAGRAM

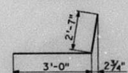
ORDER A6(E) & A7(E) BARS FULL LENGTH. CUT TO FIT AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.



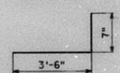
BAR D(E)



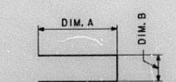
BAR D1(E)



BAR D2(E)



BAR X(E)



BARS S(E) THRU S2(E)

BAR	DIM. A	DIM. B
S(E)	9"	9"
S1(E)	11"	9"
S2(E)	1'-1"	9"

*82-3HVB-2R-1

BILL OF MATERIAL

SPANS A21-R, R1 AND R2				
BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	738	#5	16'-0"	—
A1(E)	527	#5	20'-5"	—
A2(E)	169	#5	23'-11"	—
A3(E)	866	#6	4'-0"	—
A4(E)	121	#5	19'-0"	—
A6(E)	65	#5	69'-5"	—
A7(E)	46	#5	69'-5"	—
A8(E)	406	#5	21'-5"	—
A9(E)	569	#5	25'-1"	—
B(E)	585	#5	30'-0"	—
B1(E)	42	#6	22'-4"	—
B2(E)	42	#6	9'-9"	—
B3(E)	644	#5	27'-9"	—
B4(E)	84	#6	55'-0"	—
B21(E)	6	#5	30'-5"	—
B22(E)	8	#5	15'-9"	—
B23(E)	6	#5	30'-0"	—
B24(E)	8	#5	22'-9"	—
B25(E)	8	#5	29'-2"	—
B26(E)	6	#8	32'-0"	—
B27(E)	8	#8	15'-9"	—
B28(E)	6	#8	31'-8"	—
B29(E)	8	#8	22'-9"	—
B30(E)	8	#8	31'-0"	—
B33(E)	8	#5	24'-2"	—
B34(E)	8	#5	26'-4"	—
B35(E)	2	#5	22'-9"	—
B36(E)	8	#8	31'-6"	—
B37(E)	6	#8	36'-0"	—
B38(E)	2	#8	22'-9"	—
B39(E)	2	#5	12'-5"	—
B40(E)	2	#8	14'-10"	—
D(E)	669	#4	5'-2"	
D1(E)	729	#5	3'-11"	
D2(E)	2	#5	5'-7"	
E(E)	24	#4	17'-6"	—
E1(E)	24	#4	15'-9"	—
E2(E)	30	#4	16'-11"	—
E3(E)	6	#4	10'-1"	—
E4(E)	24	#4	22'-9"	—
E5(E)	36	#4	18'-1"	—
E6(E)	36	#4	18'-5"	—
E7(E)	30	#4	19'-6"	—
E8(E)	12	#4	11'-3"	—
S(E)	2	#4	2'-3"	
S1(E)	2	#4	2'-7"	
S2(E)	1	#4	2'-11"	
X(E)	77	#5	4'-1"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	431.8
REINFORCEMENT BARS (EPOXY COATED)			LBS.	126,916

REINFORCEMENT BARS (E) SHALL BE EPOXY COATED.

NOTES

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 22.

WORK THIS SHEET WITH SHEETS 9, 10, AND 12.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

S. YORDY	DESIGNED
T. DILLON	CHECKED
J. CORLEY	DRAWN
P.W. CLARK	CHECKED

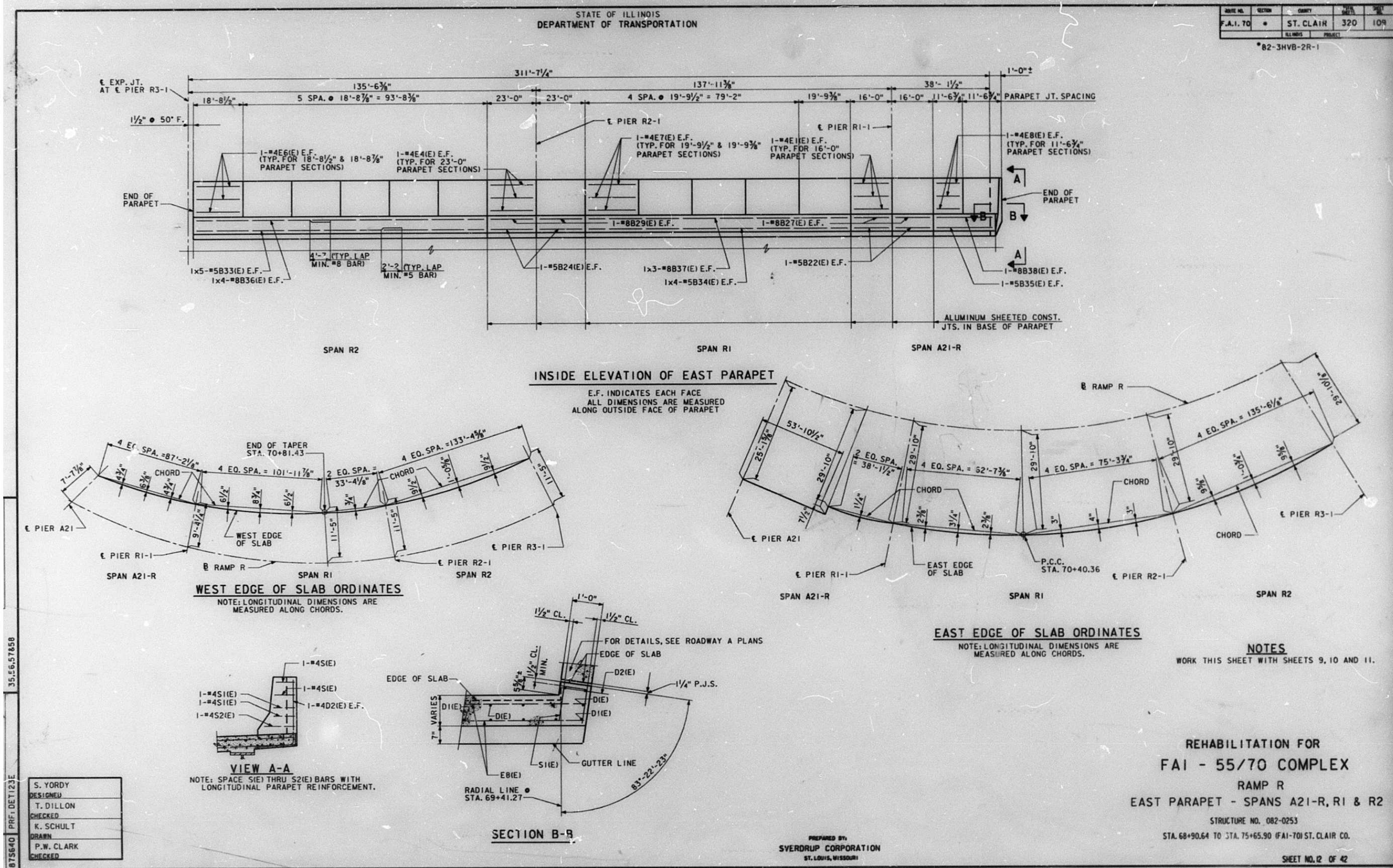
REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
WEST PARAPET - SPANS A21-R, R1 & R2

STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 11 OF 42

8T5639 PRF DET122E 35 54 56 57 63

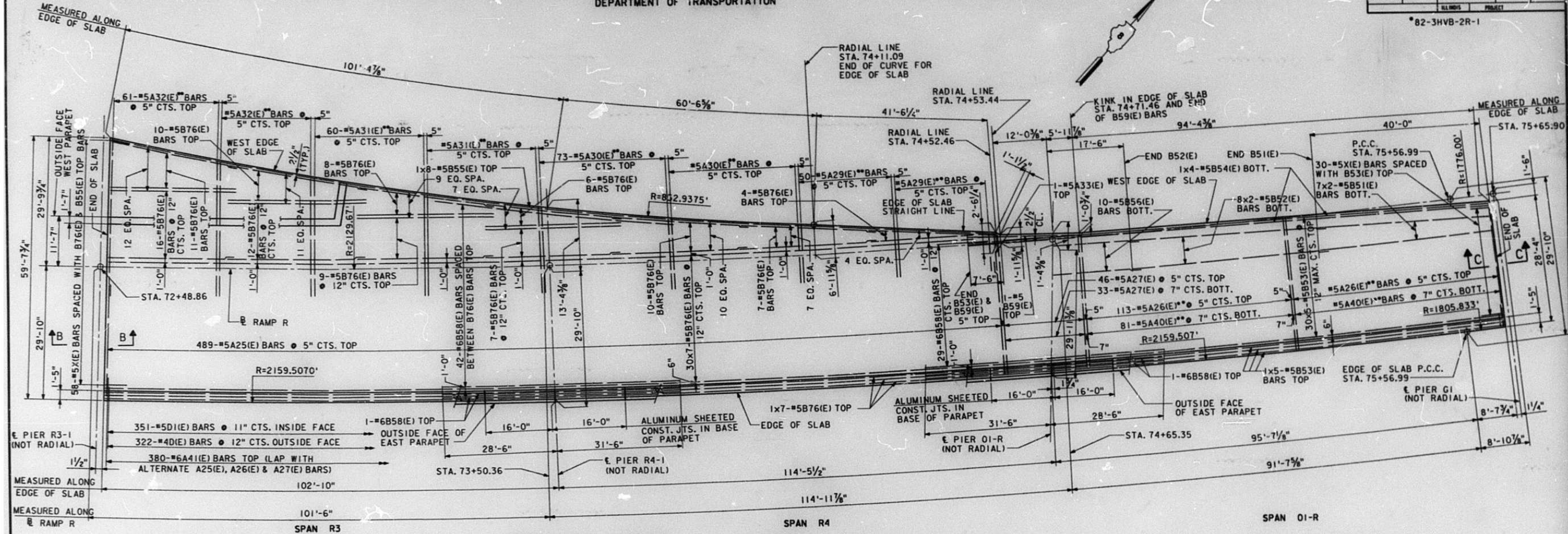


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70
ST. CLAIR
320
109
*82-3HVB-2R-1
℄ EXP. JT. AT ℄ PIER R3-1
311'-7¼"
135'-6⅜"
137'-11⅜"
38'-1½"
1'-0"±
18'-8½"
5 SPA. @ 18'-8⅞" = 93'-8⅜"
23'-0"
23'-0"
4 SPA. @ 19'-9½" = 79'-2"
19'-9⅜"
16'-0"
16'-0"
11'-6¾"
11'-6¾"
PARAPET JT. SPACING
1½" @ 50° F.
℄ PIER R2-1
℄ PIER R1-1
1-#4E6(E) E.F. (TYP. FOR 18'-8½" & 18'-8⅞" PARAPET SECTIONS)
1-#4E4(E) E.F. (TYP. FOR 23'-0" PARAPET SECTIONS)
1-#4E7(E) E.F. (TYP. FOR 19'-9½" & 19'-9⅜" PARAPET SECTIONS)
1-#4E1(E) E.F. (TYP. FOR 16'-0" PARAPET SECTIONS)
1-#4E8(E) E.F. (TYP. FOR 11'-6¾" PARAPET SECTIONS)
END OF PARAPET
END OF PARAPET
1-#8B29(E) E.F.
1-#8B27(E) E.F.
1x5-#5B33(E) E.F.
1x4-#8B36(E) E.F.
4'-7" (TYP. LAP MIN. #8 BAR)
2'-2" (TYP. LAP MIN. #5 BAR)
1-#5B24(E) E.F.
1x3-#8B37(E) E.F.
1x4-#5B34(E) E.F.
1-#5B22(E) E.F.
1-#8B38(E) E.F.
1-#5B35(E) E.F.
ALUMINUM SHEETED CONST. JTS. IN BASE OF PARAPET
SPAN R2
SPAN R1
SPAN A21-R
INSIDE ELEVATION OF EAST PARAPET
E.F. INDICATES EACH FACE
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET
END OF TAPER STA. 70+81.43
4 EQ. SPA. = 87'-2⅛"
4 EQ. SPA. = 101'-11⅞"
2 EQ. SPA. = 33'-4⅛"
4 EQ. SPA. = 133'-4⅝"
CHORD
WEST EDGE OF SLAB
℄ PIER A21
℄ PIER R1-1
℄ RAMP R
℄ PIER R2-1
℄ PIER R3-1
SPAN A21-R
SPAN R1
SPAN R2
WEST EDGE OF SLAB ORDINATES
NOTE: LONGITUDINAL DIMENSIONS ARE MEASURED ALONG CHORDS.
℄ RAMP R
53'-10½"
2 EQ. SPA. = 38'-1½"
4 EQ. SPA. = 62'-7⅜"
4 EQ. SPA. = 75'-3¾"
4 EQ. SPA. = 135'-6⅛"
29'-10"
CHORD
EAST EDGE OF SLAB
P.C.C. STA. 70+40.36
℄ PIER A21
℄ PIER R1-1
℄ PIER R2-1
℄ PIER R3-1
SPAN A21-R
SPAN R1
SPAN R2
EAST EDGE OF SLAB ORDINATES
NOTE: LONGITUDINAL DIMENSIONS ARE MEASURED ALONG CHORDS.
1-#4S(E)
1-#4S1(E)
1-#4S1(E)
1-#4S2(E)
1-#4S(E)
1-#4D2(E) E.F.
VIEW A-A
NOTE: SPACE S(E) THRU S2(E) BARS WITH LONGITUDINAL PARAPET REINFORCEMENT.
1'-0"
1½" CL.
1½" CL.
FOR DETAILS, SEE ROADWAY A PLANS
EDGE OF SLAB
EDGE OF SLAB
D2(E)
1¼" P.J.S.
D1(E)
D(E)
D1(E)
7" VARIES
S1(E)
GUTTER LINE
E8(E)
RADIAL LINE @ STA. 69+41.27
83°-22'-23"
SECTION B-B
NOTES
WORK THIS SHEET WITH SHEETS 9, 10 AND 11.
S. YORDY DESIGNED
T. DILLON CHECKED
K. SCHULT DRAWN
P.W. CLARK CHECKED
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI
REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
EAST PARAPET - SPANS A21-R, R1 & R2
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.
SHEET NO. 12 OF 42

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	110

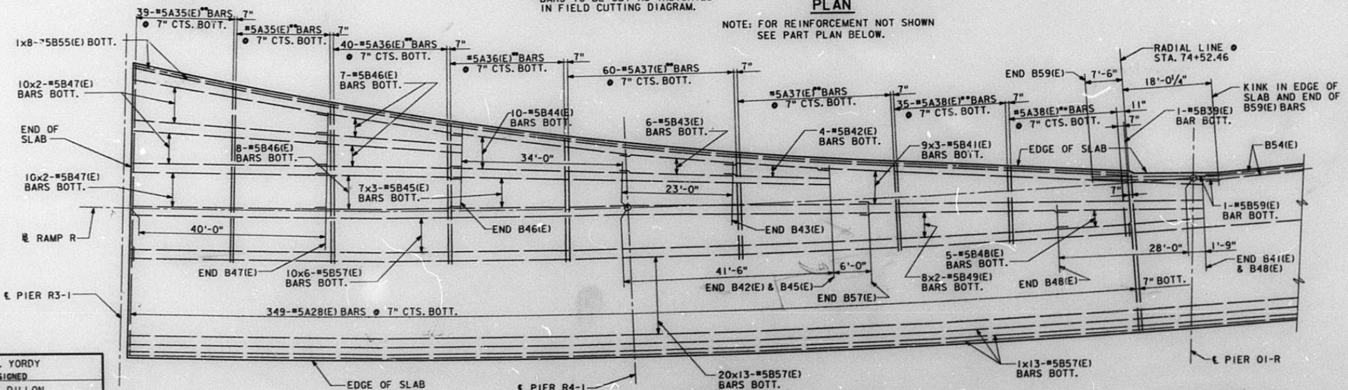
*82-3HVB-2R-1



PLAN

**BARS TO BE CUT AS INDICATED IN FIELD CUTTING DIAGRAM.

NOTE: FOR REINFORCEMENT NOT SHOWN SEE PART PLAN BELOW.



PART PLAN
BOTTOM SLAB REINFORCEMENT

NOTE: DIMENSIONS NOT SHOWN ARE SAME AS TOP SLAB.

NOTES

WORK THIS SHEET WITH SHEETS 14, 15, 16 AND 17.

D(E) BARS LOCATED NEAR THE ENDS OF PARAPETS SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXP. JT. BY 1 IN.

BARS BILLED AS: 52x6-#5 ETC. INDICATES 52 LINES OF BARS WITH 6 LENGTHS PER LINE.

FLOOR DRAINS NOT SHOWN. SEE SHEET 20 FOR LOCATION AND DETAILS.

SPACE BARS D(E) AND D1(E) IN FIELD TO MISS FLOOR DRAINS.

SHIFT TRANSVERSE SLAB BARS IN FIELD TO MISS FLOOR DRAINS.

TRANSVERSE BARS SHALL BE PLACED RADIAL TO ℄ RAMP R AND SPACED ALONG ℄ RAMP R.

ALL LONGITUDINAL BARS SHALL BE SPLICED WITH A 1'-9" MINIMUM LAP.

SEE SHEET 10 FOR SECTION B-B.

S. YORDY	DESIGNED
T. DILLON	CHECKED
S. KAEMMERER	DRAWN
P.W. CLARK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
SLAB - SPAN R3, R4 & 01-R

STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

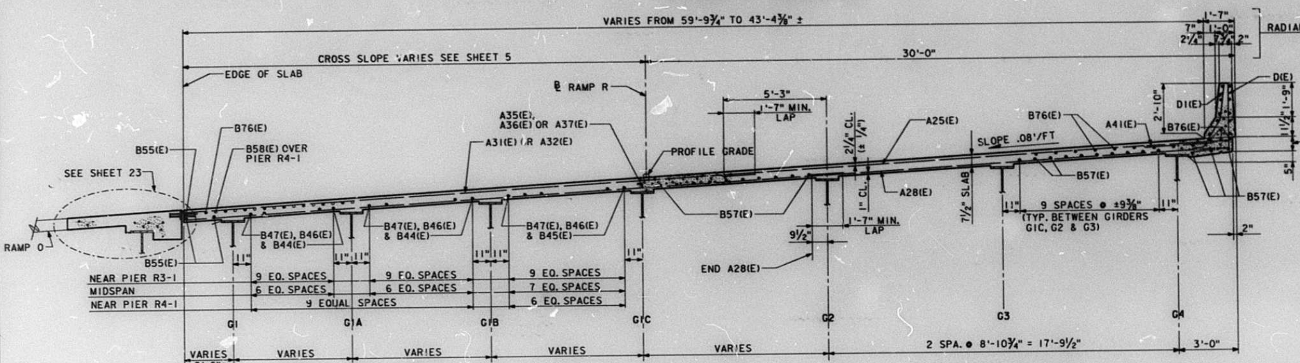
SHEET NO. 13 OF 42

875641 PRF: DET124E

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

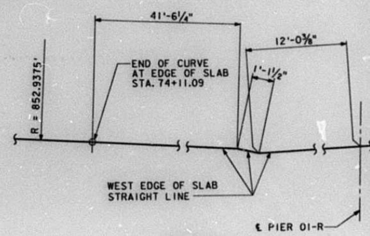
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	111
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

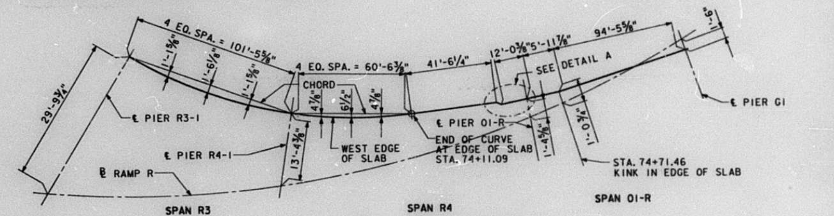


TYPICAL CROSS SECTION - SPAN R3
(LOOKING AHEAD STATION)

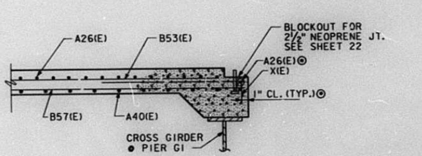
NOTES: GIRDER G1A IS NEAR PIER R3-1 AND MIDSPAN ONLY
FOR VARIABLE GIRDER SPACING SEE SHEET 26
THE CONTRACTOR SHALL SUBMIT THE PROPOSED LOCATION OF LONGITUDINAL JOINTS FOR APPROVAL PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS.



DETAIL A

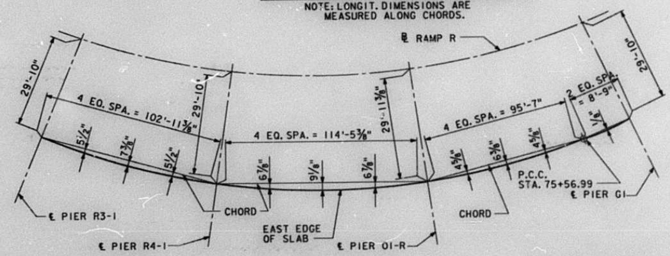


WEST EDGE OF SLAB ORDINATES
NOTE: LONGIT. DIMENSIONS ARE MEASURED ALONG CHORDS.



SECTION C-C

⊙ PLACE A26(E) BAR IN BACK OF ANCHOR BOLT IF REQUIRED TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A26(E) BAR.



EAST EDGE OF SLAB ORDINATES
NOTE: LONGIT. DIMENSIONS ARE MEASURED ALONG CHORDS.

NOTES
WORK THIS SHEET WITH SHEETS 13,15,16 AND 17.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
SLAB - SPAN R3, R4 & 01-R
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

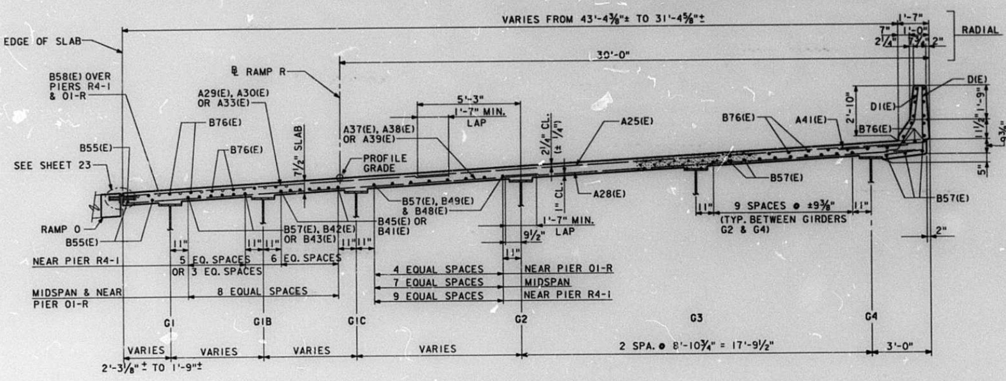
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

S. YORDY	DESIGNED
T. DILLON	CHECKED
S. KAEMMERER	DRAWN
P.W. CLARK	CHECKED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

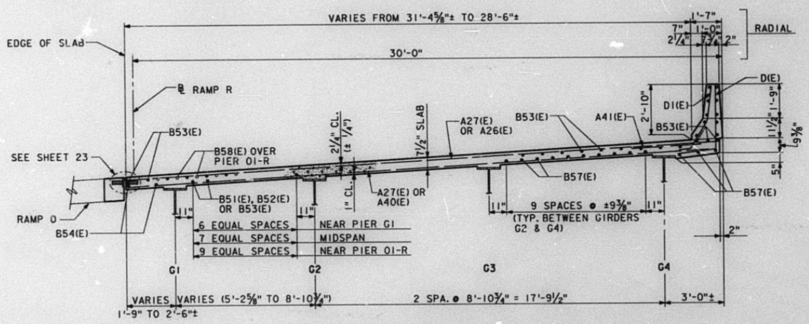
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	112

*82-3HVB-2R-1



TYPICAL CROSS SECTION - SPAN R4
(LOOKING AHEAD STATION)

NOTE: FOR VARIABLE GIRDER SPACING SEE SHEET 26



TYPICAL CROSS SECTION - SPAN 01-R
(LOOKING AHEAD STATION)

NOTES
WORK THIS SHEET WITH SHEET 13, 14, 16, & 17.
FOR ROADWAY CROSS SLOPE SEE SHEET 5.

LEVELS PLOTTED 35 56 57 58 63 DATE: OCT. 14, 1987
FILE: ZF3:[1/0,1]DET126E.DGN PRF: DET126E
10320 875643

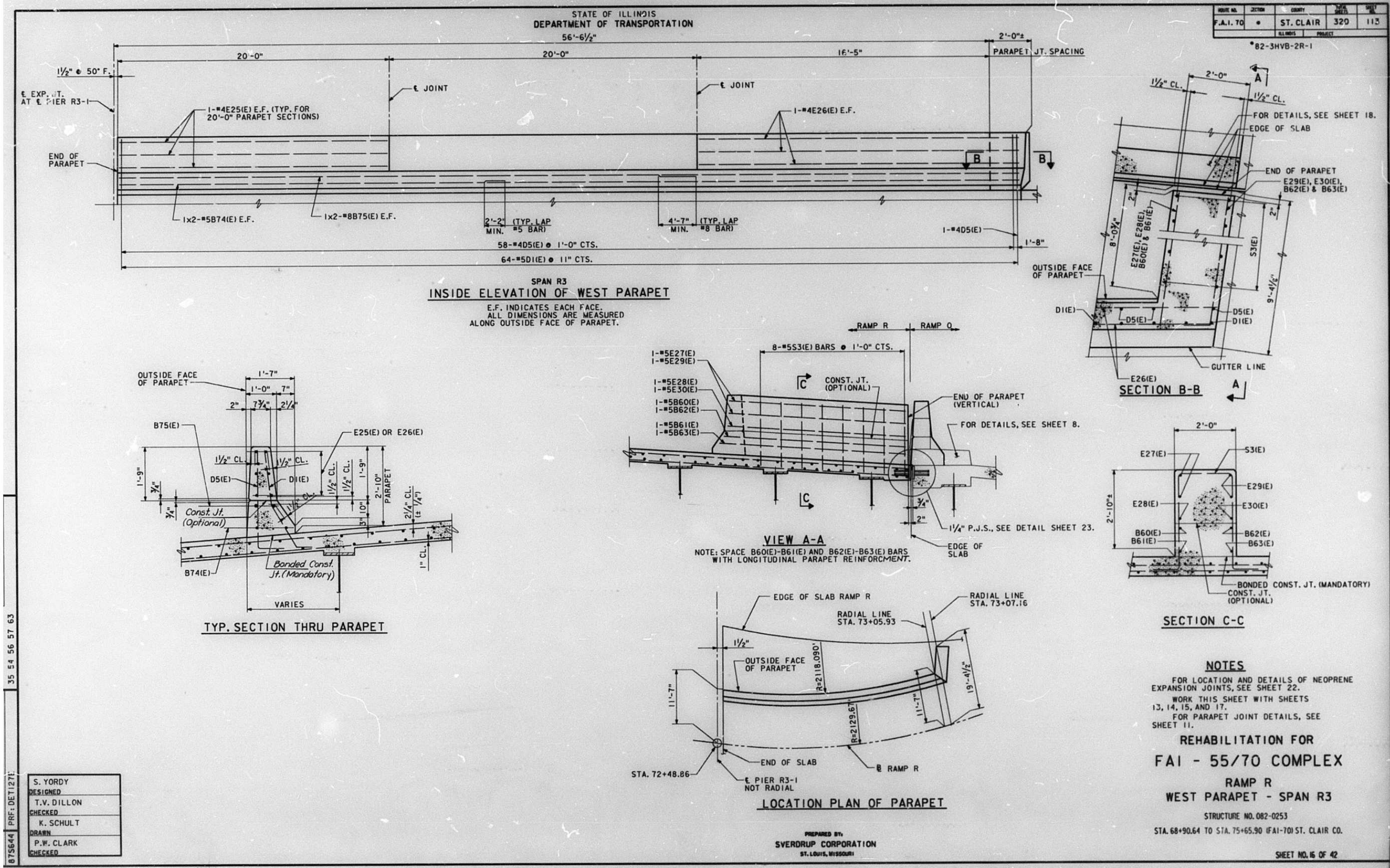
S. YORDY	DESIGNED
T.V. DILLON	CHECKED
S. KAEMMERER	DRAWN
P.W. CLARK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
SLAB - SPAN R3, R4 & 01-R

STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

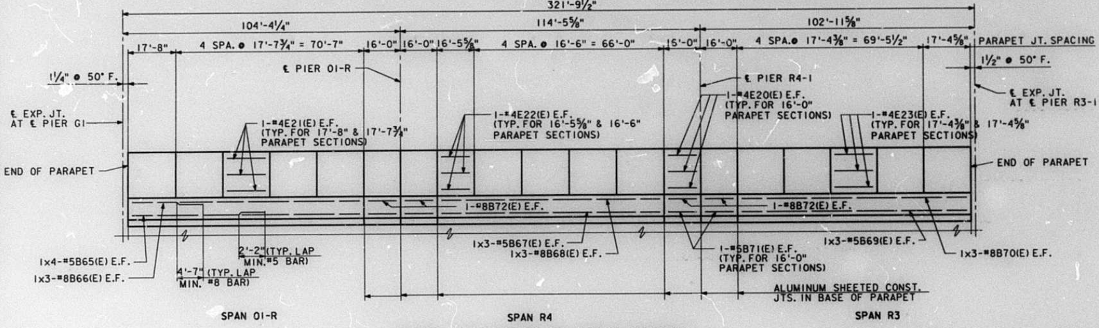
SHEET NO. 15 OF 42


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70
ST. CLAIR
329
113
82-3HVB-2R-1
56'-6½"
20'-0"
20'-0"
16'-5"
2'-0"±
PARAPET JT. SPACING
1½" @ 50° F.
℄ EXP. JT. AT ℄ PIER R3-1
℄ JOINT
1-#4E25(E) E.F. (TYP. FOR 20'-0" PARAPET SECTIONS)
1-#4E26(E) E.F.
END OF PARAPET
1x2-#5B74(E) E.F.
1x2-#8B75(E) E.F.
2'-2" MIN. (TYP. LAP #5 BAR)
4'-7" MIN. (TYP. LAP #8 BAR)
1-#4D5(E)
58-#4D5(E) @ 1'-0" CTS.
64-#5D1(E) @ 11" CTS.
1'-8"
SPAN R3
INSIDE ELEVATION OF WEST PARAPET
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.
SECTION B-B
FOR DETAILS, SEE SHEET 18.
EDGE OF SLAB
END OF PARAPET
E29(E), E30(E), B62(E) & B63(E)
E27(E), E28(E), B60(E) & B61(E)
S3(E)
OUTSIDE FACE OF PARAPET
D1(E)
D5(E)
GUTTER LINE
E26(E)
TYP. SECTION THRU PARAPET
OUTSIDE FACE OF PARAPET
B75(E)
D5(E)
D1(E)
E25(E) OR E26(E)
Const. Jt. (Optional)
Bonded Const. Jt. (Mandatory)
B74(E)
VARIES
2'-10" PARAPET
VIEW A-A
RAMP R
RAMP Q
8-#5S3(E) BARS @ 1'-0" CTS.
1-#5E27(E)
1-#5E29(E)
1-#5E28(E)
1-#5E30(E)
1-#5B60(E)
1-#5B62(E)
1-#5B61(E)
1-#5B63(E)
CONST. JT. (OPTIONAL)
END OF PARAPET (VERTICAL)
FOR DETAILS, SEE SHEET 8.
1¼" P.J.S., SEE DETAIL SHEET 23.
EDGE OF SLAB
NOTE: SPACE B60(E)-B61(E) AND B62(E)-B63(E) BARS WITH LONGITUDINAL PARAPET REINFORCMENT.
SECTION C-C
2'-0"
E27(E)
S3(E)
E29(E)
E28(E)
E30(E)
B60(E)
B61(E)
B62(E)
B63(E)
BONDED CONST. JT. (MANDATORY)
CONST. JT. (OPTIONAL)
LOCATION PLAN OF PARAPET
EDGE OF SLAB RAMP R
RADIAL LINE STA. 73+05.93
RADIAL LINE STA. 73+07.16
OUTSIDE FACE OF PARAPET
R=2118.090'
R=2129.67'
19'-4½"
11'-7"
END OF SLAB
℄ RAMP R
STA. 72+48.86
℄ PIER R3-1 NOT RADIAL
NOTES
FOR LOCATION AND DETAILS OF NEOPRENE EXPANSION JOINTS, SEE SHEET 22.
WORK THIS SHEET WITH SHEETS 13, 14, 15, AND 17.
FOR PARAPET JOINT DETAILS, SEE SHEET 11.
REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
WEST PARAPET - SPAN R3
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.
SHEET NO. 16 OF 42
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
S. YORDY
DESIGNED
T.V. DILLON
CHECKED
K. SCHULT
DRAWN
P.W. CLARK
CHECKED
875644 PRF. DET1271
35 54 56 57 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	114
		ILLINOIS	PROJECT	

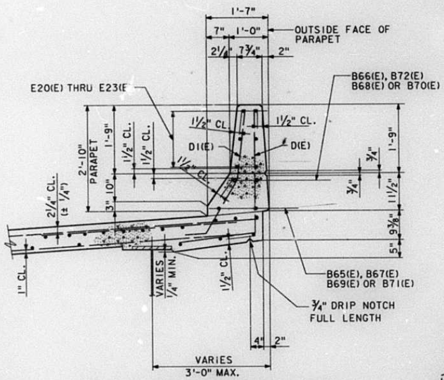
•82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



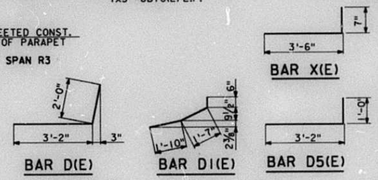
INSIDE ELEVATION OF EAST PARAPET

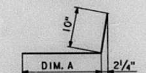
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.



TYPICAL SECTION THRU PARAPET

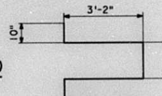
NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER, UNLESS OTHERWISE SHOWN ON PARAPET JOINT DETAILS.





BARS E29(E), E30(E), B62(E) & B63(E)

BAR	DIM. A
E29(E)	8'-7"
E30(E)	8'-8"
B62(E)	8'-10"
B63(E)	9'-1"



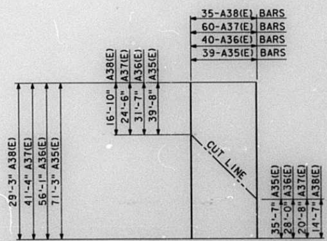
BAR S3(E)

BILL OF MATERIAL

SPANS R3, R4 AND 01-R

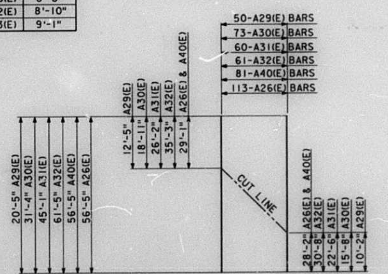
BAR	NO.	SIZE	LENGTH	SHAPE	BAR	NO.	SIZE	LENGTH	SHAPE
A25(E)	489	#5	24'-10"	—	B62(E)	1	#5	9'-8"	
A26(E)	113	#5	56'-5"	—	B63(E)	1	#5	9'-11"	
A27(E)	79	#5	30'-6"	—	B65(E)	8	#5	23'-8"	—
A28(E)	349	#5	20'-5"	—	B66(E)	6	#8	32'-5"	—
A29(E)	50	#5	20'-5"	—	B67(E)	6	#5	28'-11"	—
A30(E)	73	#5	31'-4"	—	B68(E)	6	#8	30'-6"	—
A31(E)	60	#5	45'-1"	—	B69(E)	6	#5	30'-5"	—
A32(E)	61	#5	61'-5"	—	B70(E)	6	#8	32'-0"	—
A33(E)	1	#5	8'-0"	—	B71(E)	8	#5	15'-9"	—
A35(E)	39	#5	71'-3"	—	B72(E)	8	#8	15'-9"	—
A36(E)	40	#5	56'-1"	—	B74(E)	4	#5	30'-2"	—
A37(E)	60	#5	41'-4"	—	B75(E)	4	#8	31'-5"	—
A38(E)	35	#5	29'-3"	—	B76(E)	331	#5	30'-0"	—
A39(E)	1	#5	12'-5"	—	D(E)	322	#4	5'-2"	
A40(E)	81	#5	56'-5"	—	D1(E)	415	#5	3'-11"	
A41(E)	380	#6	4'-0"	—	D5(E)	59	#4	4'-2"	
B41(E)	27	#5	26'-10"	—	E20(E)	24	#4	15'-9"	—
B42(E)	4	#5	20'-4"	—	E21(E)	30	#4	17'-5"	—
B43(E)	6	#5	24'-9"	—	E22(E)	30	#4	16'-3"	—
B44(E)	10	#5	35'-9"	—	E23(E)	30	#4	17'-1"	—
B45(E)	21	#5	26'-11"	—	E25(E)	12	#4	19'-9"	—
B46(E)	22	#5	29'-2"	—	E26(E)	6	#4	18'-1"	—
B47(E)	60	#5	20'-10"	—	E27(E)	2	#5	8'-7"	—
B48(E)	5	#5	29'-9"	—	E28(E)	1	#5	8'-8"	—
B49(E)	16	#5	22'-5"	—	E29(E)	2	#5	9'-5"	
B51(E)	14	#5	20'-10"	—	E30(E)	1	#5	9'-6"	
B52(E)	16	#5	22'-4"	—					
B53(E)	165	#5	25'-5"	—	S3(E)	8	#5	9'-9"	
B54(E)	8	#5	24'-11"	—					
B55(E)	24	#5	26'-11"	—	X(E)	88	#5	4'-1"	
B56(E)	10	#5	19'-3"	—	CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	346.6
B57(E)	359	#5	26'-4"	—					
B58(E)	75	#6	60'-0"	—	REINFORCEMENT BARS (EPOXY COATED)			LBS.	101,095
B59(E)	3	#5	25'-6"	—					
B60(E)	1	#5	8'-10"	—					
B61(E)	1	#5	9'-1"	—					

REINFORCEMENT BARS (E) SHALL BE EPOXY COATED.



FIELD CUTTING DIAGRAM

ORDER A35(E), A36(E), A37(E), A38(E) BARS FULL LENGTH. CUT TO FIT AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.



FIELD CUTTING DIAGRAM

ORDER A26(E), A29(E), A30(E), A31(E), A32(E), AND A40(E) BARS FULL LENGTH. CUT TO FIT AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

NOTES

WORK THIS SHEET WITH SHEETS 13, 14, 15, AND 16.

S. YORDY	DESIGNED
T. DILLON	CHECKED
JGC	DRAWN
P.W. CLARK	CHECKED

87S645 PRF: DET128E

35 54 56 57 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLEX

RAMP R

EAST PARAPET - SPANS R3, R4 AND 01-R

STRUCTURE NO. 082-0253

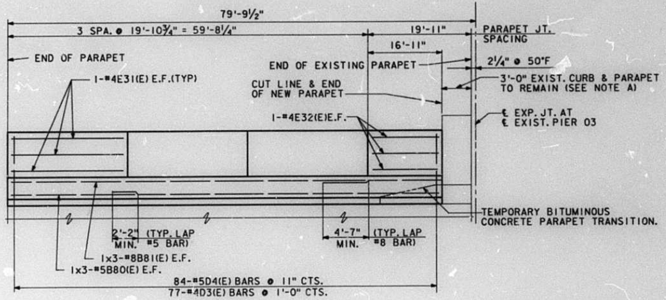
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 17 OF 42

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	115

•82-3HVB-2R-1

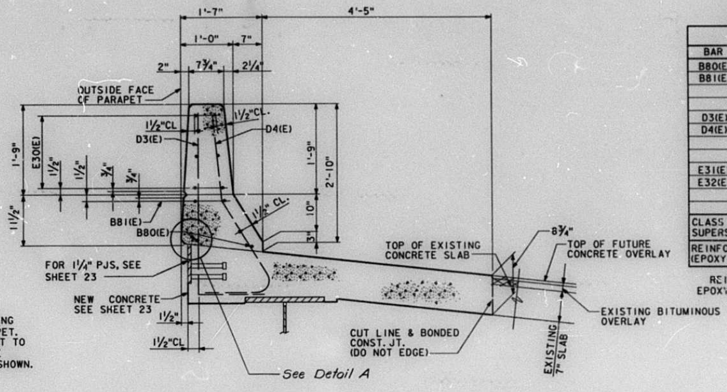
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SPAN 03
INSIDE ELEVATION OF EAST PARAPET

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.

NOTE A: REMOVE EXISTING LONGIT. REINFORCING 1" MIN. INTO FACE OF EXISTING PARAPET. NEW PARAPET TO BE POURED ADJACENT TO EXISTING CURB AND PARAPET. PROVIDE TEMPORARY PARAPET TRANSITION AS SHOWN.

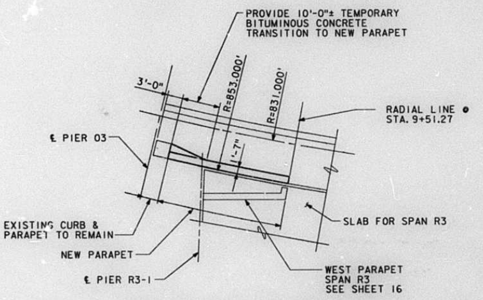


TYPICAL SECTION THRU PARAPET

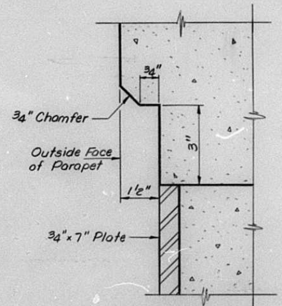
BILL OF MATERIAL

SPAN 03				
BAR	NO.	SIZE	LENGTH	SHAPE
B80(E)	6	#5	26'-11"	—
B81(E)	6	#8	28'-6"	—
D3(E)	77	#4	4'-8"	
D4(E)	84	#5	4'-11"	
E31(E)	18	#4	[illegible]'-8"	—
E32(E)	6	#4	[illegible]'-8"	—
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	7.8
REINFORCEMENT BARS (EPOXY COATED)			LBS.	1,600

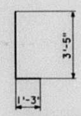
REINFORCEMENT BARS (E) SHALL BE EPOXY COATED.



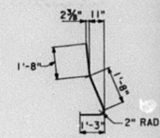
LOCATION PLAN OF PARAPET



DETAIL A



BAR D3(E)



BAR D4(E)

NOTES

BITUMINOUS CONCRETE AND PATCHING FOR TEMPORARY PARAPET TRANSITION SHALL BE CONSIDERED INCIDENTAL TO COST OF REPLACEMENT OF PARAPETS.
FOR JOINT DETAILS, SEE SHEET 11.
EXISTING REINFORCEMENT SHALL BE CLEANED, STRAIGHTENED AND INCORPORATED INTO NEW CONSTRUCTION.

S. YORDY	DESIGNED
T. DILLON	CHECKED
L SCHURMAN-JGC	DRAWN
P.W. CLARK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP O
EAST PARAPET - SPAN 03

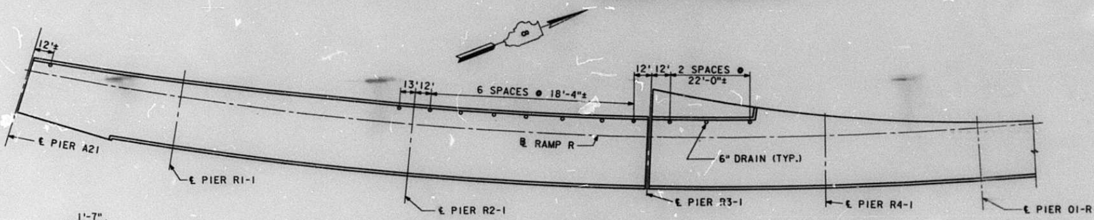
STRUCTURE NO. 082-0201
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 18 OF 42

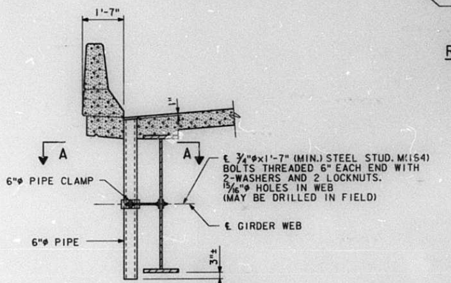
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	116

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

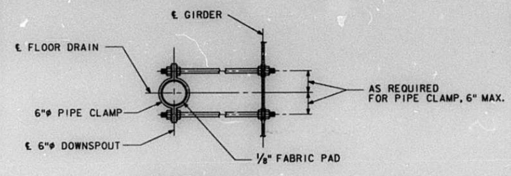


PLAN
RAMP R - DECK DRAIN LOCATIONS

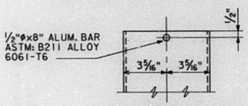


SECTION AT PARAPET

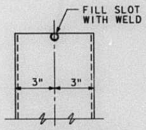
THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.



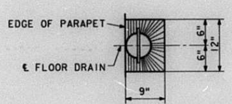
SECTION A-A



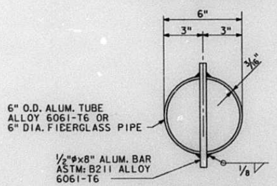
FIBERGLASS PIPE



ALUMINUM TUBE



TOP PLAN



TOP PLAN
ALUMINUM TUBE SHOWN

NOTES

FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.

THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE ZINC-SILICATE AND VINYL PAINT SYSTEM SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING.

FLOOR DRAINS

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
FLOOR DRAIN	EACH	12

DESIGNED
CHECKED K. SCHULT
DRAWN R. NIEMIETZ
CHECKED

87S647 PRF: DET130E

35 56 58 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
FLOOR DRAINS

STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 20 OF 42

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	117

ILLINOIS PROJECT

* 82 - 3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Joint Size	"C" at 50°F	"D" at 50°F	Location
~~2"~~	~~2"~~	~~$1\frac{1}{2}$" Min.~~	
$2\frac{1}{2}$"	$2\frac{1}{2}$"	$1\frac{3}{4}$" Min.	Piers A21-R & G1
4"	3"	$2\frac{1}{2}$" Min.	Pier R3-1

INSTALLATION NOTES

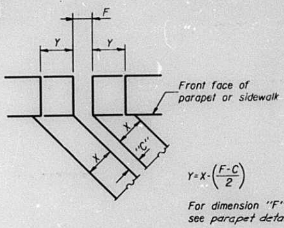
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

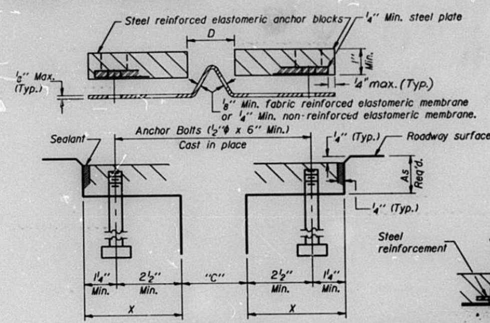
SKEW LIMITATIONS

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

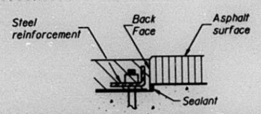
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of $1\frac{1}{2}$" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



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.

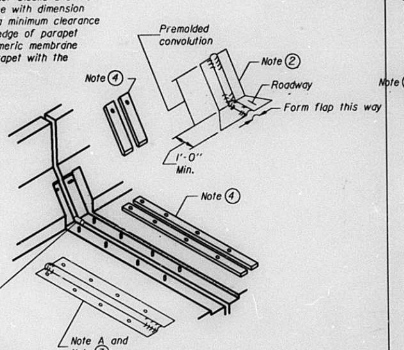
The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

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.

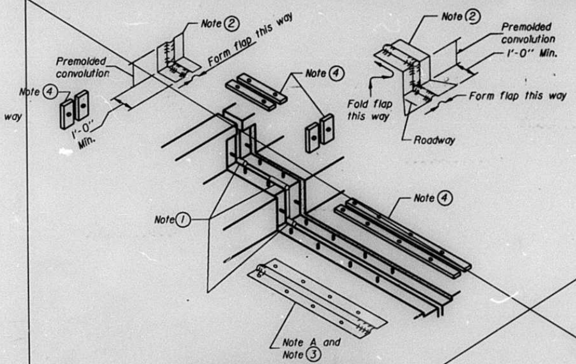
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

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.

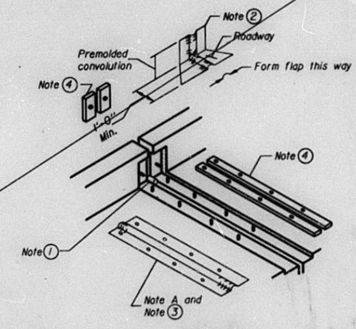
~~Anchor bolts, washers and nuts, to be plated against corrosion in accordance with the special provisions, shall be zinc-coated by the mechanical plating method conforming to ASTM B695, class 50. Zinc-coated nuts shall be tapped oversize in accordance with the requirements of AASHTO M291 and shall meet the supplementary requirements S1.1 thru S1.2.1 of the same specifications for lubricant and testing.~~



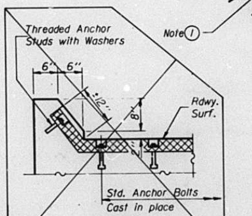
AT PARAPET



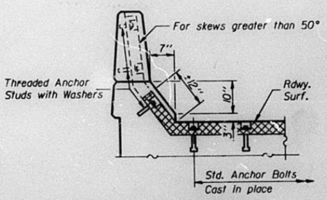
AT SIDEWALK OR MEDIAN



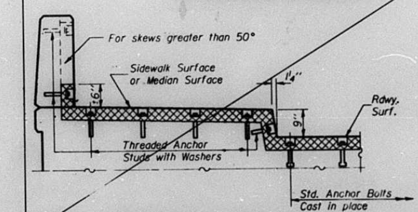
AT WALL



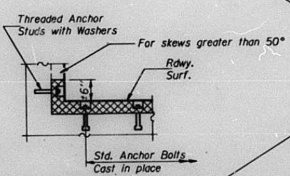
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN



AT WALL

TYPICAL END TREATMENTS

DESIGNED	
CHECKED	
DRAWN	
CHECKED	F. A. Camba

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 2", $2\frac{1}{2}$" AND 4' MOVEMENT

STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST.CLAIR CO.

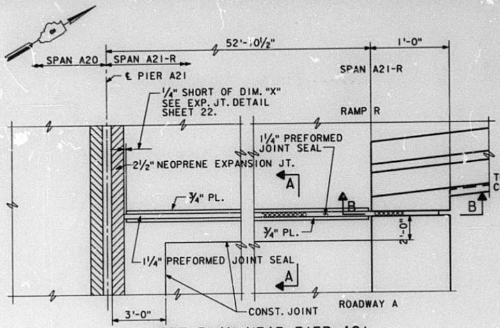
SHEET NO. 22 OF 42

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	118

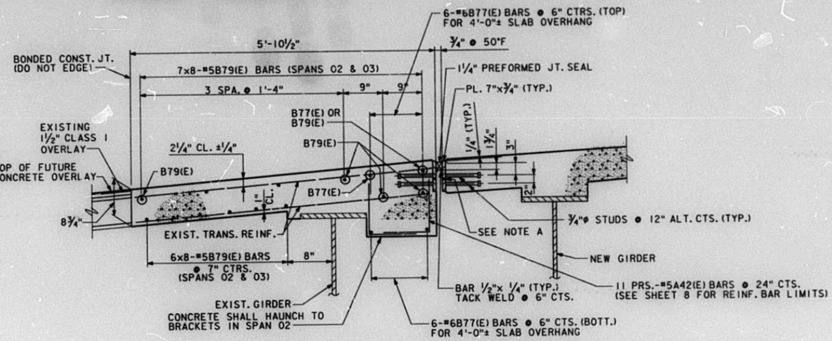
ILLINOIS PROJECT

*82-3HVB-2R-1



PART PLAN NEAR PIER A21

STRUCTURAL STEEL (M183) WT. = 2,120 LBS.



SECTION THRU 1¼" PREFORMED JOINT SEAL BETWEEN SPANS R3-03 AND R4-02

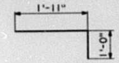
BILL OF MATERIAL

SPANS R3-03, R4-02 AND 01-R

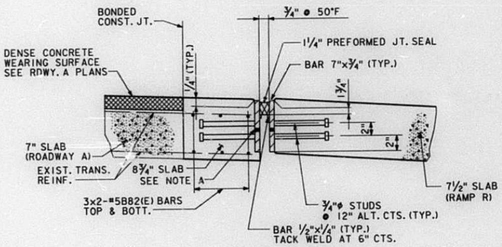
BAR	NO.	SIZE	LENGTH	SHAPE
A42(E)	22	#5	2'-11"	
B77(E)	12	#6	20'-0"	—
B78(E)	18	#6	35'-0"	—
B79(E)	104	#5	30'-0"	—
B82(E)	8	#5	27'-9"	—

CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	25.7
REINFORCEMENT BARS (EPOXY COATED)	LBS.	4974
STRUCTURAL STEEL (M183)	LBS.	14,571

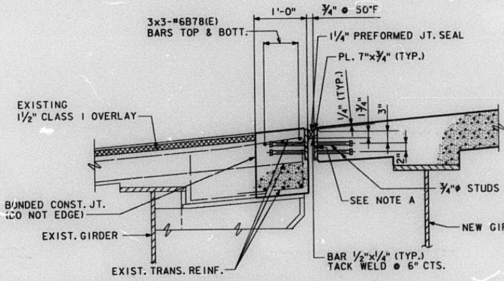
REINFORCEMENT BARS (E) SHALL BE EPOXY COATED.



BAR A42(E)



SECTION A-A



SECTION THRU 1¼" PREFORMED JOINT SEAL IN SPAN 01-R

NOTE A

PROVIDE 7/16"φ HOLES AT 12" CTS. FOR ⅜"φ BOLTS. ALL BOLTS SHALL BE BURNED, SAWED OR CHIPPED OFF FLUSH WITH THE PLATES AFTER FORMS ARE REMOVED.

NOTES

FOR STRUCTURAL STEEL NOTES SEE SHEET 25.

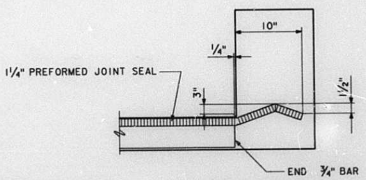
FOR DEMOLITION DETAILS IN SPANS 01-R, 02 & 03 SEE SHEET 8.

ALL STUDS TO BE ¾"φx8" GRANULAR OR SOLID FLUX FILLED HEADED STUDS CONFORMING TO ART. 710.38 OF THE STD. SPECIFICATIONS, AUTOMATICALLY END WELDED.

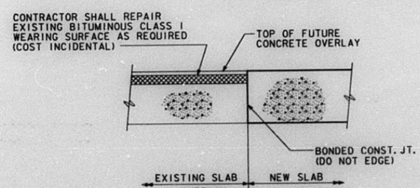
EXPANSION JOINT PLATES SHALL BE FABRICATED TO CONFORM TO THE GRADE AND CROSS SLOPE OF THE ROADWAY.

AFTER FABRICATION ALL SURFACES OF THE STEEL PLATES SHALL BE GIVEN ONE SHOP COAT OF PAINT SPECIFIED FOR STRUCTURAL STEEL.

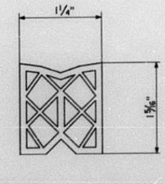
ALL LONGITUDINAL REINFORCEMENT SHALL LAP A MINIMUM OF 1'-9".



SECTION B-B



DETAIL AT BONDED JOINT



PREFORMED JOINT SEAL

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
PREFORMED JOINT SEALS 1¼"

STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 23 OF 42

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

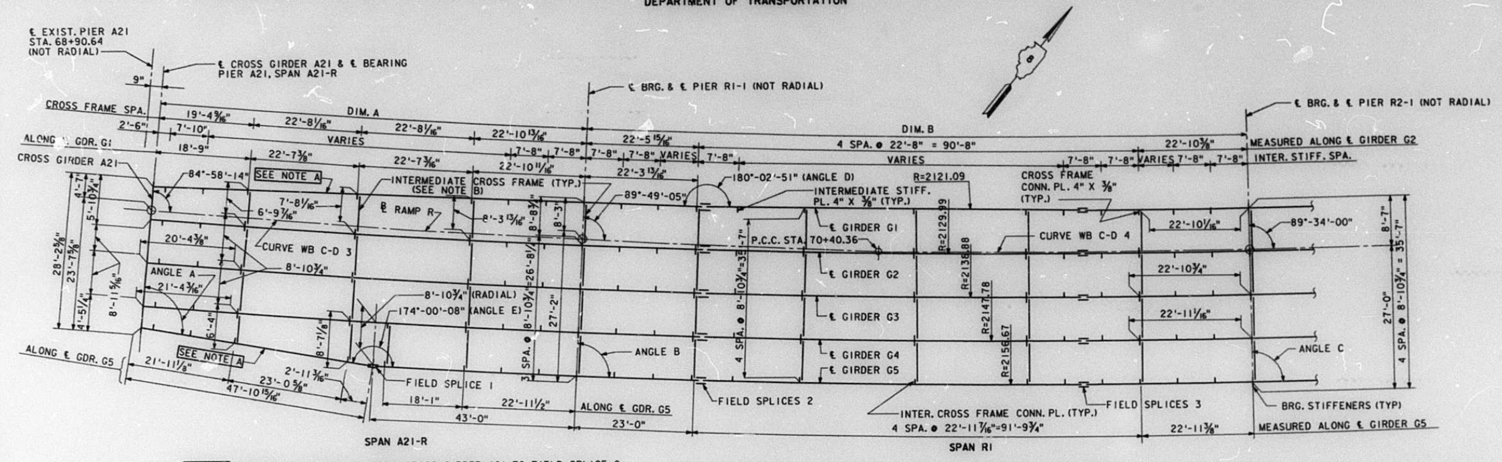
F.A. CAMBA	DESIGNED
—	CHECKED
D. FRIERDICH	DRAWN
R.F. BECK	CHECKED

87S648 PRF: DET131E
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	119

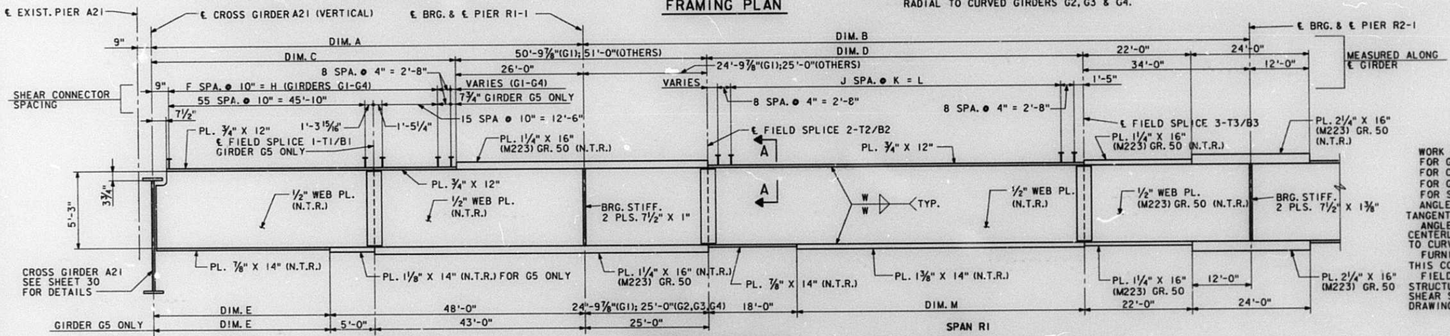
*82-3HVB-2R-1



NOTE A: GIRDER G1 IS STRAIGHT FROM CROSS GIRDER A21 TO FIELD SPLICE 2.
GIRDER G5 IS STRAIGHT FROM CROSS GIRDER A21 TO FIELD SPLICE 1.

FRAMING PLAN

NOTE B: ALL CROSS FRAMES BETWEEN PIERS ARE RADIAL TO CURVED GIRDERS G2, G3 & G4.



GIRDER ELEVATION

NOTE: FOR WELD SIZE W, SEE TABLE ON SHEET 29.

NOTES

WORK THIS SHEET WITH SHEET 25.
FOR GENERAL NOTES SEE SHEET 2.
FOR CROSS FRAMES AND GIRDER DETAILS, SEE SHEET 29.
FOR GIRDER SPLICE DETAILS, SEE SHEET 31.
FOR SECTION A-A SEE SHEET 26.

ANGLES D AND E ARE FROM ℄ GIRDER G1 OR G5 TO TANGENT TO CURVED GIRDER AT CENTERLINE OF SPLICES.

ANGLES SHOWN IN PLAN AT BASELINE ARE FROM CENTERLINE OF PIER OR BEARING AT PIER TO TANGENT TO CURVE AT CROSS GIRDER OR PIER NOTED.

FURNISHING OF STRUCTURAL STEEL IS NOT PART OF THIS CONTRACT, UNLESS OTHERWISE NOTED.

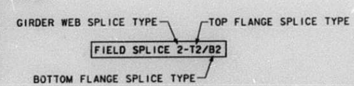
FIELD DRILLING, FIELD WELDING, ERECTION OF STRUCTURAL STEEL, FURNISHING AND INSTALLATION OF SHEAR STUDS ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

GIRDER VARIABLES

GIRDER	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	F SPA.	DIM. H	J SPA.	DIM. K	DIM. L	DIM. M	ANGLE A	ANGLE B	ANGLE C
G1	86'-10¼"	135'-5 7/16"	60'-10¼"	76'-7 9/16"	38'-10¼"	67	55'-10"	82	10"	68'-4"	58'-7 9/16"	81°-08'-03"**	88°-46'-59"**	89°-33'-54"
G2	87'-7½"	136'-0 5/16"	61'-7½"	77'-0 5/16"	39'-7½"	68	56'-8"	82	10"	68'-4"	59'-0 5/16"	84°-12'-41"	89°-30'-11"	89°-34'-00"
G3	88'-9 13/16"	136'-7¼"	62'-9 13/16"	77'-7¼"	40'-9 13/16"	69	57'-6"	83	10"	69'-2"	59'-7¼"	84°-14'-08"	89°-30'-19"	89°-34'-07"
G4	90'-0⅛"	137'-2 3/16"	64'-0⅛"	78'-2 3/16"	42'-0⅛"	71	59'-2"	84	10"	70'-0"	60'-2 3/16"	84°-15'-34"	89°-30'-26"	89°-34'-13"
G5	90'-10 15/16"	137'-9⅛"	64'-10 15/16"	78'-9⅛"	42'-10 15/16"	—	—	84	10"	70'-0"	60'-9⅛"	89°-00'-02"**	89°-30'-33"	89°-34'-19"

NOTE: ALL ANGLES IN TABLE ABOVE ARE MEASURED FROM TANGENT TO GIRDERS @ ℄ BRG. TO ℄ CROSS GIRDER OR ℄ PIER EXCEPT WHERE INDICATED BY **.

LEGEND:



S. YORDY	DESIGNED
T.V. DILLON	CHECKED
S. STEGMAN	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R - FRAMING PLAN
AND GIRDER ELEVATION
SPANS A21-R & R1
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

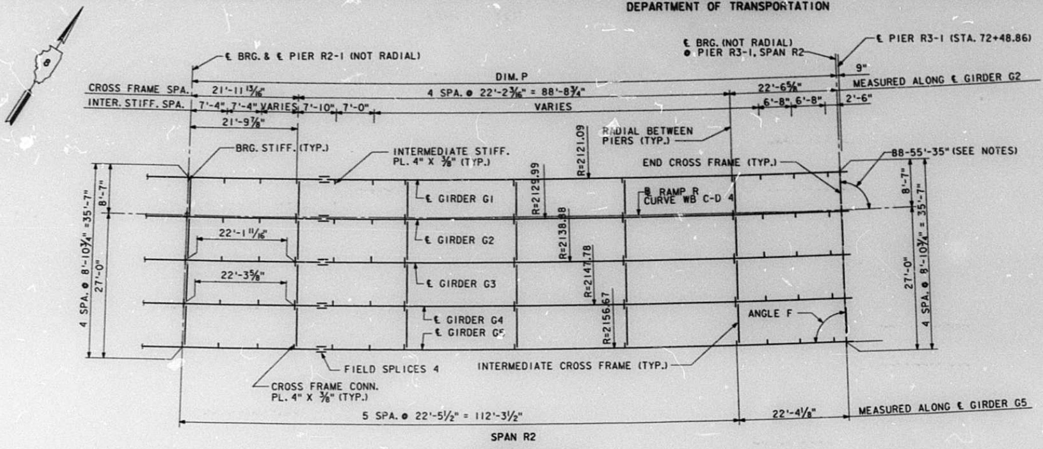
SHEET NO. 24 OF 42

875314 PRF: DET221 35 56 63

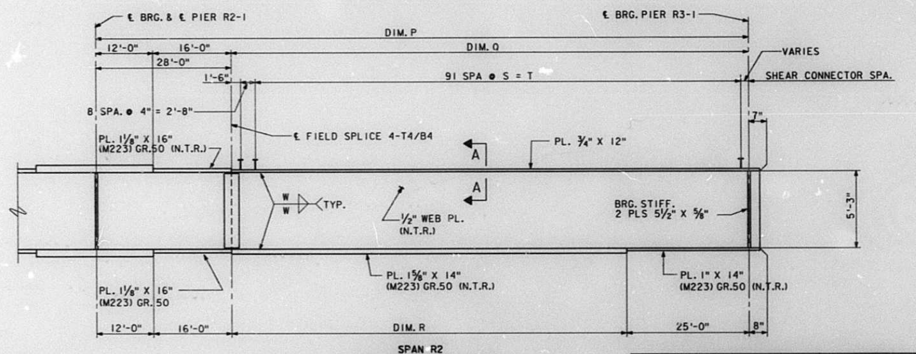
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	●	ST. CLAIR	320	120

*82-3HVB-2R-1



FRAMING PLAN



GIRDER ELEVATION

NOTE: FOR WELD SIZE W, SEE TABLE ON SHEET 29.

STRUCTURAL STEEL NOTES

ALL PLAN DIMENSIONS ARE MEASURED HORIZONTALLY AT TOP OF GIRDER WEB PLATES.

FASTENERS SHALL BE 7/8"⌀ HIGH STRENGTH BOLTS AASHTO M164 WITH 15/16" ⌀ OPEN HOLES UNLESS OTHERWISE NOTED.

THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE TENSION FLANGES, WEBS AND ALL SPLICE PLATE MATERIAL OF THE STEEL GIRDERS OR WIDE FLANGE BEAMS.

ALL BEARING STIFFENERS AND FIELD WEB SPLICES SHALL BE VERTICAL IN THE COMPLETED STRUCTURE. ALL INTERMEDIATE CROSS FRAME CONNECTION PLATES AND INTERMEDIATE STIFFENERS SHALL BE NORMAL TO ONE OF GIRDERS ON EITHER SIDE.

✦ INDICATES HIGH STRENGTH BOLT, SHOP OR FIELD INSTALLED UNLESS OTHERWISE NOTED.

ALL BOLTS FOR THE SLOTTED HOLES SHALL ONLY BE FINGER TIGHTENED PRIOR TO THE DECK SLAB POURING AND THEN FULLY-TIGHTENED AFTER THE COMPLETION OF THE POURING.

NOTES

WORK THIS SHEET WITH SHEET 24.

FURNISHING OF STRUCTURAL STEEL IS NOT PART OF 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.

TOP OF WEB ELEVATIONS - SPANS A21-R, R1 AND R2

LOCATION / GIRDER	℄ CROSS GIRDER PIER A21	℄ FIELD SPL. 1	℄ BRG. PIER R1-1	℄ FIELD SPL. 2 SPAN R1	℄ FIELD SPL. 3 SPAN R1	℄ BRG. PIER R2-1	℄ FIELD SPL. 4 SPAN R2	℄ BRG. PIER R3-1
G1	453.136	———	455.185	455.872	457.725	458.380	458.952	460.094
G2	453.582	———	455.883	456.588	458.440	459.091	459.670	460.804
G3	454.256	———	456.594	457.296	459.154	459.801	460.379	461.515
G4	454.928	———	457.305	458.003	459.867	460.512	461.088	462.225
G5	455.261	456.924	458.016	458.708	460.577	461.222	461.787	462.935

NOTE: TOP OF WEB ELEVATIONS SHOWN FOR FABRICATION ONLY. ELEVATIONS SHOWN FOR GIRDERS G1 THRU G5 AT CROSS GIRDER AT PIER A21 ARE TOP OF GIRDER WEB EXTENDED.

GIRDER VARIABLES

GIRDER	DIM. P	DIM. Q	DIM. R	DIM. S	DIM. T	ANGLE F
G1	132'-9 11/16"	104'-9 11/16"	79'-9 11/16"	1'-1 1/4"	100'-5 3/4"	91°-04'-40"
G2	133'-3 3/16"	105'-3 3/16"	80'-3 3/16"	1'-1 1/4"	100'-5 3/4"	91°-04'-24"
G3	133'-8 5/8"	105'-8 5/8"	80'-8 5/8"	1'-1 3/8"	101'-5 1/8"	91°-04'-08"
G4	134'-2 1/8"	106'-2 1/8"	81'-2 1/8"	1'-1 3/8"	101'-5 1/8"	91°-03'-52"
G5	134'-7 5/8"	106'-7 5/8"	81'-7 5/8"	1'-1 1/2"	102'-4 1/2"	91°-[illegible]'-36"

NOTE: ALL ANGLES F IN TABLE ARE MEASURED FROM TANGENT TO GIRDER ● ℄ BRG. TO ℄ BRG. AT PIER R3-1.

S. YORDY	DESIGNED
T.V. DILLON	CHECKED
S. STEGMAN	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
FRAMING PLAN AND
GIRDER ELEVATION - SPAN R2
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

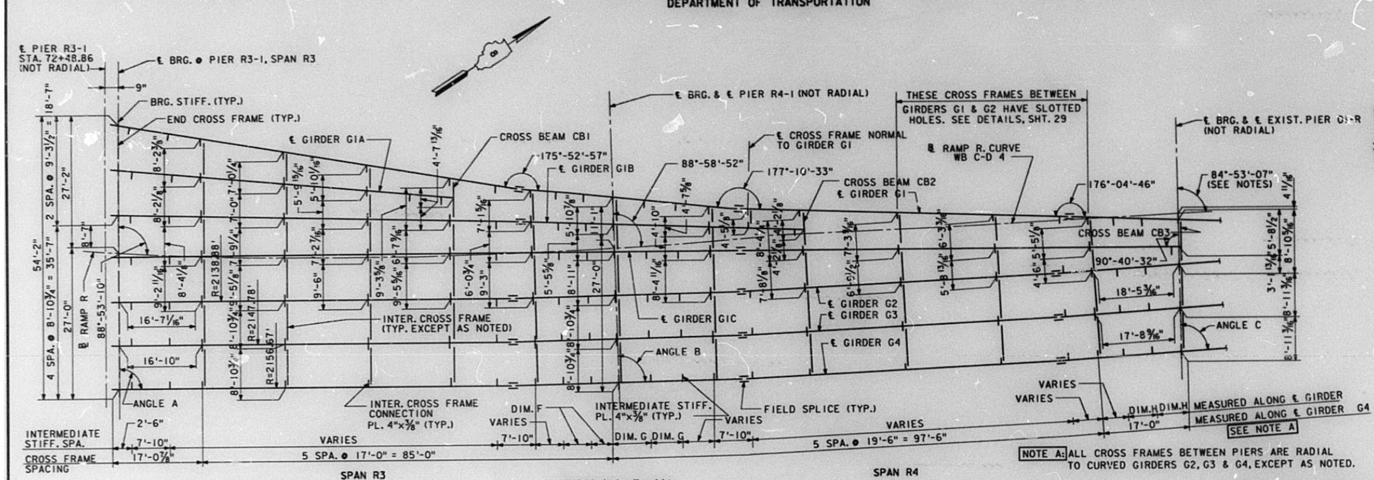
SHEET NO. 25 OF 42

87S336 PRF: DET23R FILE: ...23R.DGN LEVELS PLOTTED 35 56 63 DATE: JUNE 23, 1987

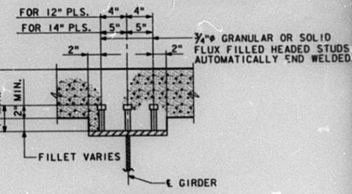
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	121
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

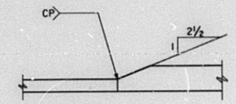


FRAMING PLAN

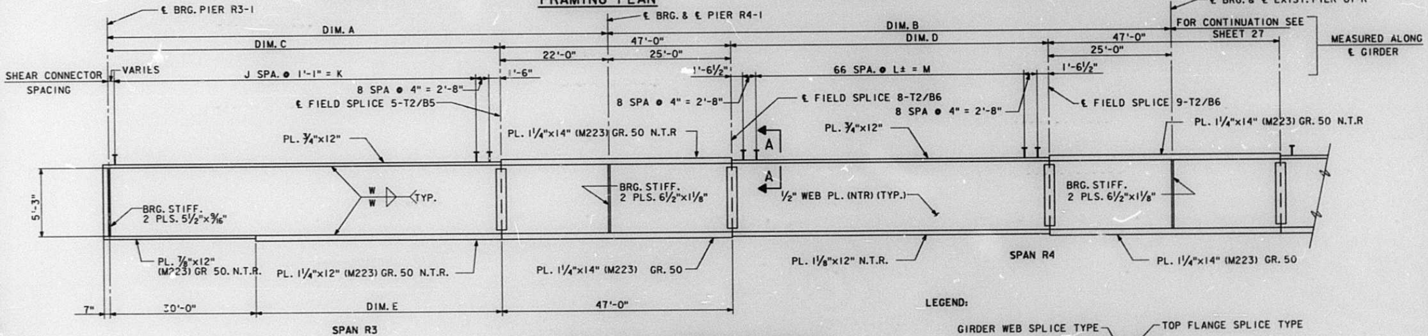


SECTION A-A

(7983- ¾"φ STUDS REQUIRED, SEE NOTES)



FLANGE SHOP SPLICE DETAIL



ELEVATION - GIRDER G2 THRU G4

NOTE: FOR WELD SIZE W, SEE TABLE ON SHEET 29.

LEGEND:

GIRDER WEB SPLICE TYPE — TOP FLANGE SPLICE TYPE

FIELD SPLICE 7-T2/B6

BOTTOM FLANGE SPLICE TYPE

NOTES

WORK THIS SHEET WITH SHEETS 27 & 28.

FOR GENERAL NOTES, SEE SHEET 2.

FOR STRUCTURAL STEEL NOTES SEE SHT. 25

FOR ELEVATION OF GIRDERS G1 AND G1C SEE SHEET 28.

FOR ELEVATION OF GIRDERS G1A AND G1B SEE SHEET 27.

ANGLES SHOWN IN PLAN AT BASELINE ARE FROM CENTERLINE PIER OR CENTERLINE OF BEARING AT PIER TO TANGENT TO CURVE AT PIER NOTED.

FOR CROSS FRAMES AND CROSS BEAMS SEE SHEET 29.

FOR FIELD SPLICE DETAILS SEE SHEET 31.

GIRDERS G2, G3 & G4 ARE CURVED AS SHOWN. GIRDER G1 IS STRAIGHT BETWEEN END PIERS AND FIRST INTERIOR FIELD SPLICE AND BETWEEN FIELD SPLICES. GIRDERS G1A, G1B AND G1C ARE STRAIGHT FROM END TO END.

FURNISHING OF STRUCTURAL STEEL IS NOT PART OF 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.

GIRDER VARIABLES

GIRDER	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F	DIM. G	DIM. H	SPA. J	DIM. K	SPA. L	DIM. M	ANGLE A	ANGLE B	ANGLE C	GIRDER
G2	101'-2⁷⁄₁₆"	114'-9⅞"	79'-2⁷⁄₁₆"	64'-9⅞"	49'-2⁷⁄₁₆"	5'-8½"	6'-4"	6'-1"	69	74'-9"	10¼"±	56'-4⅞"	88°-53'-27"	88°-59'-08"	84°-54'-26"	G2
G3	101'-7⅝"	114'-8"	79'-7⅝"	64'-8"	49'-7⅝"	5'-8⅜"	6'-5"	5'-11"	69	74'-9"	10¼"±	56'-5"	88°-53'-44"	88°-59'-23"	84°-55'-42"	G3
G4	102'-0⅞"	114'-6"	80'-0⅞"	64'-6"	50'-0⅞"	5'-8"	6'-6"	5'-8"	70	75'-10"	10¼"±	56'-1"	88°-54'-00"	88°-59'-38"	84°-56'-58"	G4
													97°-30'-56"	96°-12'-12"	88°-27'-21"	G1
													93°-29'-51"	———	———	G1A
													89°-28'-25"	92°-16'-45"	———	G1B
													87°-31'-17"	90°-19'-37"	SEE PLAN	G1C

NOTE: ANGLES A, B & C FOR GIRDERS G2 THRU G4 ARE MEASURED FROM TANGENT TO GIRDER (@ ℄ PIER) TO ℄ PIER.

S. YORDY	DESIGNED
T.V. DILLON	CHECKED
S. STEGMAN	DRAWN
T. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR

FAI - 55/70 COMPLEX

RAMP R
FRAMING PLAN AND GIRDER ELEVATION
SPANS R3 AND R4

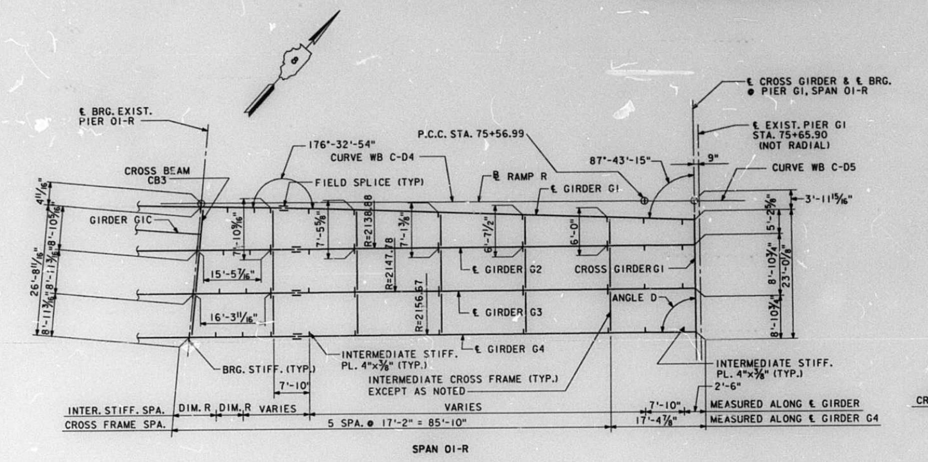
STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

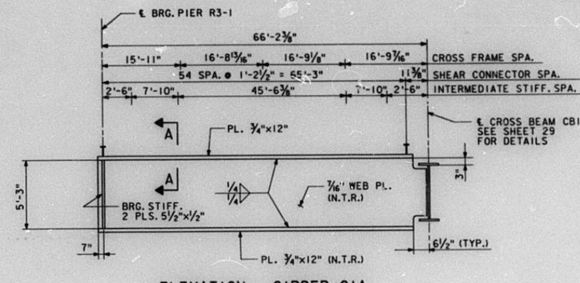
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	122
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

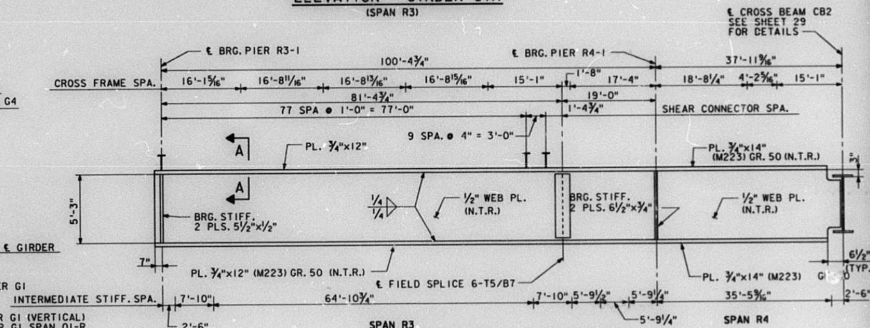
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



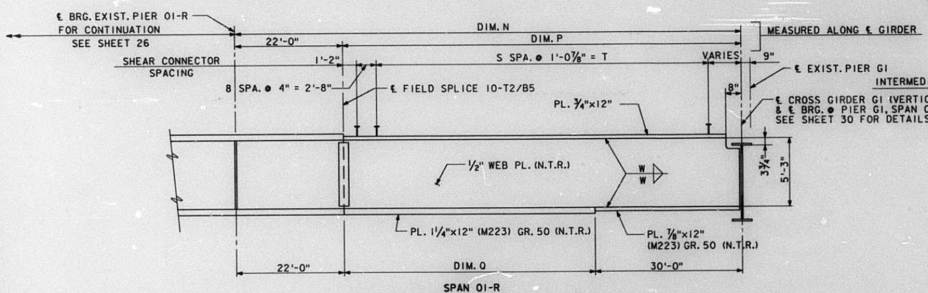
FRAMING PLAN



ELEVATION - GIRDER G1A
(SPAN R3)



ELEVATION - GIRDER G1B



ELEVATION - GIRDER G2 THRU G4

FOR WELD SIZE W, SEE TABLE ON SHEET 29.

GIRDER VARIABLES

GIRDER	DIM. N	DIM. P	DIM. Q	DIM. R	SPA. S	DIM. T	ANGLE D
G2	100'-11 3/4"	78'-11 3/4"	48'-11 3/4"	5'-2"	69	74'-0 3/8"	90°-31'-22"
G3	102'-1 5/16"	80'-1 5/16"	50'-1 5/16"	5'-5"	70	75'-1 1/4"	90°-31'-14"
G4	103'-2 7/8"	81'-2 7/8"	51'-2 7/8"	5'-8 1/2"	71	76'-2 1/8"	90°-31'-06"

NOTE: ALL ANGLES D ARE MEASURED FROM TANGENT TO GIRDERS @ ℄ BRG. TO ℄ BRG.

NOTES

WORK THIS SHEET WITH SHEET 26.

FURNISHING OF STRUCTURAL STEEL IS NOT PART OF 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 R
FRAMING PLAN AND GIRDER ELEVATIONS
SPAN 01-R

STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

S. YORDY
DESIGNED
T.V. DILLON
CHECKED
S. STEGMAN
DRAWN
T.V. DILLON
CHECKED

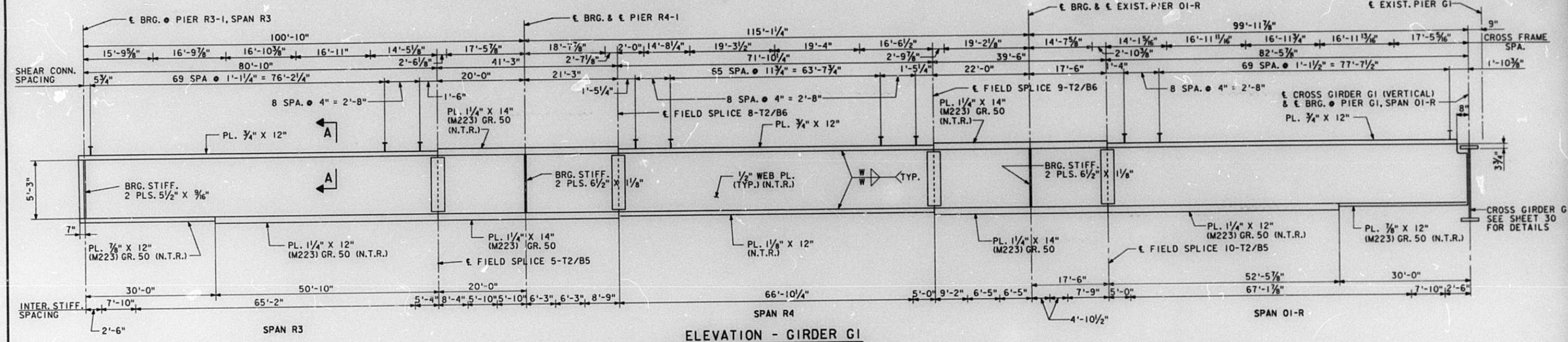
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

10320 FILE: OS2:[224,1]DET25E.DGN LEVELS PLOTTED 35 56 63 DATE: OCT. 14, 1987
875540 PRF: DET25E

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

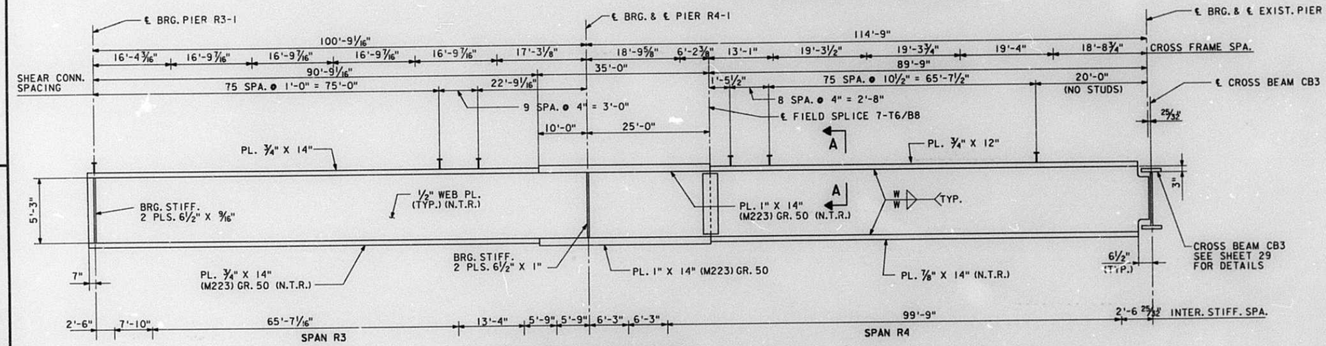
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	123

•82-3HVB-2R-1



ELEVATION - GIRDER G1

NOTE: FOR WELD SIZE W, SEE TABLE ON SHEET 29.



ELEVATION - GIRDER G1C

NOTE: FOR WELD SIZE W, SEE TABLE ON SHEET 29.

NOTES

WORK THIS SHEET WITH SHEETS 26 AND 27.
FURNISHING OF STRUCTURAL STEEL IS NOT PART OF 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.

TOP OF WEB ELEVATIONS - SPANS R3, R4 AND 01-R

LOCATION / GIRDER	℄ BRG. PIER R3-1	℄ FIELD SPL. 5 (SPAN R3)	℄ FIELD SPL. 6 (SPAN R3)	℄ CROSS BEAM CB1 (SPAN R3)	℄ BRG. PIER R4-1	℄ FIELD SPL. 7 (SPAN R4)	℄ CROSS BEAM CB2 (SPAN R4)	℄ CROSS BEAM CB3 (SPAN R4)	℄ FIELD SPL. 8 (SPAN R4)	℄ FIELD SPL. 9 (SPAN R4)	℄ BRG. PIER 01-R	℄ FIELD SPL. 10 SPAN 01-R	℄ BRG. PIER G1
G1	459.823	460.559	———	———	460.526	———	———	———	460.551	460.593	460.539	460.536	460.139
G1A	459.918	———	———	460.656	———	———	———	———	———	———	———	———	———
G1B	460.110	———	460.894	———	460.832	———	460.820	———	———	———	———	———	———
G1C	460.815	———	———	———	461.122	461.173	———	460.997	———	———	———	———	———
G2	461.525	461.882	———	———	461.835	———	———	———	461.794	461.434	461.250	461.141	460.556
G3	462.236	462.593	———	———	462.547	———	———	———	462.506	462.150	461.967	461.859	461.269
G4	462.946	463.300	———	———	463.259	———	———	———	463.218	462.865	462.684	462.572	461.981

NOTE: TOP OF WEB ELEVATIONS SHOWN FOR FABRICATION ONLY.
ELEVATIONS SHOWN FOR GIRDERS G1A, G1B AND G1C AT CROSS BEAMS ARE TOP OF GIRDER WEB EXTENDED.
ELEVATIONS SHOWN FOR GIRDERS G1 THRU G4 AT CROSS GIRDER AT PIER G1 ARE TOP OF GIRDER WEB EXTENDED.

S. YORDY	DESIGNED
T.V. DILLON	CHECKED
S. STEGMAN	DRAWN
T.V. DILLON	CHECKED

10320 87S315 FILE: 2F3:[10.1]DET26R.DGN PRF: DET26R LEVELS PLOTTED 35 56 63 DATE: JUNE 23, 1987

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

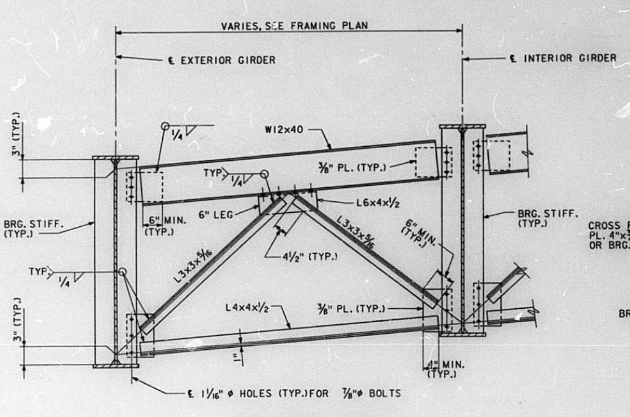
REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
GIRDER ELEVATIONS
SPANS R3, R4 AND 01-R
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

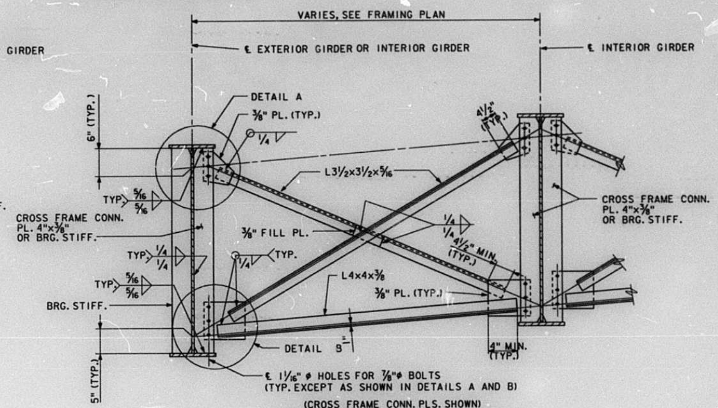
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	124

ILLINOIS PROJECT

* 82-3HVB-2R-1

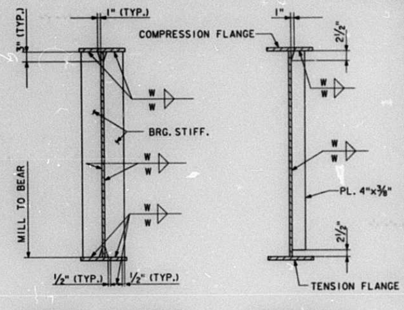


END CROSS FRAME
(AT PIER R3-1)



INTERMEDIATE CROSS FRAME

DETAILS A AND B ARE FOR CROSS FRAMES WITH DIFFERENTIAL DEAD LOAD DEFLECTION BETWEEN GIRDERS OF 3/4" OR MORE. SEE FRAMING PLAN ON SHEETS 24 THRU 27 FOR LOCATION.



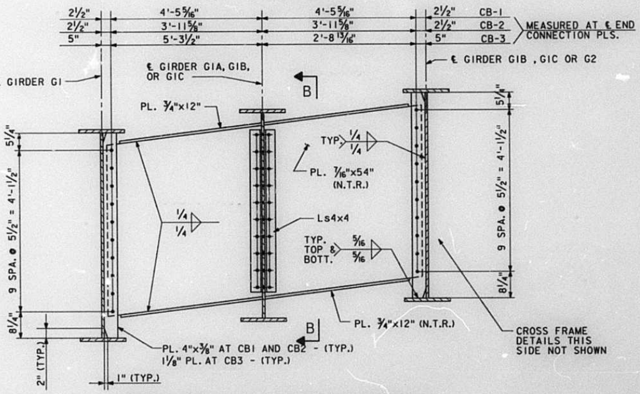
BEARING STIFFENER

INTERMEDIATE STIFFENER
(NOT AT CROSS FRAMES)

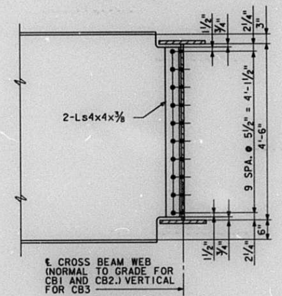
** PL. SIZE	WELD SIZE, W
OVER 1/2" TO 3/4"	1/4
OVER 3/4"	5/16

WELD TABLE

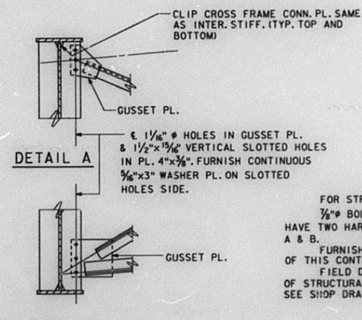
** PL. SIZE IS THE THICKNESS OF THE THICKER PART JOINED.



CROSS BEAM - CB1 THRU CB3 DETAILS



SECTION B-B



DETAIL A

DETAIL B

NOTES

FOR STRUCTURAL STEEL NOTES SEE SHEET 25.

7/8"⌀ BOLTS FOR CROSS FRAME CONNECTIONS SHALL HAVE TWO HARDENED WASHERS EXCEPT AS NOTED IN DETAIL A & B.

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.

S. YORDY	DESIGNED
T.V. DILLON	CHECKED
S. STEGMAN	DRAWN
T. DILLON	CHECKED

87S542 PRF: DET27E

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

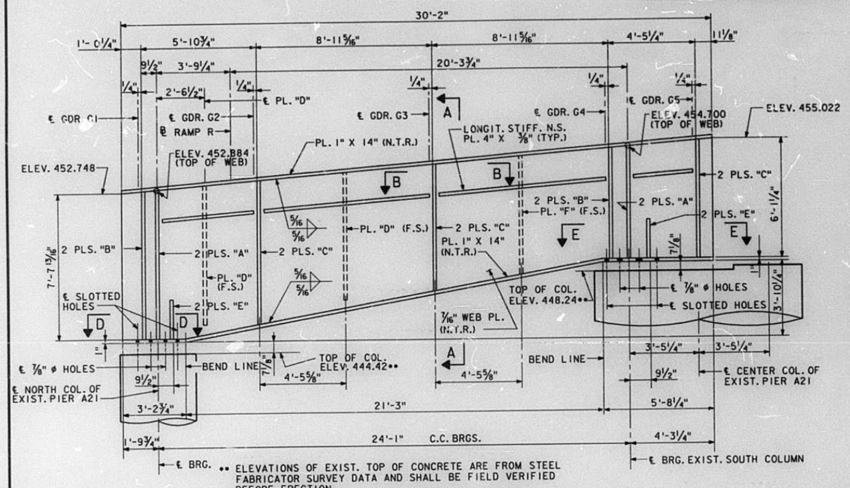
REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
CROSS FRAME DETAILS
STRUCTURE NO. 082-0253
STA.68+90.64 TO 75+65.90 (FAI-70) ST. CLAIR CO.

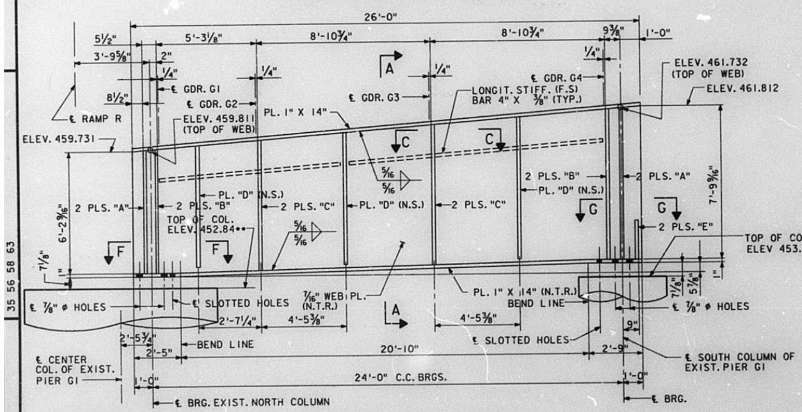
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	125
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

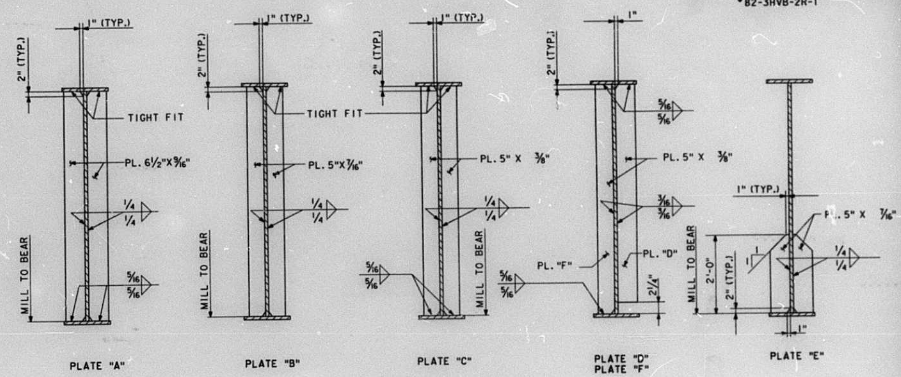
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



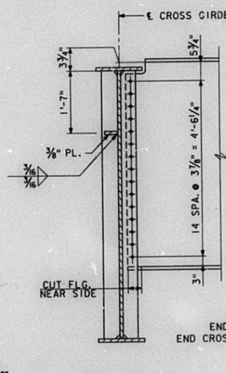
CROSS GIRDER AT PIER A21



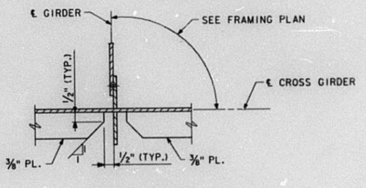
CROSS GIRDER AT PIER G1



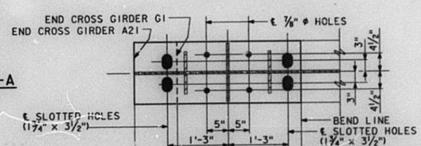
STIFFENER DETAILS



SECTION A-A



SECTION B-B
SECTION C-C (OPP. HAND @ ℄ CROSS GIRDER)



1'-9¾"	1'-5"	SECTION D-D	A21
4'-3¼"	1'-5"	SECTION E-E	A21
1'-0"	1'-5"	SECTION F-F	G1
1'-0"	1'-9"	SECTION G-G	G1

SECTION D-D
SECTION E-E (OPP. HAND)
SECTION F-F
SECTION G-G (OPP. HAND)

NOTES

FOR STRUCTURAL STEEL NOTES SEE SHEET 25.
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.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
CROSS GIRDER AT PIERS A21 AND G1

STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

T.V. DILLON — DESIGNED
H.A. REHAGEN — CHECKED
P. NELSON — DRAWN
T. DILLON — CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

SHEET NO. 30 OF 42

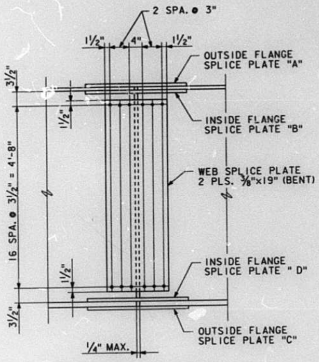
87S340 PRF: DET28R

35 56 58 63

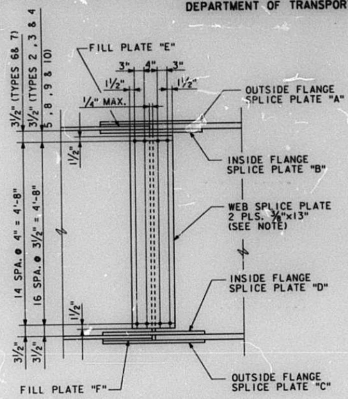
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	126
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

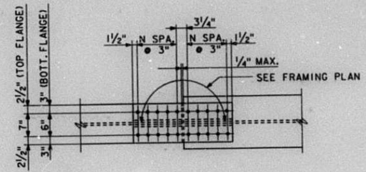


WEB SPLICE TYPE 1

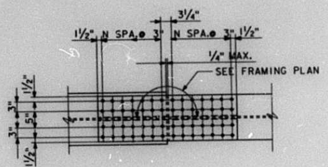


WEB SPLICE TYPE 2 THRU 10

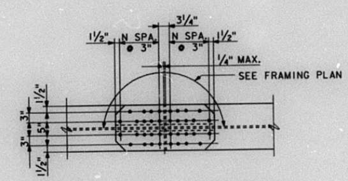
NOTE: PROVIDE BENT WEB SPLICE PLATE IF NECESSARY. SEE FRAMING PLAN.



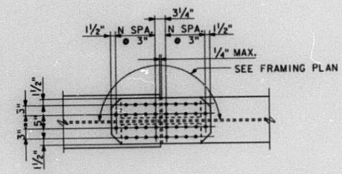
TOP FLANGE SPLICE TYPE T1 THRU T6
BOTT. FLANGE SPLICE TYPE B5, B6, AND B7



BOTTOM FLANGE SPLICE TYPE B4



BOTT. FLANGE SPLICE TYPE B1



BOTT. FLANGE SPLICE TYPE B2, B3 AND B8

TOP FLANGE SPLICE VARIABLES

TYPE	PLATE "A"	PLATE "B"	FILL PLATE "E"	N SPA.
T1	⅜"x12"x2'-6¼"	2-½"x5"x2'-6¼"	———	4
T2	⅜"x12"x2'-0¼"	2-⅜"x5"x2'-0¼"	½"x12"x1'-0"	3
T3	⅜"x12"x2'-6¼"	2-½"x5"x2'-6¼"	½"x12"x1'-3"	4
T4	⅜"x12"x2'-0¼"	2-⅜"x5"x2'-0¼"	⅜"x12"x1'-0"	3
T5	⅜"x12"x2'-0¼"	2-⅜"x5"x2'-0¼"	———	3
T6	⅜"x12"x2'-0¼"	2-⅜"x5"x2'-0¼"	¼"x12"x1'-0"	3

BOTTOM FLANGE SPLICE VARIABLES

TYPE	PLATE "C"	PLATE "D"	FILL PLATE "F"	N SPA.
B1	¾"x14"x3'-0¼"	2-¾"x6"x3'-0¼"	———	5
B2	⅜"x14"x1'-6¼"	2-½"x6"x1'-0¼"	⅜"x14"x9"	2
B3	⅝"x14"x2'-6¼"	2-¾"x6"x2'-0¼"	⅛"x14"x1'-3"	4
•• B4	¾"x14"x3'-6¼"	2-⅞"x6"x3'-6¼"	½"x14"x1'-9"	6
B5	⅝"x12"x2'-6¼"	2-½"x5"x2'-6¼"	———	4
B6	⅝"x12"x2'-6¼"	2-½"x5"x2'-6¼"	⅛"x12"x1'-3"	4
B7	⅜"x12"x2'-0¼"	2-⅜"x5"x2'-0¼"	———	3
B8	⅜"x14"x1'-6¼"	2-½"x6"x1'-0¼"	⅛"x14"x9"	2

•• PLATES C AND D ARE TO BE AASHTO M223
FILL PL. F AT B4 TO BE AASHTO M183.

NOTES

FOR STRUCTURAL STEEL NOTES SEE SHEET 25.
ALL SPLICE PLATES EXCEPT FILL PLATES ARE NTR.
ALL BOLT HOLES FOR SPLICES ARE 15/16"ø FOR ⅞"ø BOLTS.
BOLTS IN FLANGE SPLICES SHALL BE PLACED WITH BOLT HEADS IN UP POSITION AT TOP FLANGE. ANY WASHER, IF USED, SHALL BE UNDER NUT ONLY.
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.

S. YORDY	DESIGNED
T.V. DILLON	CHECKED
P. NELSON	DRAWN
T.V. DILLON	CHECKED

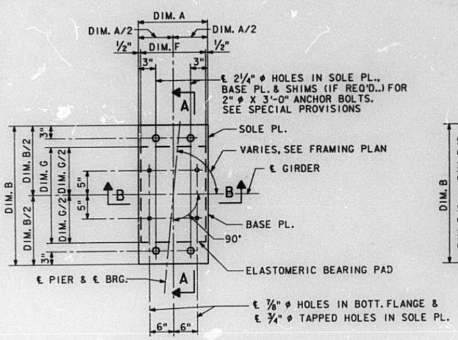
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
FIELD SPLICES
STRUCTURE NO. 082 - 0253
STA. 68+90.64 TO STA.75+65.90 (FAI-70) ST. CLAIR CO.

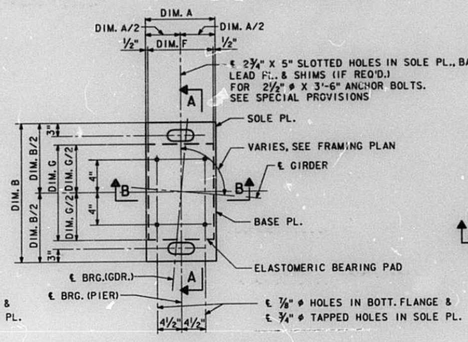
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	127
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

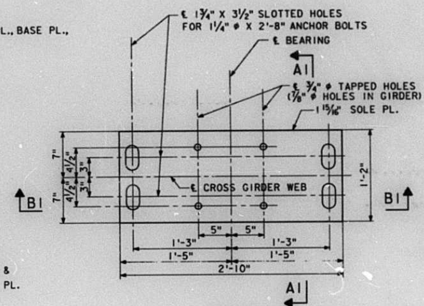


PLAN - FIXED BEARINGS

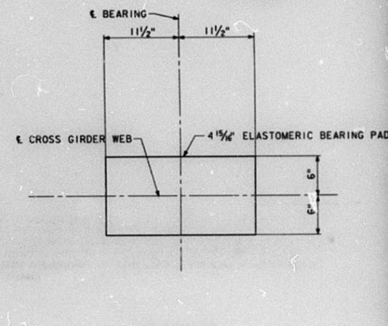


PLAN - EXPANSION BEARINGS AT PIER R3-1

(FOR SETTING OF BEARING, SEE NOTE AT SECTION B-B BELOW)



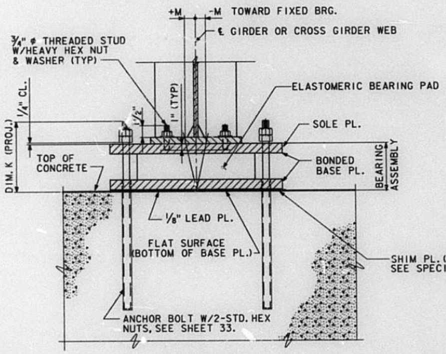
SOLE PL.



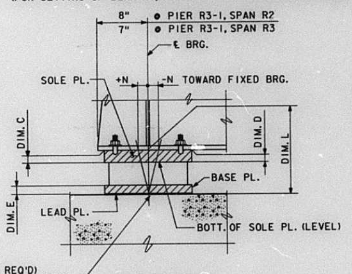
BEARING PAD

PLAN - EXPANSION BEARINGS AT PIERS A21 & G1

SECTION A1-A1 SIMILAR TO SECTION A-A, EXCEPT AS NOTED.
SECTION B1-B1 SIMILAR TO SECTION B-B, EXCEPT AS NOTED.



SECTION A-A

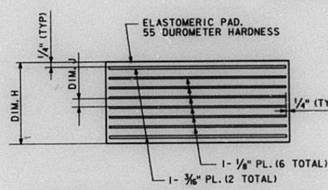


SECTION B-B

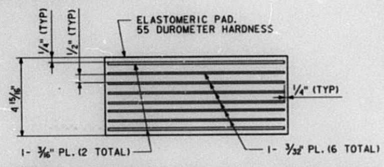
NOTE: BEVEL TOP OF SOLE PL. FOR GRADE TO DIMENSIONS C AND D.

NOTE FOR TEMP. ADJUSTMENT ON SETTING BEARINGS

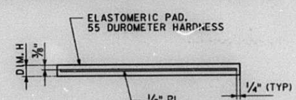
FOR EACH 10° RISE IN TEMPERATURE ABOVE 50°F. FOR CROSS GDR. ⌀ PIER A21 OR G1, DIM. M=+1/8"; FOR EACH 10° DROP IN TEMP. BELOW 50°F. FOR SAME CROSS GDRS., DIM. M=-1/8".
SIMILARLY, FOR LONGIT. GDRS. AT PIER R3-1 INCREASE OR DECREASE DIM. N=1/8" ABOVE OR BELOW 50° FOR EACH 10° DIFFERENTIAL FROM 50°F.



EXPANSION BEARING PAD AT PIER R3-1



EXPANSION BEARING PAD AT PIERS A21 & G1



FIXED BEARING PAD

(AT PIERS R1-1, R2-1, R4-1 & 01-R)

NOTE: BASE PLATES AND LEAD PLATES SHOWN IN SECTION A-A AND B-B ARE TO BE OMITTED FOR EXP. BEARINGS AT PIERS A21 AND G1.

BEARING VARIABLES

PIER NO.	SPAN	BRG. TYPE	GIRDER NO.	NO. REQ'D.	SOLE PL.				BASE PL.			BEARING PAD				DIM. K (PROJ.)	DIM. L
					DIM. A	DIM. B	DIM. C	DIM. D	DIM. A	DIM. B	DIM. E	DIM. F	DIM. G	DIM. H	DIM. J		
R1-1	A21-R, R1	FIX.	ALL	5	1'-4"	2'-8"	2 9/16"	2 15/16"	1'-4"	2'-8"	1 3/8"	1'-3"	1'-10"	7/8"	-	10"	5 1/8"
R2-1	R1, R2	FIX.	ALL	5	1'-7"	2'-8"	2"	2"	1'-7"	2'-8"	1 3/8"	1'-6"	1'-10"	7/8"	-	9"	4 3/8"
R3-1	R2	EXP.	ALL	5	1'-4"	2'-2"	1 5/8"	1 5/8"	1'-4"	2'-2"	1 1/8"	1'-3"	1'-3"	6"	5/8"	1'-3"	8 7/8"
R3-1	R3	EXP.	G1 G2 G3 G4	4	1'-1"	2'-0"	1 5/8"	1 5/8"	1'-1"	2'-0"	2 1/4"	1'-0"	1'-2"	5 1/8"	1/2"	1'-3"	9 1/8"
R3-1	R3	EXP.	G1A G1B G1C	3	1'-1"	2'-0"	1 5/8"	1 5/8"	1'-1"	2'-0"	2 3/8"	1'-0"	1'-2"	5 1/8"	1/2"	1'-3"	9 1/4"
R4-1	R3, R4	FIX.	ALL	6	1'-7"	2'-6"	2 5/8"	2 5/8"	1'-7"	2'-6"	1 3/8"	1'-6"	1'-8"	7/8"	-	10"	5"
01-R	R4, 01-R	FIX.	ALL	4	1'-7"	2'-6"	2 5/8"	2 5/8"	1'-7"	2'-6"	1 3/8"	1'-6"	1'-8"	7/8"	-	10"	5"
G1	01-R	EXP.	-	2	-	-	-	-	-	-	-	-	-	-	-	1'-0"	6 7/8"
A21	A21-R	EXP.	-	2	-	-	-	-	-	-	-	-	-	-	-	1'-0"	6 7/8"

NOTES

MATERIAL FOR SOLE PL. AND BASE PL. SHALL CONFORM TO AASHTO DESIGNATION M223, GR. 50.

MATERIAL FOR BEARING PAD STEEL PL. REINFORCEMENT SHALL CONFORM TO AASHTO DESIGNATION M183.

FOR METHOD OF PAYMENT AND MATERIAL IN PAYMENT ITEM ON BEARINGS, SEE SPECIAL PROVISIONS.

THREADED STUDS TO BE M164.

NUTS FOR STUDS TO BE ASTM A183.

FLAT WASHERS TO BE ASTM F844.

ANCHOR BOLTS AT ANY ONE OF THE FIXED BEARINGS OF SPAN R1 AND R4 MAY BE BUILT INTO THE PIER. SEE SHT. 33 FOR ANCHOR BOLT SETTING.

FURNISHING OF BEARING ASSEMBLIES IS NOT PART OF THIS CONTRACT. INSTALLATION AND SETTING OF BEARING ASSEMBLIES IS PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

REHABILITATION FOR

FAI - 55/70 COMPLEX

RAMP R
BEARING DETAILS

STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

S. YORDY/T. DILLON	DESIGNED
T. DILLON/H. REHAGEN	CHECKED
D. FRIERDICH	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88
REV. 8/3/87

SHEET NO. 32 OF 42

8TS342 PRF: DETSOR

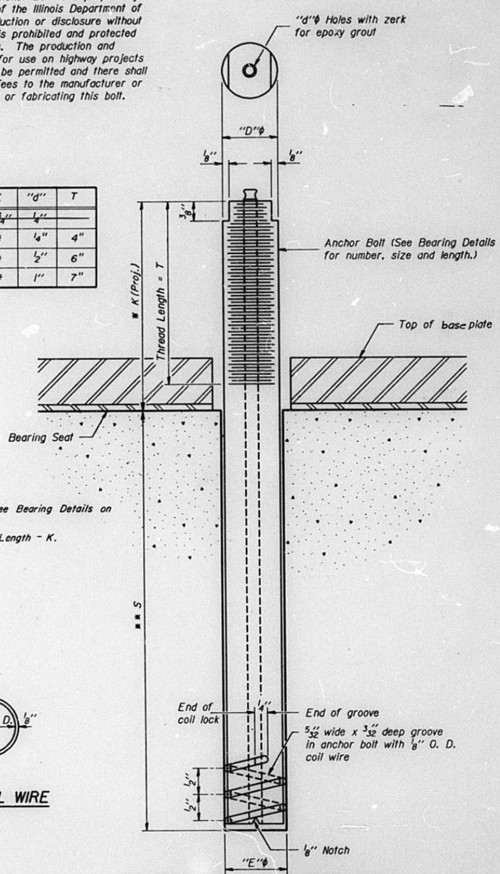
35 56 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	128
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

D	E	H	K	"d"	T
~~1"~~	~~1 1/8"~~	~~13/16"~~	~~1 3/4"~~	~~1/4"~~	
1 1/4"	1 3/8"	1 1/16"	*	1/4"	4"
2"	2 1/8"	1 13/16"	*	1/2"	6"
2 1/2"	2 5/8"	2 5/16"	*	1"	7"

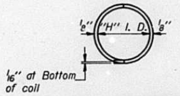


ILLINOIS COIL-LOCK ANCHOR BOLT

NOTES:

* For dimension K, see Bearing Details on Sheet 32.

** 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 nuts 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.

2/4/87

DESIGNED	
CHECKED	
DRAWN	
CHECKED	F. A. Camba

ABB-1 12-1-83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ANCHOR BOLT DETAILS FOR BEARINGS

STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST.CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	129
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

INTERIOR GIRDER MOMENT TABLE

	SPANS 1,2 & 3					SPANS 4 ,5 & 6		
	0.4 SPAN 1	PIER R1-1	0.5 SPAN 2	PIER R2-1	0.6 SPAN 3	0.4 SPAN 4 0.6 SPAN 6	PIER R4-1 PIER 01-R	0.5 SPAN 5
Is (in⁴)	31847	51695	37649	87051	40135	34354	46535	33042
Ic n (in⁴)	81281	———	100218	———	109056	87793	———	83673
Ic 3n (in⁴)	58116	———	69859	———	75109	62383	———	59785
Ss (in³)	1048	1578	1379	2579	1541	1175	1421	1104
Sc n (in³)	1526	———	1972	———	2194	1683	———	1588
Sc 3n (in³)	1365	———	1772	———	1973	1511	———	1425
DL (KIPS/FT.)	1.107	1.525	1.109	1.560	1.131	1.092	1.468	1.087
M DL (FT.-KIPS)	480	1769	623	3234	1405	810	1724	428
S DL (KIPS/FT.)	0.366	———	0.366	———	0.366	0.339	———	0.339
Ms DL (FT.-KIPS)	183	———	329	———	532	286	———	216
M LL (FT.-KIPS)	909	938	1194	1258	1439	1061	825	1012
MI (FT.-KIPS)	213	198	229	242	278	234	177	211
5/3 (M LL +I)+CF(FT.-KIPS)	1879	1903	2384	2513	2876	2169	1678	2048
Ma (FT.-KIPS)	3305	4773	4337	7471	6257	4245	4423	3500
f_s DL non-comp. (ksi)	5.5	13.5	5.4	15.1	10.9	8.3	14.6	4.7
f_s DL comp. (ksi)	1.6	———	2.2	———	3.2	2.3	———	1.8
f_s 5/3(LL+I)+ CF(ksi)	14.8	14.5	14.5	11.7	15.7	15.5	14.2	15.5
f_w (ksi)	2.4	3.3	2.5	3.3	3.5	2.4	2.8	1.9
f_s (overload) (ksi)	24.3	31.3	24.6	30.1	33.3	28.5	31.6	23.9
f_s (total) (ksi)	31.6	40.7	32.0	39.1	43.3	37.1	41.1	31.1
F_{bu} (ksi)	36.0	41.9	36.0	42.2	46.4	45.2	43.1	36.0
VR (KIPS)	71.1	———	65.8	———	68.4	68.0	———	61.6

Ma (APPLIED MOMENT) = 1.3 [M DL + Ms DL + 5/3 (M LL + I) + CF]

I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL AND OVERLOAD).

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

VR IS THE MAXIMUM LL + IMPACT SHEAR RANGE IN SPAN.

f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO 1.3 [M DL + M_s DL + $\frac{5}{3}$ (M LL + I) + CF]

f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO [M DL + M_s DL + $\frac{5}{3}$ (M LL + I) + CF]

f_w - FACTORED NORMAL WARPING STRESS DUE TO CURVATURE.

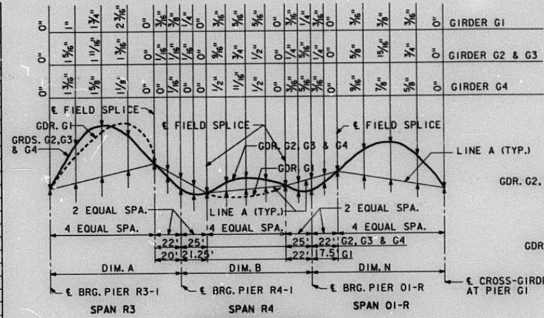
M DL - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

M_s DL - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

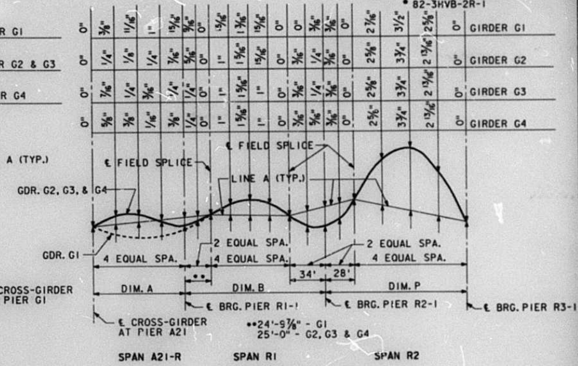
M LL - MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.

I - LIVE LOAD IMPACT

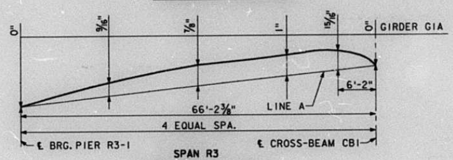
F_{bu} MAXIMUM ALLOWABLE STRESS COMPUTED ACCORDING TO AASHTO [GUIDE TO HORIZ. CURVED HIGHWAY BRIDGES SECT. 2.12(B), 2.16 & 2.19]



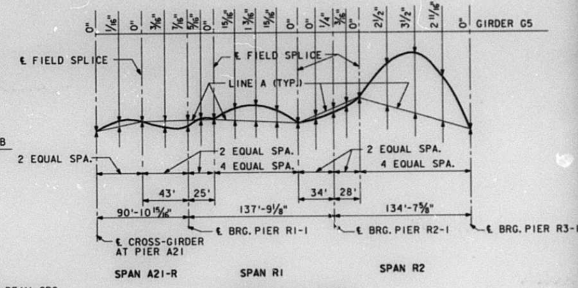
CAMBER DIAGRAM



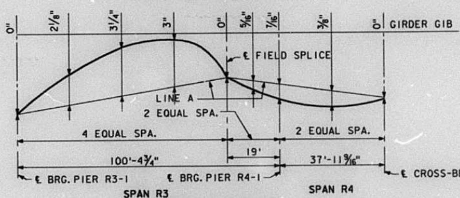
CAMBER DIAGRAM



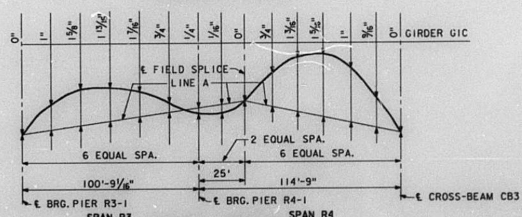
CAMBER DIAGRAM



CAMBER DIAGRAM



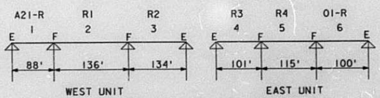
CAMBER DIAGRAM



CAMBER DIAGRAM

INTERIOR GIRDER REACTION TABLE

	SPANS 1,2 & 3				SPANS 4 ,5 & 6	
	PIER A21-R	PIER R1-1	PIER R2-1	PIER R3-1	PIER R3-1 PIER G1	PIER R4-1 PIER 01-R
R DL (K)	44.6	177.1	240.1	75.7	55.8	173.4
R LL (K)	51.7	88.5	101.7	54.9	52.9	85.5
I (K)	12.2	18.7	19.6	10.6	11.6	18.3
R TOTAL (k)	108.5	284.3	361.4	141.2	120.3	277.2



SCHEMATIC DIAGRAM OF SPANS

NOTES

LINE A IS A STRAIGHT LINE AT TOP OF WEB PLATES BETWEEN ℄ BEARING AND FIELD SPLICES.

CAMBER ORDINATES INCLUDE CORRECTION FOR CROSS SLOPE AND VERTICAL CURVE.

FOR SPAN DIMENSIONS A, B, N AND P, SEE GIRDER ELEVATIONS.

S. YORDY	DESIGNED
T.V. DILLON	CHECKED
P. NELSON	DRAWN
T.V. DILLON	CHECKED

35 55 56 58 63

PRF: DET31E

87S546

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
STRESS TABLES AND CAMBER DIAGRAMS
STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

REV. 8/26/88

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	130
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER G1A MOMENT TABLE-SPAN R3	
	0.5 SPAN
Is (in⁴)	27,405
Ic n (in⁴)	65,375
Ic 3n (in⁴)	47,988
Ss (in³)	850
Sc n (in³)	1207
Sc 3n (in³)	1087
DL (KIPS/FT.)	0.862
M DL (FT.-KIPS)	498
S DL (KIPS/FT.)	0.300
Ms DL (FT.-KIPS)	174
M LL (FT.-KIPS)	591
MI (FT.-KIPS)	153
5/3 (M LL+I)+CF (FT.-KIPS)	1252
Ma (FT.-KIPS)	2501
f_s DL non-comp. (ksi)	7.0
f_s DL comp. (ksi)	1.9
f_s 5/3 (LL+I)+CF (ksi)	12.4
f_s (overload) (ksi)	21.3
f_s (total) (ksi)	27.7
F_{bu} (ksi)	36.0
VR (KIPS)	50.0

GIRDER G1B MOMENT TABLE			
	0.4 SPAN R3	PIER R4-1	0.8 SPAN
Is (in⁴)	28,707	31,755	31,755
Ic n (in⁴)	69,720	—	—
Ic 3n (in⁴)	50,856	—	—
Ss (in³)	890	985	985
Sc n (in³)	1290	—	—
Sc 3n (in³)	1155	—	—
DL (KIPS/FT.)	1.130	1.490	1.048
M DL (FT.-KIPS)	934	1390	-157
S DL (KIPS/FT.)	0.350	—	—
Ms DL (FT.-KIPS)	323	—	—
M LL (FT.-KIPS)	976	471	135
MI (FT.-KIPS)	216	121	41
5/3 (M LL+I)+CF (FT.-KIPS)	1996	991	295
Ma (FT.-KIPS)	4229	3096	179
f_s DL non-comp. (ksi)	12.6	16.9	-1.9
f_s DL comp. (ksi)	3.4	—	—
f_s 5/3 (LL+I)+CF (ksi)	18.6	12.1	3.6
f_s (overload) (ksi)	34.6	29.0	1.7
f_s (total) (ksi)	45.0	37.7	2.2
F_{bu} (ksi)	47.4	45.2	48.2
VR (KIPS)	62.8	—	—

GIRDER G1C MOMENT TABLE			
	0.4 SPAN R3	PIER R4-1	0.6 SPAN R4
Is (in⁴)	31,755	39,091	31,851
Ic n (in⁴)	74,155	—	76,702
Ic 3n (in⁴)	54,305	—	55,043
Ss (in³)	985	1203	1048
Sc n (in³)	1387	—	1485
Sc 3n (in³)	1246	—	1329
DL (KIPS/FT.)	1.016	1.261	0.866
M DL (FT.-KIPS)	666	1.833	797
S DL (KIPS/FT.)	0.320	—	0.320
Ms DL (FT.-KIPS)	239	—	355
M LL (FT.-KIPS)	985	730	922
MI (FT.-KIPS)	218	157	192
5/3 (M LL+I)+CF (FT.-KIPS)	2015	1485	1866
Ma (FT.-KIPS)	3796	4313	3923
f_s DL non-comp. (ksi)	8.1	18.3	9.1
f_s DL comp. (ksi)	2.3	—	3.2
f_s 5/3 (LL+I)+CF (ksi)	17.4	14.8	15.1
f_s (overload) (ksi)	27.8	33.1	27.4
f_s (total) (ksi)	36.1	43.0	35.6
Fbu (ksi)	47.6	49.0	36.0
VR (KIPS)	63.6	—	50.7

Ma (APPLIED MOMENT) = 1.3 [M DL + Ms DL + $\frac{5}{3}$ (M LL + I) + CF]

I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL AND OVERLOAD).

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

VR IS THE MAXIMUM LL + IMPACT SHEAR RANGE IN SPAN.

f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO 1.3 [M DL + M_s DL + $\frac{5}{3}$ (M LL + I) + CF]

f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO M DL + M_s DL + $\frac{5}{3}$ M LL + I) + CF

f_w - FACTORED NORMAL WARPING STRESS DUE TO CURVATURE.

M DL - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

M_s DL - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

M LL - MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.

I - LIVE LOAD IMPACT

F_{bu} - MAXIMUM ALLOWABLE STRESS COMPUTED ACCORDING TO AASHTO [GUIDE TO HORIZ. CURVED HIGHWAY BRIDGES SECT. 2.12(B), 2.16 & 2.19]

GIRDER G1A REACTION TABLE SPAN R3	
	PIER R3-1 OR CROSS BEAM CB-1
R DL (K)	39.6
R LL (K)	45.0
I (K)	11.7
R TOTAL (k)	96.3

GIRDER G1B REACTION TABLE			
	PIER R3-1	PIER R4-1	CROSS BEAM CB-2
R DL (K)	60.9	145.2	-16.7
R LL (K)	56.5	64.3	39.1
I (K)	12.5	16.5	11.7
R TOTAL (k)	129.9	226.0	34.1

(-) INDICATES UPWARD REACTION

GIRDER G1C REACTION TABLE			
	PIER R3-1	PIER R4-1	CROSS BEAM CB-3
R DL (K)	49.3	170.7	52.3
R LL (K)	53.2	81.1	49.6
I (K)	11.8	17.4	10.3
R TOTAL (k)	114.3	269.2	112.2

S. YORDY	DESIGNED
R. NIEMIETZ	CHECKED
E. WELZ	DRAWN
S. YORDY	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
STRESS TABLES

STRUCTURE NO. 082-0253

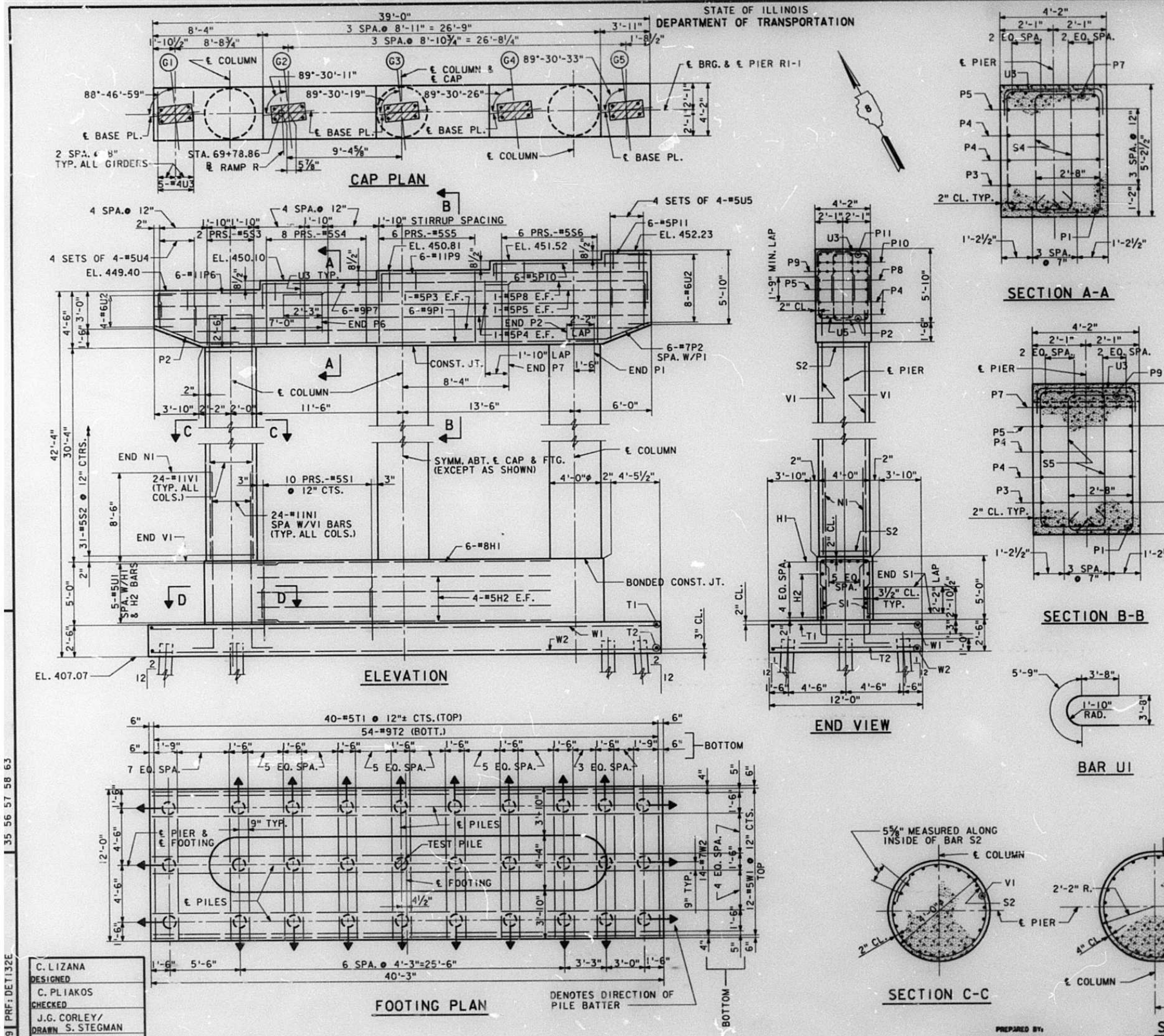
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

87S547 PRF:DET32E 56 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	131
		ILLINOIS	PROJECT	

•82-3HVB-2R-1



BAR	A	B
S1	3'-9"	4'-1½"
U2	3'-8"	1'-9"
U3	3'-10"	1'-6"
U4	2'-8"	2'-10"
U5	2'-8"	4'-3"

BARS P6,P7,P10,P11, N1 & V1

BAR	A	B
P6	12'-10"	2'-0"
P7	19'-4"	1'-7"
P10	12'-6"	1'-6"
P11	3'-7"	1'-6"
N1	15'-9"	2'-0"
V1	32'-10"	2'-0"

BARS S3,S4,S5 & S6

BAR	A	B
S3	2'-8"	4'-2"
S4	2'-8"	4'-10½"
S5	2'-8"	5'-7"
S6	2'-8"	6'-3½"

PILE DATA

TYPE:	CONCRETE
REQUIRED CAPACITY:	45 TONS
ESTIMATED LENGTH:	41 FT.
NO. REQUIRED:	29(••)
TEST PILES:	1

(••) DOES NOT INCLUDE TEST PILE

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
H1	6	#8	23'-0"	
H2	8	#5	23'-0"	
N1	72	#11	17'-9"	
P1	6	#9	30'-0"	
P2	12	#7	6'-10"	
P3	2	#5	36'-8"	
P4	4	#5	38'-8"	
P5	2	#5	28'-[illegible]"	
P6	6	#11	14'-0"	
P7	6	#9	20'-11"	
P8	2	#5	12'-10"	
P9	6	#11	25'-4"	
P10	6	#5	14'-0"	
P11	6	#5	5'-1"	
S1	40	#5	12'-0"	
S2	93	#5	13'-3"	
S3	4	#5	14'-7"	
S4	16	#5	16'-0"	
S5	12	#5	17'-5"	
S6	12	#5	18'-10"	
T1	40	#5	11'-6"	
T2	54	#9	11'-6"	
U1	10	#5	13'-1"	
U2	12	#6	7'-2"	
U3	25	#4	6'-10"	
U4	16	#5	8'-4"	
U5	16	#5	11'-2"	
V1	72	#11	34'-10"	
W1	12	#5	39'-9"	
W2	14	#7	39'-9"	

CLASS X CONCRETE	CU. YDS.	144.3
REINFORCEMENT BARS	LBS.	31,103
STRUCTURE EXCAVATION	CU. YDS.	152
FURN. CONC. PILES (••)	LIN. FT.	1189
DRIVING CONC. PILES (••)	LIN. FT.	1189
TEST PILE CONCRETE	EA.	1

NOTES

ALL EDGES SHALL HAVE A STANDARD ¾" CHAMFER EXCEPT FOOTING.

POUR STEPS MONOLITHICALLY WITH CAP.

PILE SPACING SHOWN IS MEASURED AT BOTTOM OF FOOTING.

SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.

C. LIZANA	DESIGNED
C. PLIAKOS	CHECKED
J.G. CORLEY/ S. STEGMAN	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
PIER R1-1

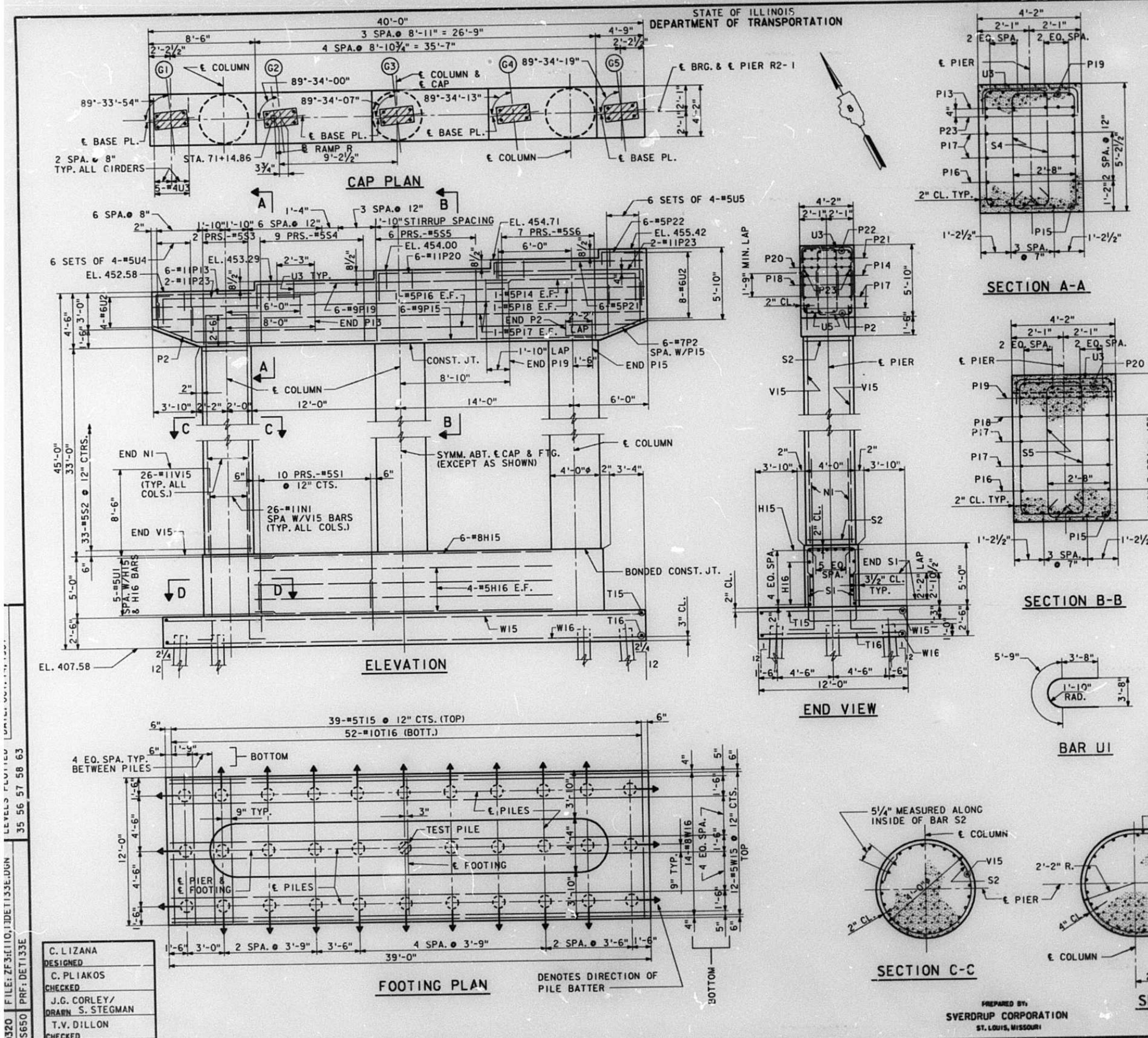
STRUCTURE NO. 082-0253

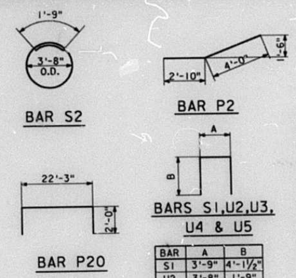
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	132
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

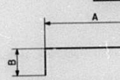
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





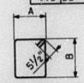
BARS S1, U2, U3, U4 & U5

BAR	A	B
S1	3'-9"	4'-1½"
U2	3'-8"	1'-9"
U3	3'-10"	1'-6"
U4	2'-8"	2'-10"
U5	2'-8"	4'-3"



BARS P13, P19, P21, P22, P23, N1 & V15

BAR	A	B
P13	13'-10"	2'-0"
P19	20'-2"	1'-7"
P21	13'-4"	1'-6"
P22	4'-5"	1'-6"
P23	11'-10"	2'-0"
N1	15'-9"	2'-0"
V15	35'-6"	2'-0"



BARS S3, S4, S5 & S6

BAR	A	B
S3	2'-8"	4'-2"
S4	2'-8"	4'-10½"
S5	2'-8"	5'-7"
S6	2'-8"	6'-3½"

BILL OF MATERIAL

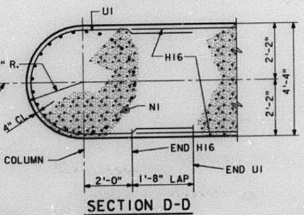
BAR	NO.	SIZE	LENGTH	SHAPE
H15	6	#8	24'-0"	
H16	8	#5	24'-0"	
N1	78	#11	17'-9"	
P2	12	#7	6'-10"	
P13	6	#11	15'-10"	
P14	2	#5	12'-10"	
P15	6	#9	31'-0"	
P16	2	#5	37'-8"	
P17	4	#5	39'-8"	
P18	2	#5	28'-1"	
P19	6	#9	21'-9"	
P20	6	#11	26'-3"	
P21	6	#5	14'-10"	
P22	6	#5	5'-11"	
P23	4	#11	13'-10"	
S1	40	#5	12'-0"	
S2	99	#5	13'-3"	O
S3	4	#5	14'-7"	
S4	18	#5	16'-0"	
S5	12	#5	17'-5"	
S6	14	#5	18'-10"	
T15	39	#5	11'-6"	
T16	52	#10	11'-6"	
U1	10	#5	13'-1"	
U2	12	#6	7'-2"	
U3	25	#4	6'-10"	
U4	24	#5	8'-4"	
U5	24	#5	11'-2"	
V15	78	#11	37'-6"	
W15	12	#5	38'-6"	
W16	14	#8	38'-6"	

CLASS X CONCRETE	CU. YDS.	148.5
REINFORCEMENT BARS	LBS.	35,374
STRUCTURE EXCAVATION	CU. YDS.	166
FURN. CONC. PILES (••)	LIN. FT.	1472
DRIVING CONC. PILES (••)	LIN. FT.	1472
TEST PILE CONCRETE	EA.	1

PILE DATA

TYPE:	CONCRETE
REQUIRED CAPACITY:	45 TONS
ESTIMATED LENGTH:	46 FT.
NO. REQUIRED:	32(••)
TEST PILES:	1

(••) DOES NOT INCLUDE TEST PILE



NOTES

ALL EDGES SHALL HAVE A STANDARD ¾" CHAMFER EXCEPT FOOTING.
POUR STEPS MONOLITHICALLY WITH CAP.
PILE SPACING SHOWN IS MEASURED AT BOTTOM OF FOOTING.
SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
PIER R2-1

STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 37 OF 42

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

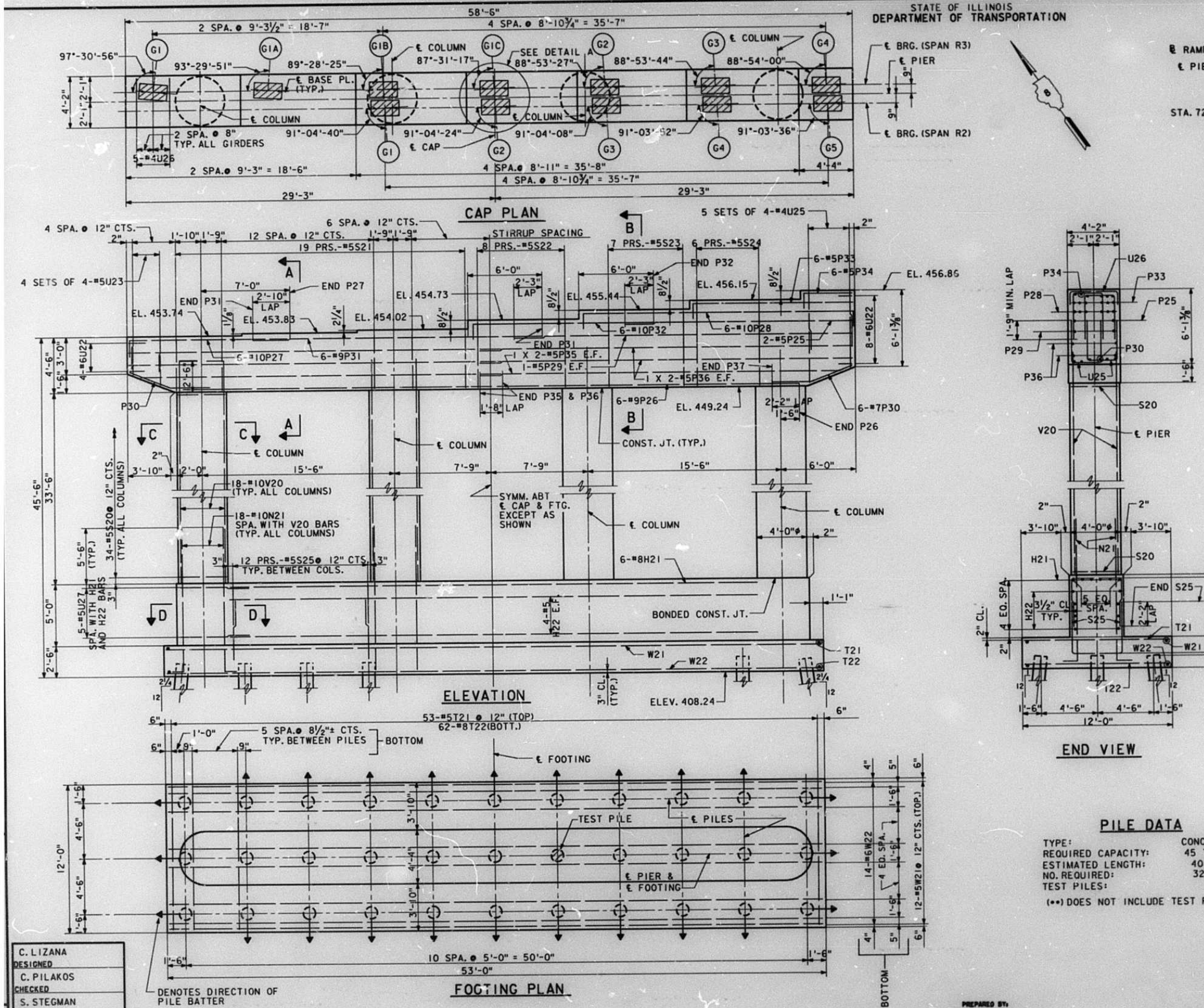
C. LIZANA	DESIGNED
C. PLIAKOS	CHECKED
J.G. CORLEY/ S. STEGMAN	DRAWN
T.V. DILLON	CHECKED

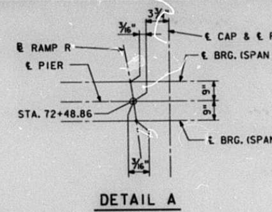
FILE: 2F3E110, 11DET133E.DGN PRF: DET133E 10320 875650
LEVELS PLOTTED 35 56 57 58 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	133

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





NOTES

ALL EDGES SHALL HAVE A STANDARD 3/4" CHAMFER EXCEPT FOOTING.
POUR STEPS MONOLITHICALLY WITH CAP.
PILE SPACING SHOWN IS MEASURED AT BOTTOM OF FOOTING.
SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.

PILE DATA

TYPE:	CONCRETE
REQUIRED CAPACITY:	45 TONS
ESTIMATED LENGTH:	40 FT.
NO. REQUIRED:	32(••)
TEST PILES:	1

(••) DOES NOT INCLUDE TEST PILE

C. LIZANA	DESIGNED
C. PILAKOS	CHECKED
S. STEGMAN	DRAWN
R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
PIER R3-1

STRUCTURE NO. 082-0253

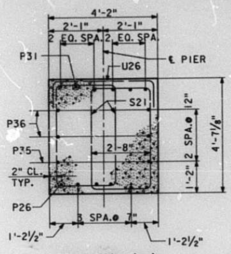
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 38 OF 42

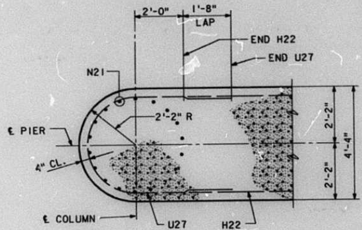
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	134
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

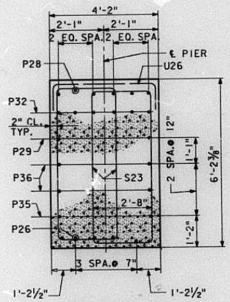
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



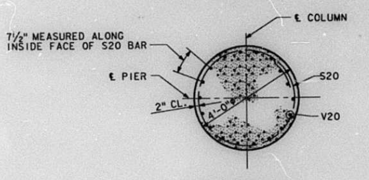
SECTION A-A



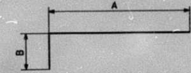
SECTION D-D



SECTION B-B



SECTION C-C

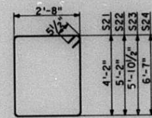


BARS P27,P32,P33,P34, N21 AND V20

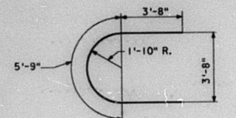
BAR	A	B
P27	12'-10"	1'-10"
P32	14'-9"	1'-10"
P33	12'-11"	1'-6"
P34	4'-0"	1'-6"
N21	12'-9"	1'-10"
V20	36'-0"	1'-10"

BARS S25,U22,U23, U25 AND U26

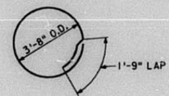
BAR	A	B
S25	3'-9"	4'-1½"
U22	3'-8"	1'-9"
U23	2'-8"	2'-10"
U25	2'-8"	4'-6"
U26	3'-10"	1'-6"



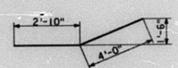
BAR S21,S22,S23 AND S24



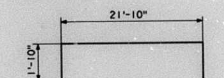
BAR U27



BAR S20



BAR P37



BAR P28

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
H21	6	#8	42'-6"	
H22	8	#5	42'-6"	
N21	72	#10	14'-7"	
P25	2	#5	18'-3"	
P26	6	#9	49'-6"	
P27	6	#10	14'-8"	
P28	6	#10	25'-[illegible]"	
P29	2	#5	27'-[illegible]"	
P30	12	#7	6'-10"	
P31	6	#9	23'-3"	
P32	6	#10	16'-7"	
P33	6	#5	14'-5"	
P34	6	#5	5'-6"	
P35	4	#5	28'-4"	
P36	8	#5	29'-11"	
S20	136	#5	13'-3"	
S21	38	#5	14'-7"	
S22	16	#5	16'-7"	
S23	14	#5	18'-0"	
S24	12	#5	19'-5"	
S25	72	#5	12'-0"	
T21	53	#5	11'-6"	
T22	62	#8	11'-6"	
U22	12	#6	7'-2"	
U23	16	#5	8'-4"	
U25	20	#5	11'-8"	
U26	35	#4	6'-10"	
U27	10	#5	13'-1"	
V20	72	#10	37'-10"	
W21	12	#5	52'-6"	
W22	14	#6	52'-6"	

CLASS X CONCRETE	CU. YDS.	209.7
REINFORCEMENT BARS	LBS.	30224
STRUCTURE EXCAVATION	CU. YDS.	162
FURN. CONC. PILES (••)	LIN. FT.	1280
DRIVING CONC. PILES (••)	LIN. FT.	1280
TEST PILE CONCRETE	EA.	1

(••) DOES NOT INCLUDE TEST PILE

NOTES

WORK THIS SHEET WITH SHEET 38.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
PIER R3-1

STRUCTURE NO. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 39 OF 42

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

C. LIZANA	DESIGNED
C. PLIAKOS	CHECKED
J.G.CORLEY	DRAWN
R.F. BECK	CHECKED

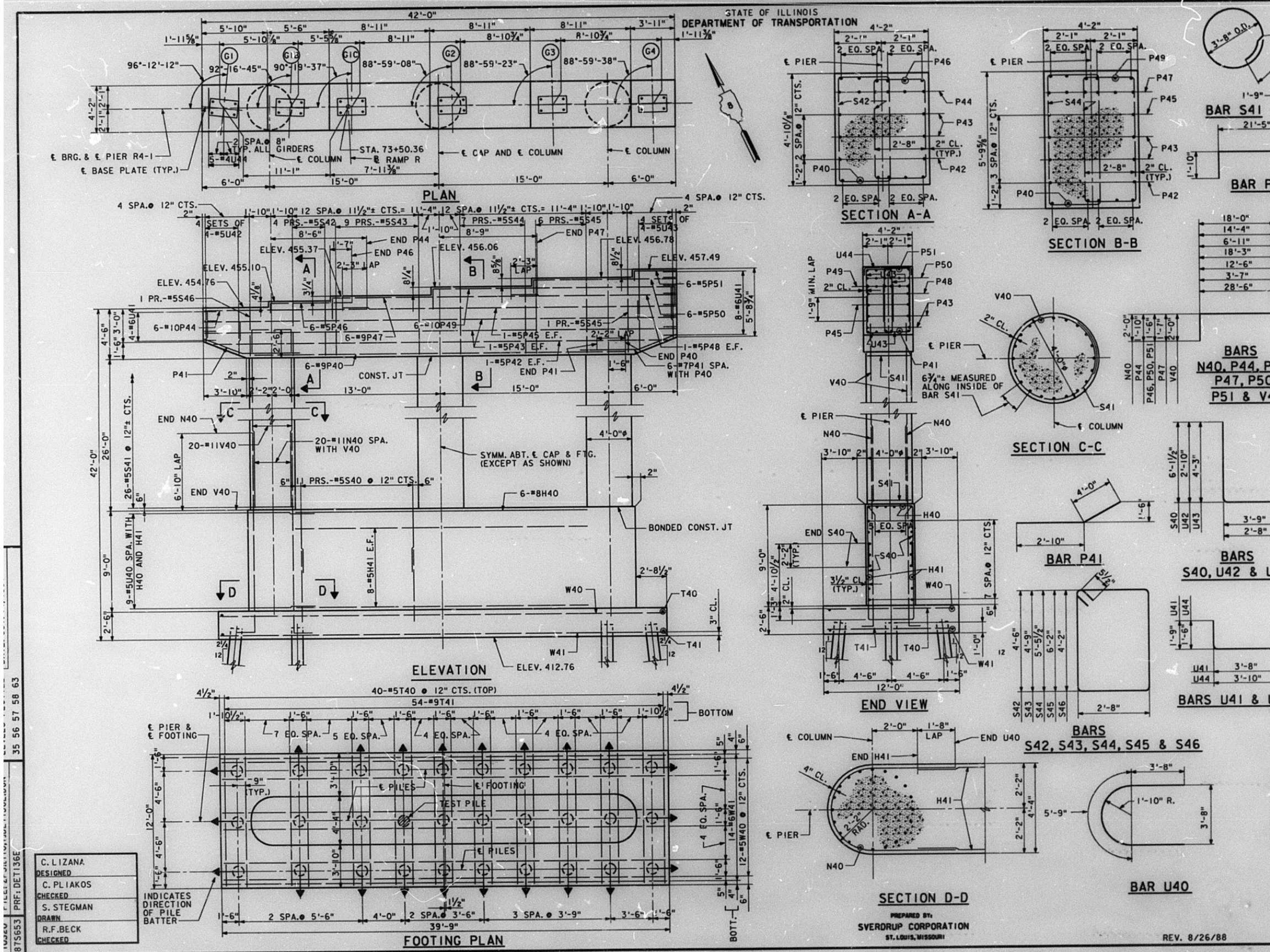
87S652 PRF. DET135E

35 56 57 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	135

•82-3HVB-2R-1



BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
H40	6	#8	26'-0"	
H41	16	#5	26'-0"	
N40	60	#11	20'-0"	
P40	6	#9	33'-0"	
P41	12	#7	6'-10"	
P42	2	#5	39'-8"	
P43	4	#5	41'-8"	
P44	6	#10	16'-2"	
P45	2	#5	29'-5"	
P46	6	#5	8'-5"	
P47	6	#9	19'-10"	
P48	2	#5	14'-4"	
P49	6	#10	25'-1"	
P50	6	#5	14'-0"	
P51	6	#5	5'-1"	
S40	44	#5	16'-0"	
S41	78	#5	13'-3"	
S42	8	#5	15'-3"	
S43	18	#5	15'-9"	
S44	14	#5	17'-2"	
S45	14	#5	18'-7"	
S46	2	#5	14'-7"	
T40	40	#5	11'-6"	
T41	54	#9	11'-6"	
U40	18	#5	13'-1"	
U41	12	#6	7'-2"	
U42	16	#5	8'-4"	
U43	16	#5	11'-2"	
U44	30	#4	6'-10"	
V40	60	#11	30'-6"	
W40	12	#5	39'-3"	
W41	14	#6	39'-3"	

CLASS X CONCRETE	CU. YDS.	166.1
REINFORCEMENT BARS	LBS.	27,314
STRUCTURE EXCAVATION	CU. YDS.	117
FURN. CONC. PILES (**)	LIN. FT.	1160
DRIVING CONC. PILES (**)	LIN. FT.	1160
TEST PILE CONCRETE	EA.	1

(**) DOES NOT INCLUDE TEST PILE

PILE DATA

TYPE:	CONCRETE
REQ'D. CAPACITY:	45 TONS
EST. LENGTH:	40 FT.
NUMBER REQ'D.:	29(**)
TEST PILES:	1

NOTES

ALL EDGES SHALL HAVE A STANDARD 3/4" CHAMFER EXCEPT FOOTING.
POUR STEPS MONOLITHICALLY WITH CAP.
PILE SPACING SHOWN IS MEASURED AT BOTTOM OF FOOTING.
SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX

RAMP R
PIER R4-1

STRUCTURE NO. 082-0253

STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.

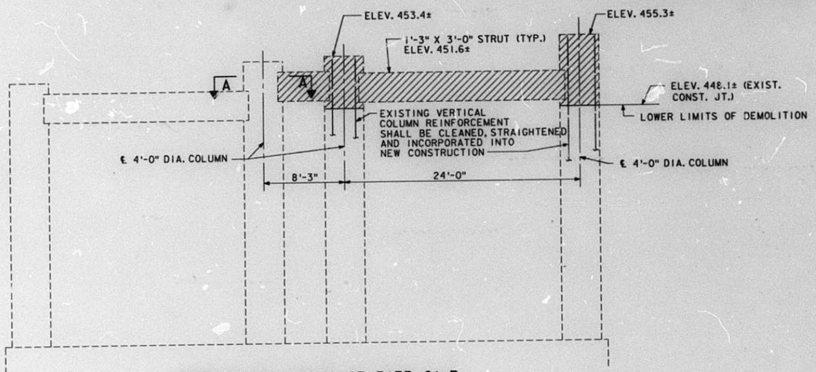
SHEET NO. 40 OF 42

C. LIZANA
DESIGNED
C. PLIAKOS
CHECKED
S. STEGMAN
DRAWN
R.F. BECK
CHECKED

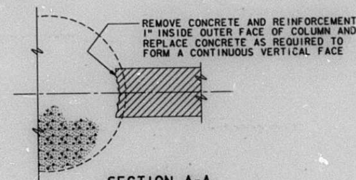
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	136
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

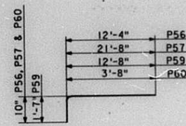
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



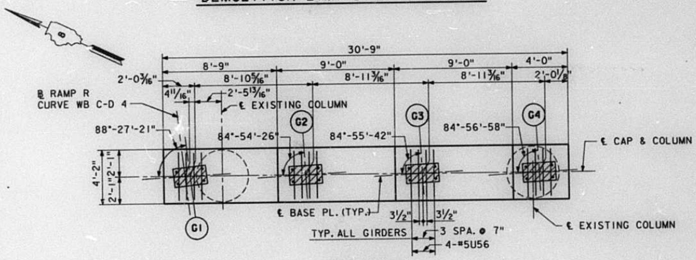
DEMOLITION LIMITS OF PIER 01-R



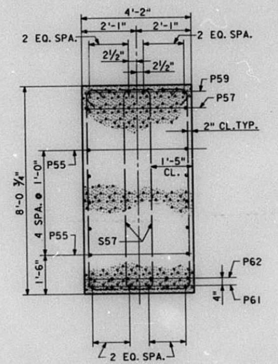
SECTION A-A



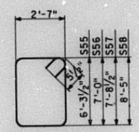
BARS P56, P57, P59 & P60



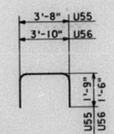
CAP PLAN



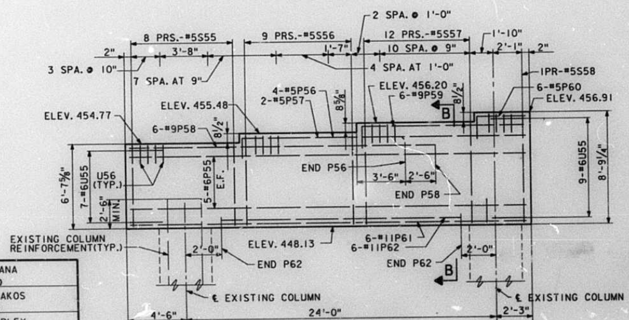
SECTION B-B



BARS S55, S56, S57 & S58



BARS U55 & U56



ELEVATION

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
P55	10	#6	30'-5"	
P56	4	#5	13'-2"	
P57	2	#5	22'-6"	
P58	6	#9	23'-7"	
P59	6	#9	14'-3"	
P60	6	#5	4'-6"	
P61	6	#11	30'-5"	
P62	6	#11	20'-0"	
S55	20	#5	18'-8"	
S56	18	#5	20'-1"	
S57	24	#5	21'-6"	
S58	2	#5	22'-11"	
U55	16	#6	7'-2"	
U56	16	#5	6'-10"	
CLASS X CONCRETE		CU. YDS.	38.0	
REINFORCEMENT BARS		LBS.	4605	
CONCRETE REMOVAL		CU. YDS.	9.2	

NOTES

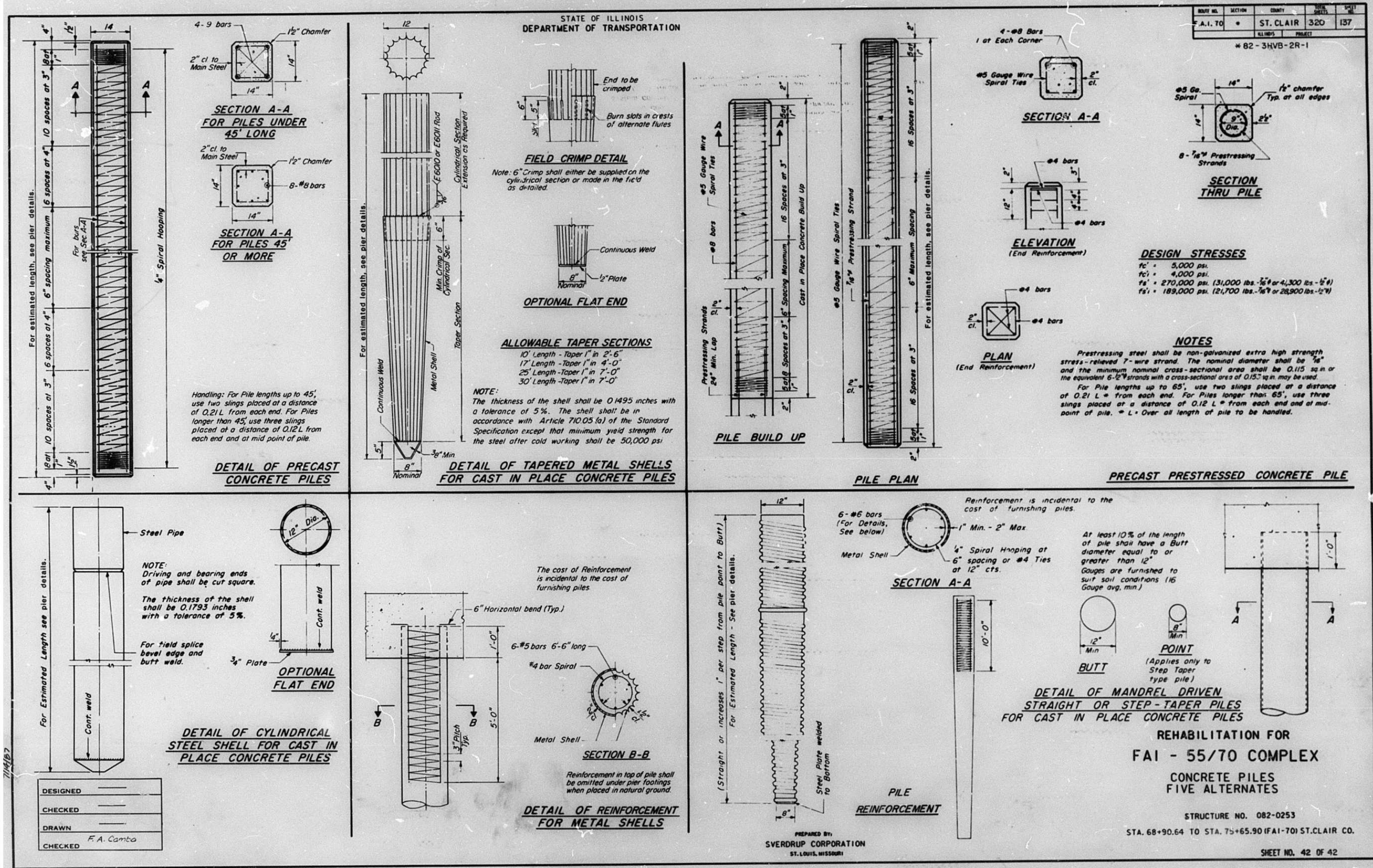
ALL EDGES SHALL HAVE A STANDARD 3/4" CHAMFER.
POUR STEPS MONOLITHICALLY WITH PIER CAP.
SPACE REINFORCING IN CAP TO MISS ANCHOR BOLTS.

C. LIZANA	DESIGNED
C. PLIAKOS	CHECKED
J.G. CORLEY	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP R
MODIFICATIONS - PIER 01-R
STRUCTURE NO. 082-0253
STA 68+90.64 TO STA 75+65.90 (FAI-70) ST. CLAIR CO.

SHEET NO. 41 OF 42


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 137
*82-3HVB-2R-1
4-9 bars
1½" Chamfer
2" cl to Main Steel
SECTION A-A FOR PILES UNDER 45' LONG
8-#8 bars
SECTION A-A FOR PILES 45' OR MORE
For estimated length, see pier details.
10 spaces at 3"
6 spaces at 4"
6" spacing maximum
¼" Spiral Hooping
Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.
DETAIL OF PRECAST CONCRETE PILES
End to be crimped
Burn slots in crests of alternate flutes
FIELD CRIMP DETAIL
Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.
Continuous Weld
½" Plate
OPTIONAL FLAT END
Cylindrical Section Extension as Required
Min. Crimp of Cylindrical Sec.
Taper Section
Metal Shell
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 shell 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
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES
#5 Gauge Wire Spiral Ties
#8 bars
Prestressing Strands 24" Min. Lap
16 Spaces at 3"
6" Spacing Maximum
Cast in Place Concrete Build Up
PILE BUILD UP
½" Prestressing Strand
6" Maximum Spacing
PILE PLAN
4-#8 Bars 1 at Each Corner
#5 Gauge Wire Spiral Ties
SECTION A-A
#4 bars
ELEVATION (End Reinforcement)
PLAN (End Reinforcement)
#5 Ga. Spiral
½" chamfer Typ. at all edges
8-7/16" Prestressing Strands
SECTION THRU PILE
DESIGN STRESSES
f'c = 5,000 psi.
f'ci = 4,000 psi.
f's = 270,000 psi. (31,000 lbs.-7/16" or 41,300 lbs.-½")
f'si = 189,000 psi. (21,700 lbs.-7/16" or 28,900 lbs.-½")
NOTES
Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.115 sq.in. or the equivalent 6-½" 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
Steel Pipe
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.
Cont. weld
¾" Plate
OPTIONAL FLAT END
For Estimated Length see pier details.
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES
The cost of Reinforcement is incidental to the cost of furnishing piles.
6" Horizontal bend (Typ.)
6-#5 bars 6'-6" long
#4 bar Spiral
Metal Shell
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
(Straight or increases 1" per step from pile point to Butt)
For Estimated Length - See pier details.
Steel Plate welded to Bottom
6-#6 bars (For Details, See below)
Reinforcement is incidental to the cost of furnishing piles.
1" Min. - 2" Max
¼" Spiral Hooping at 6" spacing or #4 Ties at 12" cts.
Metal Shell
SECTION A-A
PILE REINFORCEMENT
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. 082-0253
STA. 68+90.64 TO STA. 75+65.90 (FAI-70) ST. CLAIR CO.
SHEET NO. 42 OF 42
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI
DESIGNED
CHECKED
DRAWN
CHECKED F. A. Camba

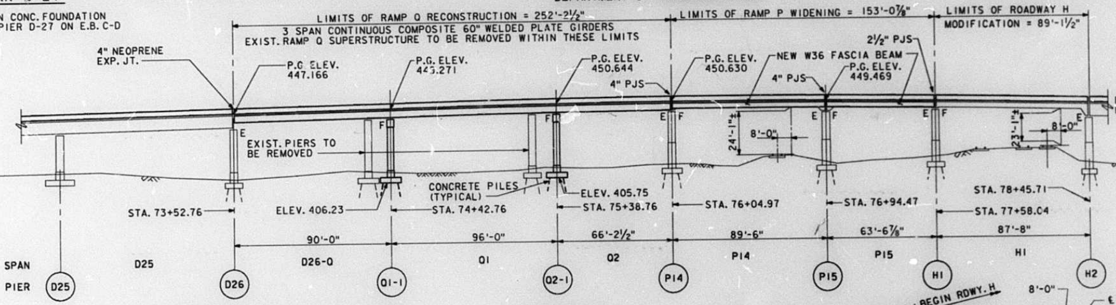
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	138
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

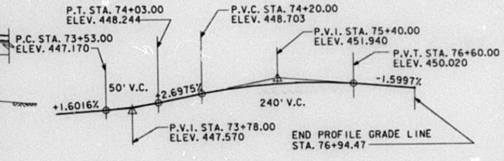
BENCH MARK D-27

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

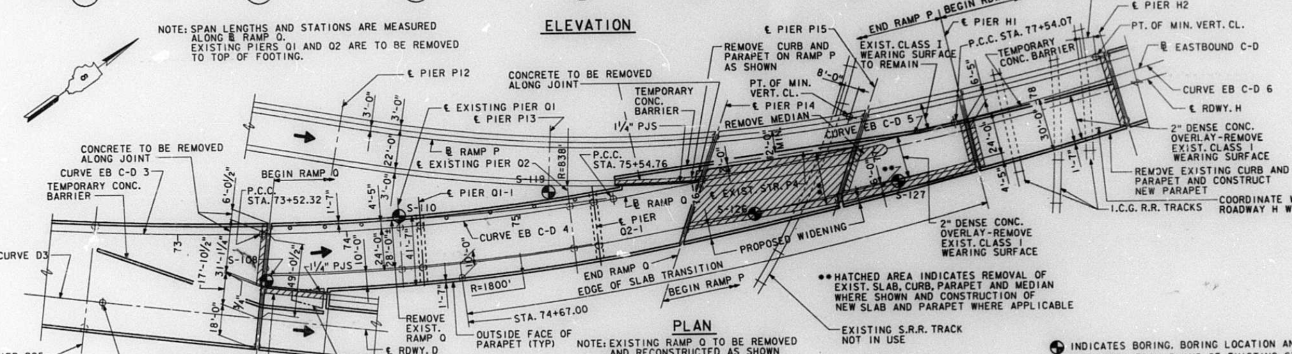


ELEVATION

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



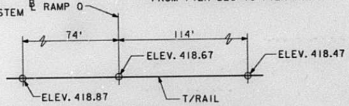
PROFILE - ℄ RAMP Q & ℄ EASTBOUND C-D



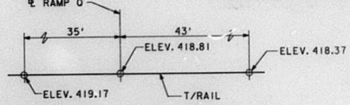
PLAN

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

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



PROFILE - SOUTHERN R.R. TRACKS SPAN P14

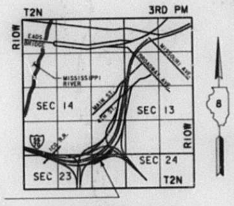


PROFILE - I.C.G.R.R. TRACKS - SPAN H1

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 (RDWY 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.



PROPOSED NEW STRUCTURE & MODIFICATIONS

LOCATION SKETCH

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 ADEQUACY ONLY
James T. Rayburn
Engineer of Bridges and Structures

STATE OF ILLINOIS
CARLOS A. LIZANA-FARIAS
81-3956
CHICAGO
REGISTERED STRUCTURAL ENGINEER

DESIGNED	C. LIZANA
CHECKED	G.J. DEE
DRAWN	L. SCHURMAN / S. STEGMAN
CHECKED	R.F. BECK

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 (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

875548 PRF: DET33E

2,3,20,24,26,35,38,39,42,50,54,55,63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	139
	ILLINOIS	PROJECT		

*82-3HVB-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 Q1-1 AND Q2-1 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

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

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

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMPS Q AND P AND ROADWAY H
GENERAL NOTES, ESTIMATED QUANTITIES
AND INDEX OF DRAWINGS

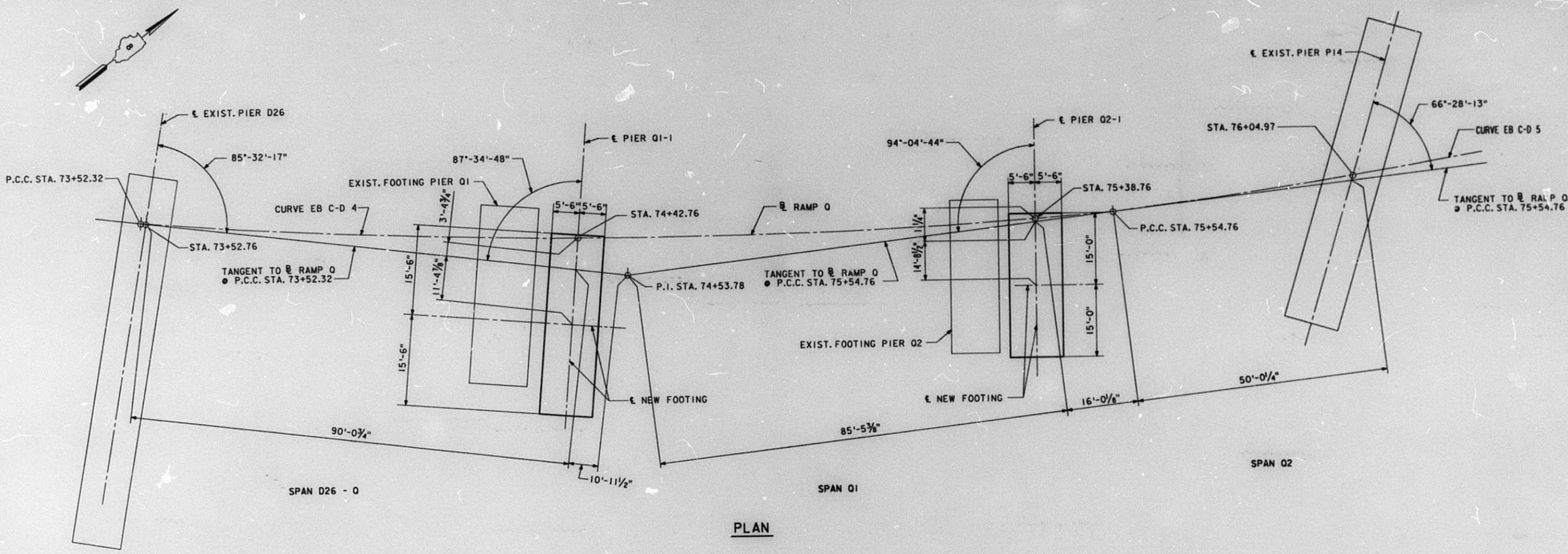
STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+15.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 2 OF 32

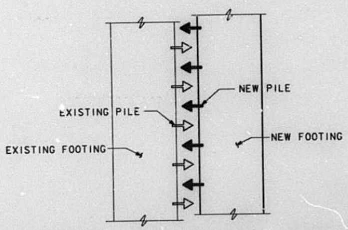
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	140

*82-3HVB-2R-1



PLAN



SCHEMATIC PILE CLEARANCE DIAGRAM

NOTE: SPACING OF PILES SHOWN ON SHEETS 30 AND 31 ARE COMPUTED TO CLEAR EXISTING PILES BASED ON ORIGINAL DESIGN PLAN DIMENSIONS.
IT IS THE CONTRACTOR RESPONSIBILITY TO LOCATE THE EXISTING PILES PRIOR TO DRIVING THE NEW PILES. IF INTERFERENCE IS ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

NOTES

FOR CURVE DATA SEE SHEET 1.

C. LIZANA	DESIGNED
C. PLIAKOS	CHECKED
D. FRIERDICH	DRAWN
R. NIEMIETZ	CHECKED

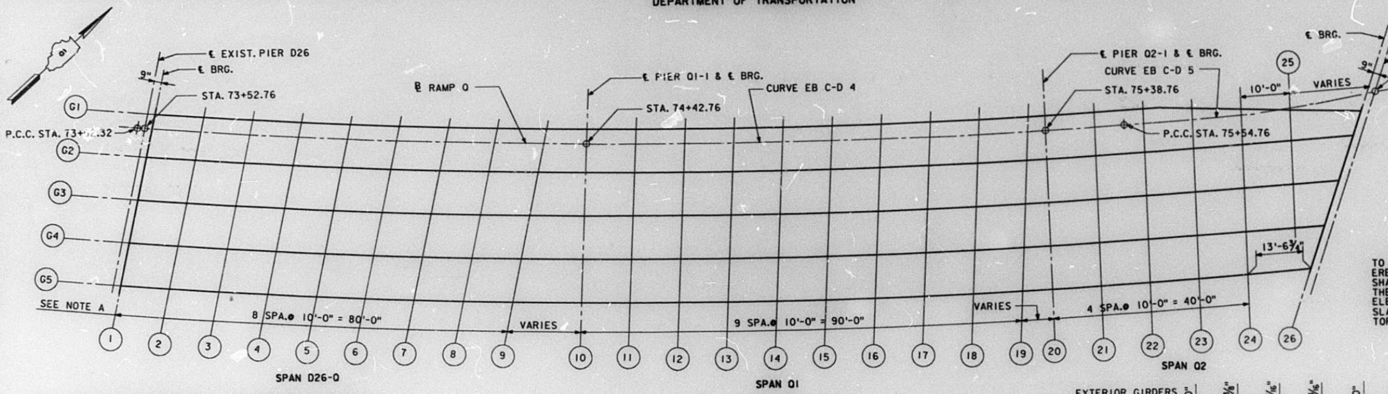
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
FOOTING LAYOUT
STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	141
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

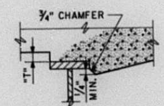
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

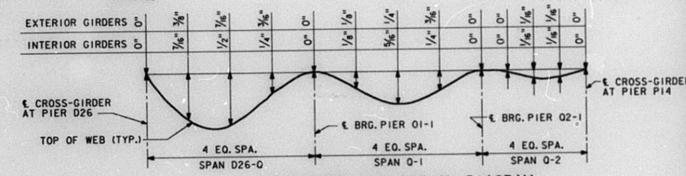
NOTE A: POINTS FOR ELEVATIONS AT 10' INTERVALS AND AS NOTED ARE ALONG EACH INDIVIDUAL GIRDER. STATIONS AND OFFSETS AT THESE POINTS ARE RADIAL TO ℄ RAMP Q.

NOTE: FOR TRANSVERSE GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLANS.



FILLET HEIGHTS

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE GIRDERS SHALL BE TAKEN AT THE INTERVALS SHOWN ON PLAN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "T" ABOVE TOP FLANGE OF GIRDERS.



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 LOAD DEFLECTIONS".

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
1	G 1	73 + 5[illegible]90	-3.000	446.944	446.944
1	G 2	73 + [illegible]2.787	5.896	447.638	447.638
1	G 3	73 + 51.697	14.792	448.332	448.332
1	G 4	73 + 50.617	23.587	448.792	448.792
1	G 5	73 + 49.893	29.707	448.895	448.895
2	G 1	73 + 63.915	-3.000	447.118	447.130
2	G 2	73 + 62.738	5.896	447.808	447.826
2	G 3	73 + 61.578	14.792	448.498	448.516
2	G 4	73 + 60.435	23.688	448.995	449.013
2	G 5	73 + 59.642	30.448	449.106	449.122
3	G 1	73 + 73.940	-3.000	447.313	447.336
3	G 2	73 + 72.689	5.896	447.999	448.032
3	G 3	73 + 71.457	14.792	448.686	448.719
3	G 4	73 + 70.243	23.688	449.219	449.252
3	G 5	73 + 69.373	31.078	449.329	449.358
4	G 1	73 + 83.965	-3.000	447.531	447.560
4	G 2	73 + 82.641	5.896	448.212	448.254
4	G 3	73 + 81.336	14.792	448.895	448.937
4	G 4	73 + 80.050	23.688	449.465	449.507
4	G 5	73 + 79.107	31.599	449.508	449.546
5	G 1	73 + 93.990	-3.000	447.770	447.801
5	G 2	73 + 92.592	5.896	448.447	448.492
5	G 3	73 + 91.215	14.792	449.125	449.169
5	G 4	73 + 89.[illegible]8	23.688	449.731	449.776
5	G 5	73 + 88.842	32.009	449.761	449.803
6	G 1	74 + 04.015	-3.000	448.032	448.059
6	G 2	74 + 02.[illegible]44	5.896	448.704	448.744
6	G 3	74 + 01.094	14.792	449.377	449.417
6	G 4	73 + 99.665	23.688	450.019	450.059
6	G 5	73 + 98.577	32.310	450.316	450.354
7	G 1	74 + 14.040	-3.000	448.302	448.322
7	G 2	74 + 12.495	5.896	448.972	449.004
7	G 3	74 + 10.973	14.792	449.643	449.674
7	G 4	74 + 09.473	23.688	450.314	450.345
7	G 5	74 + 08.314	32.500	450.900	450.930
8	G 1	74 + 24.065	-3.000	448.571	448.582
8	G 2	74 + 22.446	5.896	449.240	449.260
8	G 3	74 + 20.851	14.792	449.909	449.929
8	G 4	74 + 19.280	23.688	450.579	450.599
8	G 5	74 + 18.051	32.580	451.257	451.277

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
9	G 1	74 + 34.090	-3.000	448.825	448.829
9	G 2	74 + 32.398	5.896	449.495	449.504
9	G 3	74 + 30.730	14.792	450.165	450.174
9	G 4	74 + 29.087	23.688	450.836	450.845
9	G 5	74 + 27.788	32.583	451.514	451.524
10	G 1	74 + 42.859	-3.000	449.033	449.033
10	G 2	74 + 42.568	5.896	449.738	449.738
10	G 3	74 + 42.281	14.792	450.443	450.443
10	G 4	74 + 41.999	23.688	451.148	451.148
10	G 5	74 + 41.721	32.583	451.853	451.853
11	G 1	74 + 52.883	-3.000	449.253	449.255
11	G 2	74 + 52.519	5.896	449.957	449.958
11	G 3	74 + 52.160	14.792	450.661	450.662
11	G 4	74 + 51.807	23.688	451.365	451.366
11	G 5	74 + 51.458	32.583	452.070	452.071
12	G 1	74 + 62.908	-3.000	449.456	449.463
12	G 2	74 + 62.471	5.896	450.159	450.167
12	G 3	74 + 62.039	14.792	450.862	450.870
12	G 4	74 + 61.614	23.688	451.566	451.574
12	G 5	74 + 61.195	32.583	452.269	452.276
13	G 1	74 + 72.933	-3.000	449.640	449.653
13	G 2	74 + 72.422	5.896	450.343	450.358
13	G 3	74 + 71.918	14.792	451.046	451.061
13	G 4	74 + 71.421	23.688	451.748	451.764
13	G 5	74 + 70.932	32.583	452.451	452.466
14	G 1	74 + 82.958	-3.000	449.806	449.825
14	G 2	74 + 82.373	5.896	450.509	450.532
14	G 3	74 + 81.797	14.792	451.211	451.234
14	G 4	74 + 81.229	23.688	451.914	451.937
14	G 5	74 + 80.669	32.583	452.617	452.637
15	G 1	74 + 92.983	-3.000	449.955	449.976
15	G 2	74 + 92.325	5.896	450.657	450.684
15	G 3	74 + 91.676	14.792	451.360	451.386
15	G 4	74 + 91.036	23.688	452.062	452.089
15	G 5	74 + 90.406	32.583	452.765	452.789
16	G 1	75 + 03.008	-3.000	450.085	450.105
16	G 2	75 + 02.276	5.896	450.788	450.813
16	G 3	75 + 01.555	14.792	451.491	451.516
16	G 4	75 + 00.844	23.688	452.194	452.219
16	G 5	75 + 00.143	32.583	452.897	452.920
17	G 1	75 + 13.033	-3.000	450.198	450.213
17	G 2	75 + 12.227	5.896	450.901	450.921
17	G 3	75 + 11.434	14.792	451.604	451.624
17	G 4	75 + 10.651	23.688	452.308	452.328
17	G 5	75 + 09.880	32.583	453.011	453.030
18	G 1	75 + 23.058	-3.000	450.292	450.301
18	G 2	75 + 22.179	5.896	450.996	451.008
18	G 3	75 + 21.312	14.792	451.700	451.712
18	G 4	75 + 20.458	23.688	452.404	452.416
18	G 5	75 + 19.617	32.583	453.108	453.120

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
19	G 1	75 + 33.083	-3.000	450.474	450.476
19	G 2	75 + 32.130	5.896	451.074	451.078
19	G 3	75 + 31.191	14.792	451.779	451.783
19	G 4	75 + 30.266	23.688	452.484	452.488
19	G 5	75 + 29.354	32.583	453.189	453.193
20	G 1	75 + 38.934	-3.000	450.586	450.586
20	G 2	75 + 38.420	5.8[illegible]6	451.114	451.114
20	G 3	75 + 37.913	14.792	451.822	451.822
20	G 4	75 + 37.413	23.688	452.531	452.531
20	G 5	75 + 36.920	32.583	453.240	453.240
21	G 1	75 + 48.959	-3.000	450.764	450.765
21	G 2	75 + 48.371	5.896	451.162	451.162
21	G 3	75 + 47.792	14.792	451.872	451.871
21	G 4	75 + 47.220	23.688	452.581	452.581
21	G 5	75 + 46.657	32.583	453.290	453.289
22	G 1	75 + 58.978	-3.004	450.873	450.877
22	G 2	75 + 58.333	5.893	451.190	451.193
22	G 3	75 + 57.691	14.790	451.898	451.901
22	G 4	75 + 57.053	23.686	452.607	452.610
22	G 5	75 + 56.419	32.583	453.317	453.317
23	G 1	75 + 68.927	-1.915	450.831	450.838
23	G 2	75 + 68.312	5.893	451.196	451.201
23	G 3	75 + 67.639	14.793	451.893	451.899
23	G 4	75 + 66.971	23.693	452.591	452.597
23	G 5	75 + 66.307	32.552	453.288	453.289
24	G 1	75 + 78.869	-0.791	450.769	450.778
24	G 2	75 + 78.291	5.929	451.186	451.192
24	G 3	75 + 77.588	14.832	451.873	451.879
24	G 4	75 + 76.889	23.734	452.561	452.568
24	G 5	75 + 76.194	32.475	453.239	453.240
25	G 1	75 + 88.802	0.368	450.734	450.741
25	G 2	75 + 88.270	5.999	451.163	451.167
25	G 3	75 + 87.536	14.905	451.842	451.846
25	G 4	75 + 86.805	23.810	452.521	452.525
26	G 1	76 + 03.189	2.109	450.801	450.801
26	G 2	76 + 01.354	6.144	451.118	451.118
26	G 3	75 + 97.342	15.011	451.812	451.812
26	G 4	75 + 93.256	23.879	452.504	452.504
26	G 5	75 + 89.598	32.297	453.157	453.157

A. MYERS	DESIGNED
R.WINKELMANN	CHECKED
D. FRIERDICH	DRAWN
R.WINKELMANN	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
TOP OF SLAB ELEVATIONS
SPANS D26-Q, Q1 AND Q2

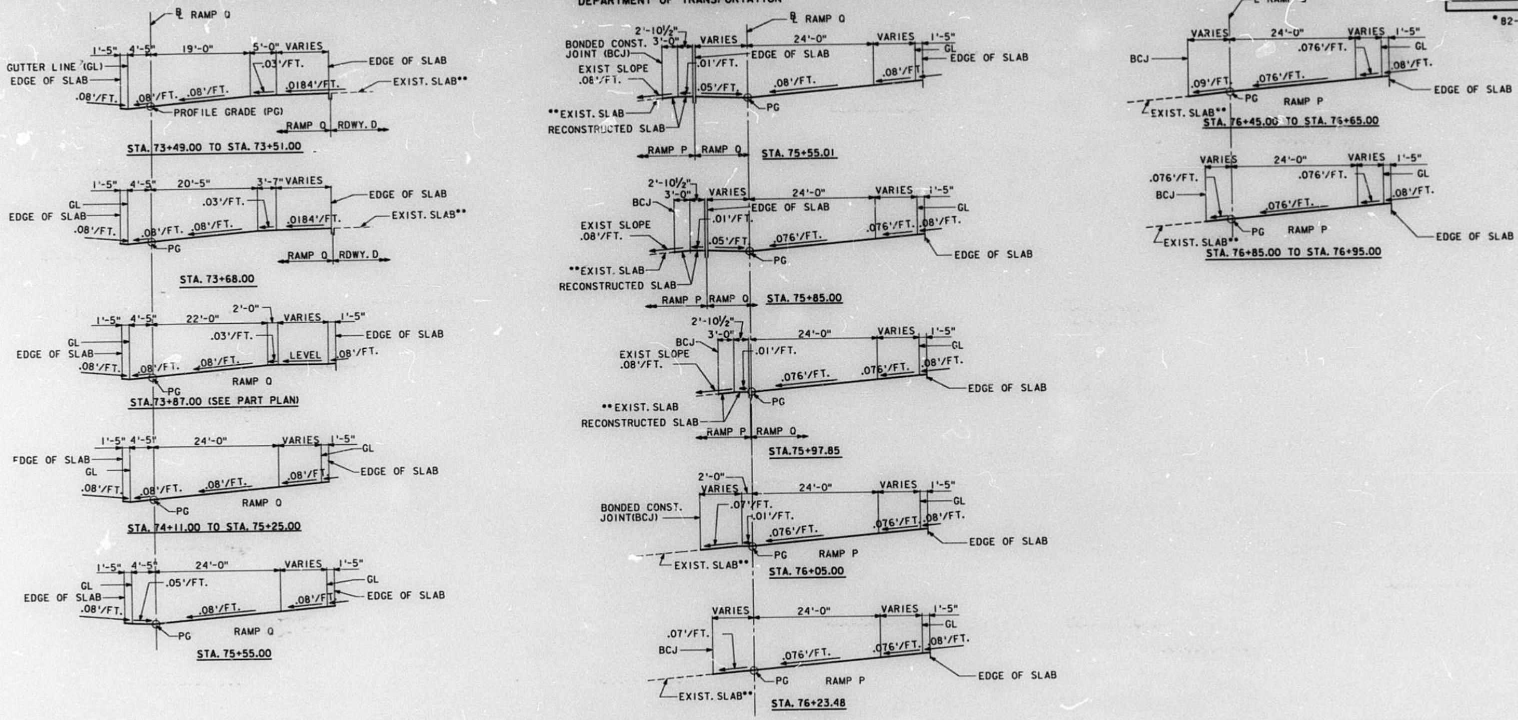
STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 76+45.71 (FAI-70) ST. CLAIR CO.

87S550 PRF: DET35E
35 56 58 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	142
		ILLINOIS	PROJECT	

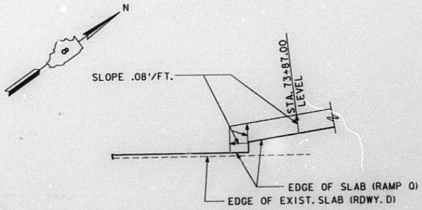
* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

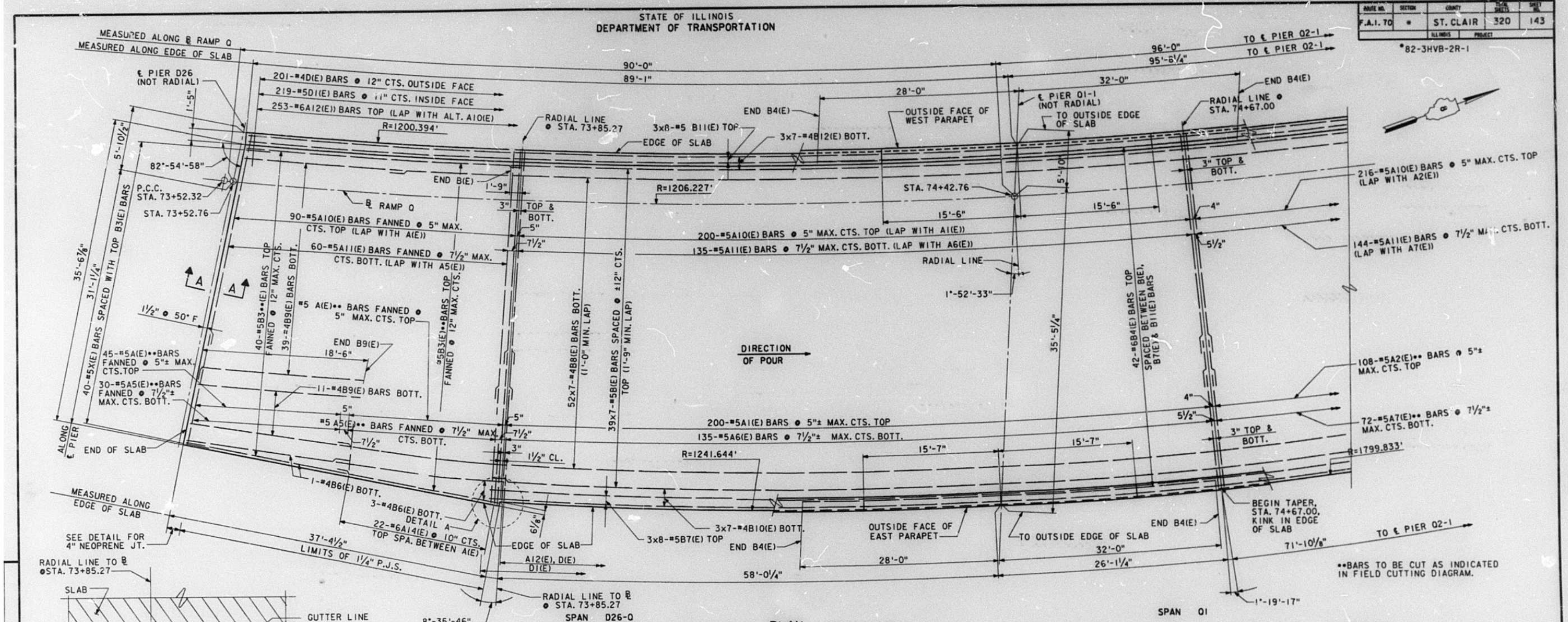
REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMPS Q AND P
SUPERELEVATION TRANSITION
STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 5 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

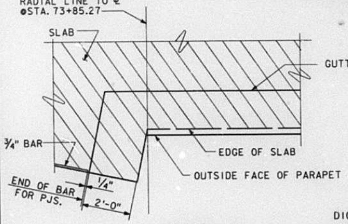
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	143

*82-3HVB-2R-1

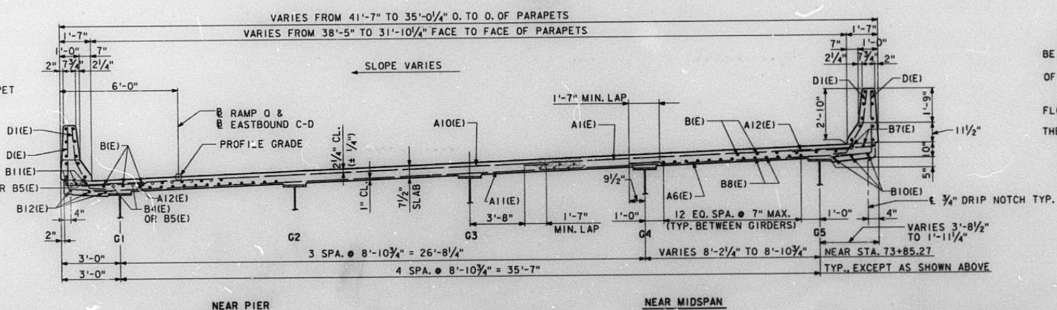


**BARS TO BE CUT AS INDICATED IN FIELD CUTTING DIAGRAM.

PLAN



DETAIL A



CROSS SECTION - STA. 73+85.27 TO STA. 75+55.16
(LOOKING NORTH)

NOTE: FIELD BEND LEG OF D(E) & D1(E) TO CLEAR GIRDER FLANGE.

NOTES

WORK THIS SHEET WITH SHEETS 7, 8 AND 9 OF 32.
D1(E) BARS LOCATED NEAR THE ENDS OF PARAPETS SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXP. JT. BY 1 IN.
BARS SHOWN THUS: 52x6-#5 ETC. INDICATES 52 LINES OF BARS WITH 6 LENGTHS PER LINE.
FLOOR DRAINS NOT SHOWN. SEE SHEET 17.
SPACE BARS A12(E), D(E) AND D1(E) IN FIELD TO MISS FLOOR DRAINS.
SPACING OF TRANSVERSE BARS SHALL BE MEASURED ALONG THE EDGE OF SLAB, ADJACENT TO THE BAR.
CUT BARS A10(E) AND A11(E) IN FIELD TO MISS FLOOR DRAINS.
FOR SUPERELEVATION TRANSITION DATA SEE SHEET 5 OF 32.
FOR SLAB EDGE ORDINATES SEE SHEET 26 OF 32.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

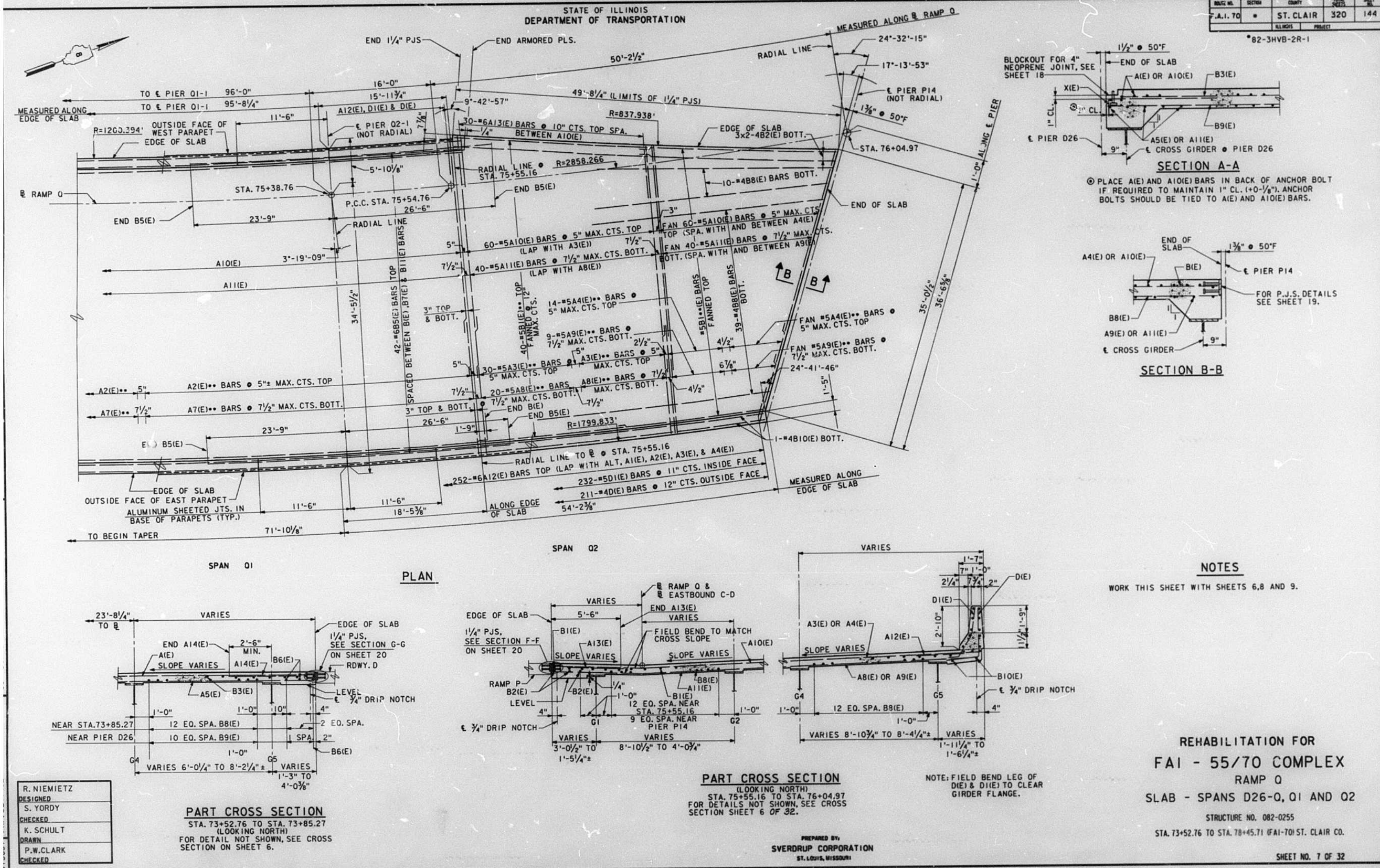
R. NIEMIETZ DESIGNED
S. YORDY CHECKED
K. SCHULT DRAWN
P.W.CLARK CHECKED

PRF: DET139E
875656

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
SLAB - SPANS D26-Q, Q1 AND Q2

STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 6 OF 32



NOTES

WORK THIS SHEET WITH SHEETS 6,8 AND 9.

R. NIEMIETZ
DESIGNED
S. YORDY
CHECKED
K. SCHULT
DRAWN
P.W. CLARK
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
SLAB - SPANS D26-Q, Q1 AND Q2

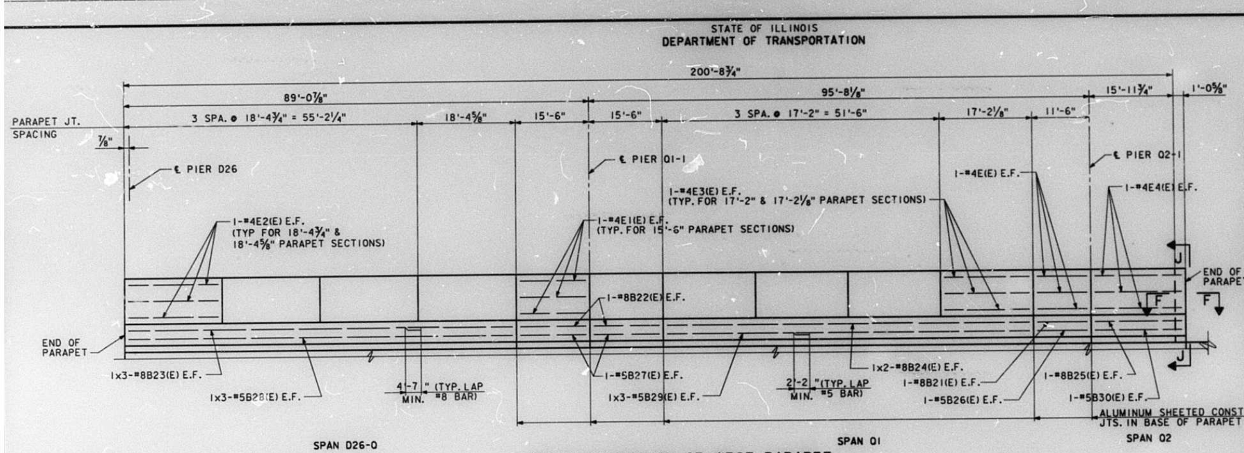
STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 7 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

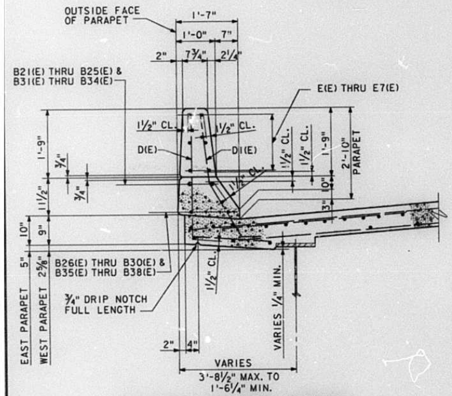
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	145
		ILLINOIS	PROJECT	

*82-3HVB-2R-1



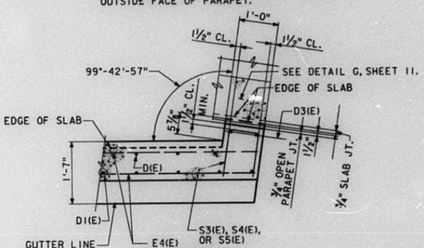
INSIDE ELEVATION OF WEST PARAPET

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.

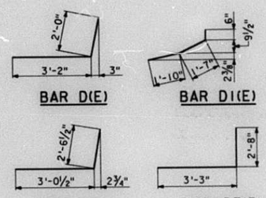


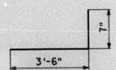
TYP. SECTION THRU PARAPET

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.

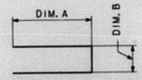


SECTION F-F





BAR X(E)



BARS S(E) THRU S5(E)

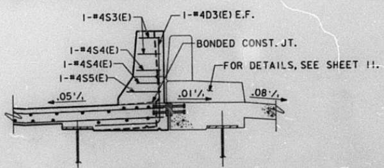
BAR	DIM. A	DIM. B
S(E)	8"	1'-9"
S1(E)	9"	1'-9"
S2(E)	1'-4"	1'-9"
S3(E)	9"	9"
S4(E)	11"	9"
S5(E)	1'-6"	9"

BILL OF MATERIAL

SPANS D26-O, O1 AND O2

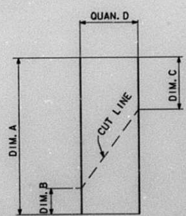
BAR	NO.	SIZE	LENGTH	SHAPE	BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	45	#5	28'-11"	—	B35(E)	4	#5	22'-4"	—
A1(E)	200	#5	15'-10"	—	B36(E)	4	#5	31'-5"	—
A2(E)	108	#5	30'-7"	—	B37(E)	4	#5	23'-2"	—
A3(E)	30	#5	27'-6"	—	B38(E)	2	#5	11'-5"	—
A4(E)	14	#5	23'-2"	—	D(E)	412	#4	5'-2"	
A5(E)	30	#5	20'-11"	—	D1(E)	451	#5	3'-11"	
A6(E)	135	#5	10'-10"	—	D2(E)	3	#5	5'-7"	
A7(E)	72	#5	20'-7"	—	D3(E)	2	#4	5'-11"	
A8(E)	20	#5	18'-6"	—					
A9(E)	9	#5	14'-2"	—					
A10(E)	626	#5	25'-0"	—					
A11(E)	419	#5	29'-0"	—	E(E)	18	#4	11'-3"	—
A12(E)	505	#6	4'-0"	—	E1(E)	24	#4	15'-3"	—
A13(E)	30	#6	5'-4"	—	E2(E)	24	#4	18'-2"	—
A14(E)	22	#6	6'-5"	—	E3(E)	24	#4	16'-11"	—
B(E)	273	#5	26'-11"	—	E4(E)	6	#4	16'-9"	—
B1(E)	40	#5	36'-3"	—	E5(E)	12	#4	21'-1"	—
B2(E)	6	#5	25'-2"	—	E6(E)	24	#4	17'-6"	—
B3(E)	40	#5	36'-3"	—	E7(E)	18	#4	14'-7"	—
B4(E)	42	#6	60'-0"	—					
B5(E)	42	#6	50'-3"	—					
B6(E)	5	#4	19'-0"	—					
B7(E)	24	#5	28'-0"	—	S(E)	2	#4	3'-1"	
B8(E)	413	#4	30'-0"	—	S1(E)	2	#4	3'-3"	
B9(E)	50	#4	18'-4"	—	S2(E)	1	#4	4'-5"	
B10(E)	23	#4	27'-3"	—	S3(E)	2	#4	2'-3"	
B11(E)	24	#5	26'-10"	—	S4(E)	2	#4	2'-7"	
B12(E)	21	#4	29'-7"	—	S5(E)	1	#4	3'-9"	
B21(E)	6	#8	11'-3"	—					
B22(E)	8	#8	15'-4"	—	X(E)	40	#5	4'-1"	
B23(E)	6	#8	27'-6"	—					
B24(E)	4	#8	36'-6"	—					
B25(E)	2	#8	16'-9"	—					
B26(E)	6	#5	11'-3"	—	CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	297.8
B27(E)	8	#5	15'-3"	—					
B28(E)	6	#5	25'-11"	—	REINFORCEMENT BARS (EPOXY COATED)			LBS.	83,360
B29(E)	6	#5	24'-3"	—					
B30(E)	2	#5	16'-9"	—					
B31(E)	4	#8	23'-6"	—					
B32(E)	4	#8	33'-7"	—					
B33(E)	4	#8	24'-5"	—					
B34(E)	2	#8	12'-8"	—					

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.



VIEW J-J

NOTE: SPACE S3(E) THRU S5(E) BARS WITH LONGITUDINAL PARAPET REINFORCING.



BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A(E)	28'-11"	12'-1"	14'-5"	45
A2(E)	30'-7"	14'-9"	15'-3"	108
A3(E)	27'-6"	11'-1"	13'-9"	30
A4(E)	23'-2"	11'-1"	11'-7"	14
A5(E)	20'-11"	8'-1"	10'-5"	30
A7(E)	20'-7"	9'-9"	10'-5"	72
A8(E)	18'-6"	6'-7"	9'-3"	20
A9(E)	14'-2"	6'-7"	7'-1"	9
B1(E)	36'-3"	16'-10"	16'-10"	40
B3(E)	36'-3"	16'-10"	18'-1"	40

FIELD CUTTING DIAGRAM

ORDER A(E), A2(E), A3(E), A4(E), A5(E), A7(E), A8(E), A9(E), B1(E) AND B3(E) BARS FULL LENGTH. CUT TO FIT AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

NOTES

WORK THIS SHEET WITH SHEETS 6, 7 AND 9 OF 32.

R. NIEMIETZ	DESIGNED
S. YORDY	CHECKED
K. SCHULT	DRAWN
P.W. CLARK	CHECKED

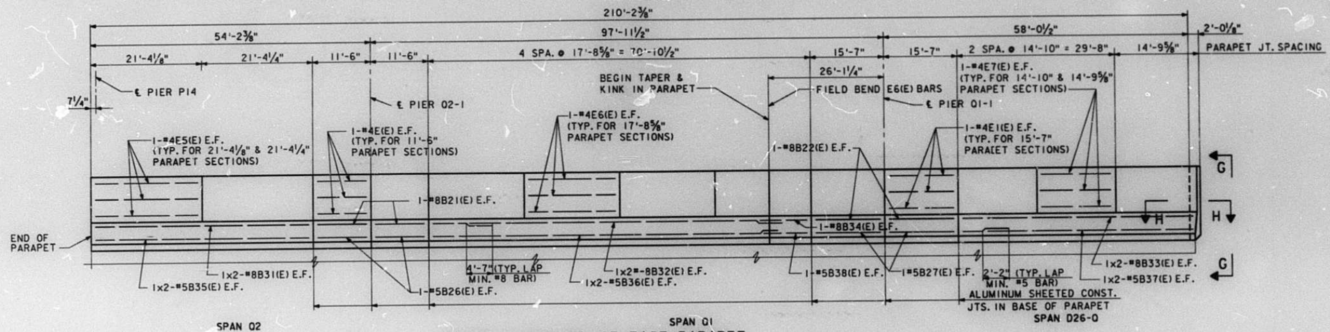
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX

RAMP Q
WEST PARAPET - SPANS D26-Q AND Q1

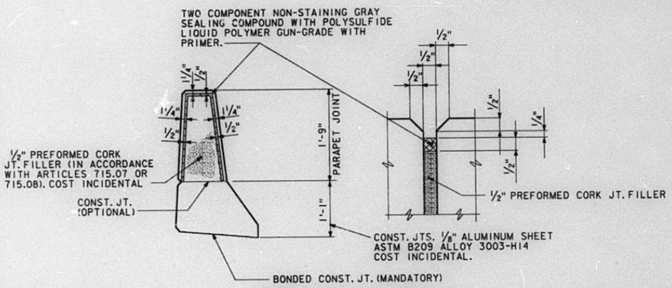
STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

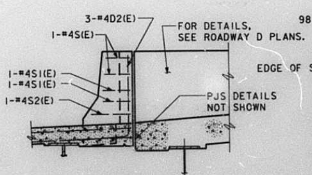


INSIDE ELEVATION OF EAST PARAPET

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.

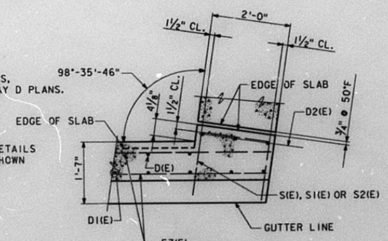


PARAPET JOINT DETAILS



VIEW G-G

NOTE: SPACE S(E) THRU S2(E) BARS WITH LONGITUDINAL PARAPET REINFORCING.



SECTION H-H

NOTES

WORK THIS SHEET WITH SHEETS 6, 7 AND 8 OF 32.

R. NIEMIETZ	DESIGNED
S. YORDY	CHECKED
J. CORLEY	DRAWN
P.W.CLARK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
EAST PARAPET - SPANS D26-Q, Q1 AND Q2

STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

875659 PRF: DET142E

35 54 56 57 58 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	147

ILLINOIS PROJECT

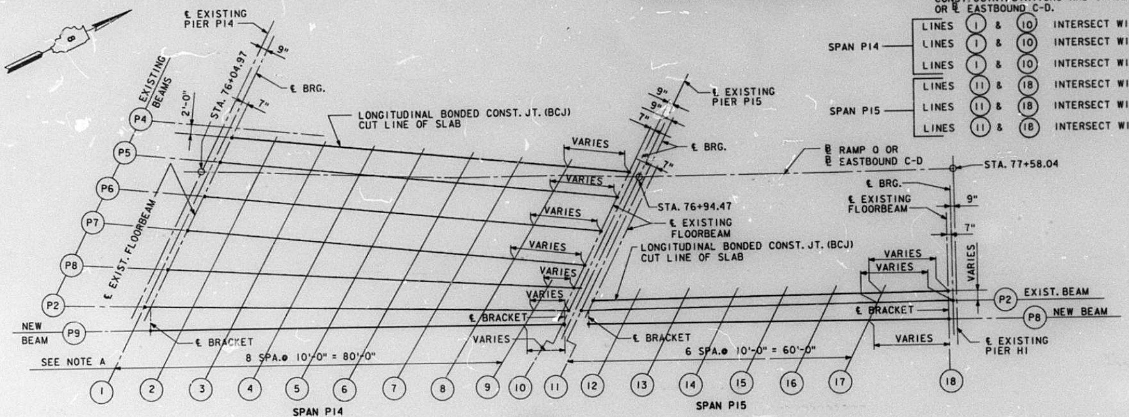
* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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.



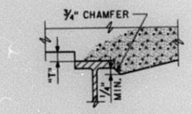
PLAN

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	450.556
4	P 6	76 + 34.285	6.799	450.889	451.089
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	0.695	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

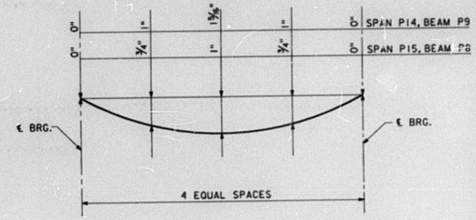
LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
7	BCJ	76 + 69.859	-2.460	449.650	449.650
7	P 5	76 + 67.424	2.573	450.097	450.312
7	P 6	76 + 64.075	9.527	450.679	450.859
7	P 7	76 + 60.742	16.485	451.261	451.414
7	P 8	76 + 57.173	21.920	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

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
11	BCJ	76 + 84.384	23.495	451.410	451.410
11	P2	76 + 81.598	27.895	451.786	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	[illegible]	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



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".

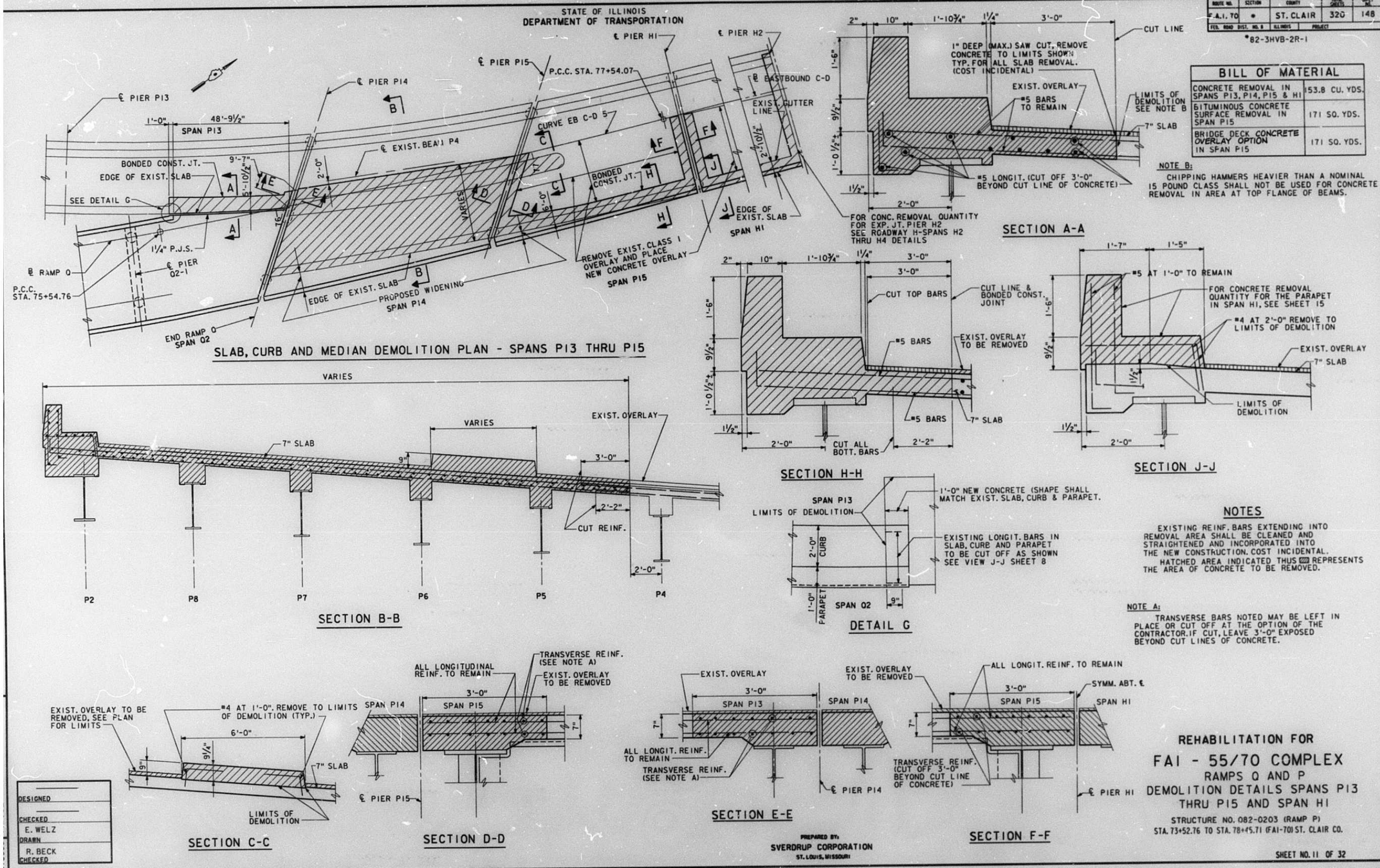
TABLE OF HAUNCH HEIGHTS					
BEAM	LINE LOCATION - SPAN P14				
	1	3	5	7	10
P5	10"	9 3/4"	10 1/4"	8 7/8"	6 5/8"
P6	9 13/16"	10"	9 11/16"	9 1/8"	7"
P7	9 1/8"	10 5/8"	11 3/16"	9 7/8"	7"
P8	11 9/16"	11 15/16"	1'-0 1/16"	10 9/16"	6 7/8"
P2	11 3/4"	1'-1 15/16"	1'-2 1/8"	1'-0 3/16"	7"
P9	1 1/4"	2 1/2"	3"	2 7/8"	1 1/4"
BEAM	LINE LOCATION - SPAN P15				
	11	13	15	17	18
P2	5 1/8"	5 7/16"	5 11/16"	3 7/6"	2 13/16"
P8	1"	1 7/16"	1 9/16"	1 1/8"	1"

A. MYERS
DESIGNED
R. WINKELMANN
CHECKED
D. FRIERDICH
DRAWN
R. BECK
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

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.

SHEET NO. 10 OF 32



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	148

*82-3HVB-2R-1

BILL OF MATERIAL

CONCRETE REMOVAL IN SPANS P13, P14, P15 & H1	153.8 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.

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.

DESIGNED
CHECKED E. WELZ
DRAWN R. BECK
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

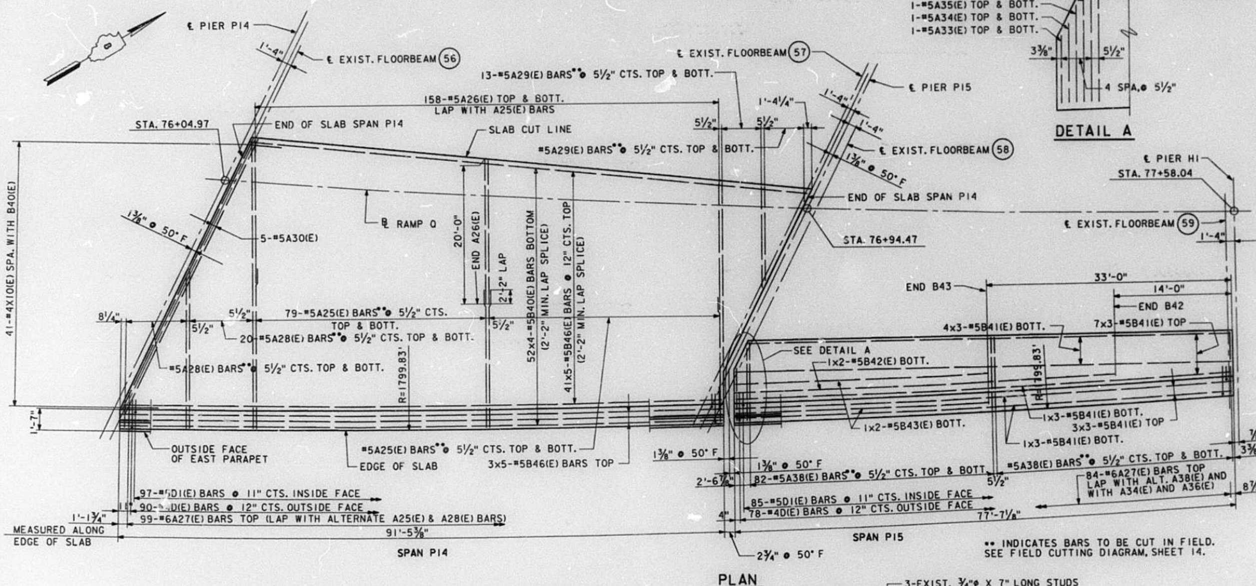
REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMPS Q AND P
DEMOLITION DETAILS SPANS P13 THRU P15 AND SPAN H1
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+15.71 (FAI-70) ST. CLAIR CO.

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

*82-3HVB-2R-1

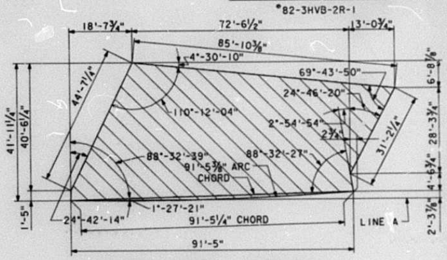


PLAN

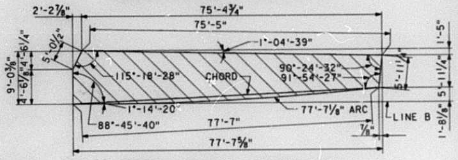
NOTE: TRANSVERSE BARS FOR SPAN P14 ARE PLACED NORMAL TO LINE A AND FOR SPAN P15 ARE PLACED NORMAL TO LINE B. FOR LINES A AND B SEE SEPARATE LAYOUT PLANS.

1-#5A37(E) TOP & BOTT.
1-#5A36(E) TOP & BOTT.
1-#5A35(E) TOP & BOTT.
1-#5A34(E) TOP & BOTT.
1-#5A33(E) TOP & BOTT.
A38(E) TOP & BOTT.
4 SPA. @ 5½"

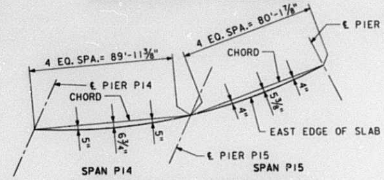
DETAIL A



SLAB LAYOUT - SPAN P14



SLAB LAYOUT - SPAN P15

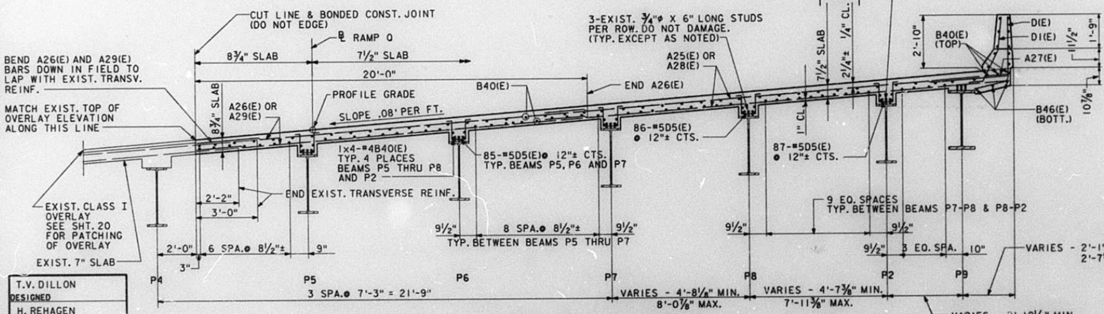


EDGE OF SLAB ORDINATES

NOTE: LONGITUDINAL DIMENSIONS ARE MEASURED ALONG CHORDS.

NOTES

BEND OR CUT D5, D6 AND D7 BARS AS REQUIRED TO MAINTAIN CLEARANCE.
WORK THIS SHEET WITH SHEETS 10, 11 AND 13.



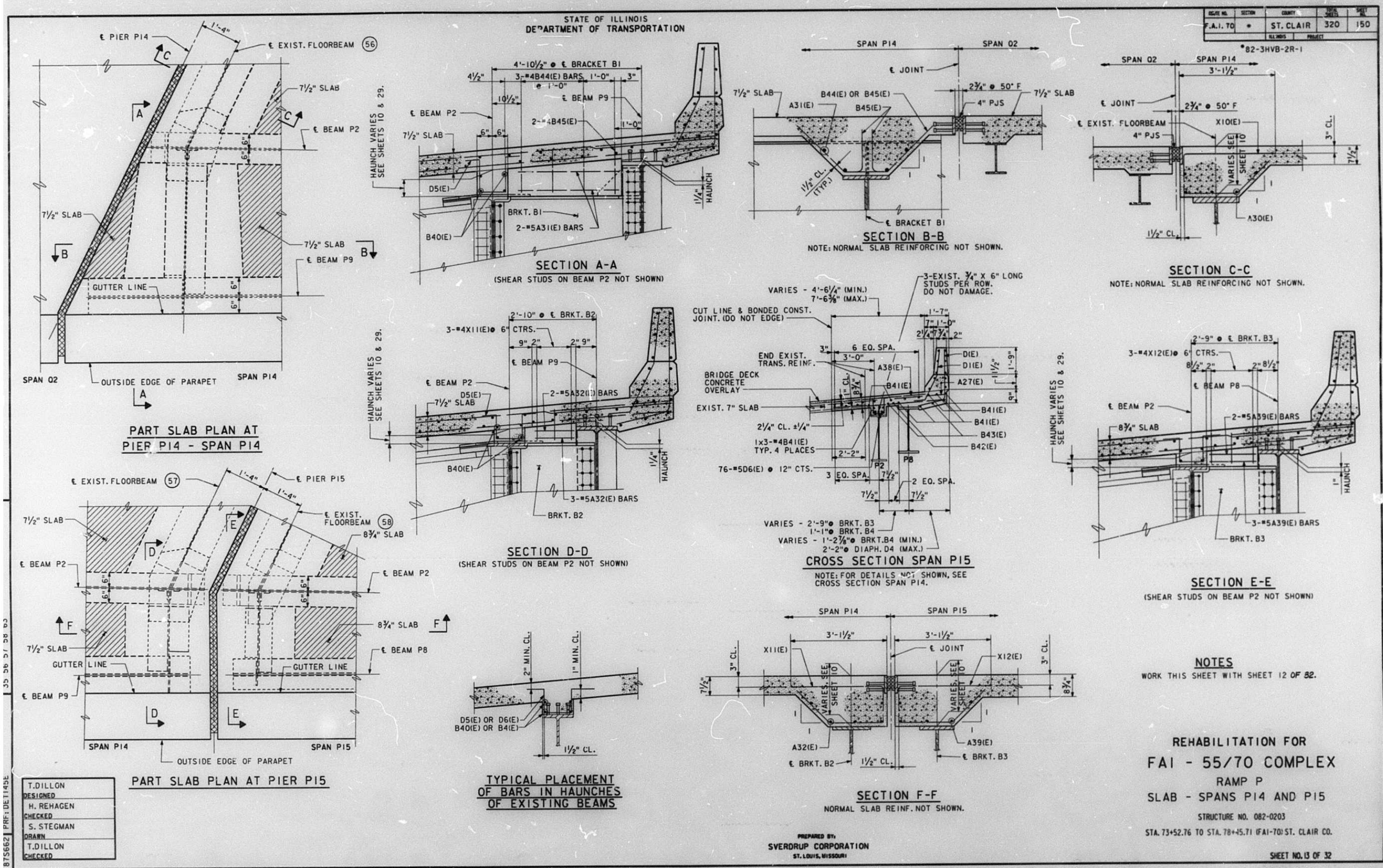
CROSS SECTION SPAN P14
(TAKEN NORMAL TO BEAMS P4 THRU P7)

T.V. DILLON	DESIGNED
H. REHAGEN	CHECKED
S. STEGMAN	DRAWN
T. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

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.

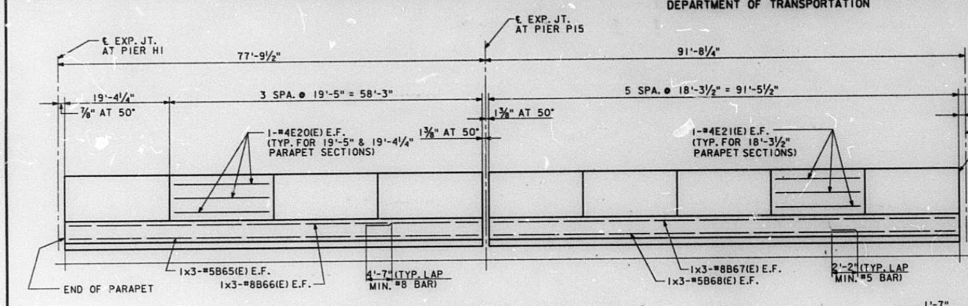
SHEET NO. 12 OF 32


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 150
82-3HVB-2R-1
PART SLAB PLAN AT PIER P14 - SPAN P14
PART SLAB PLAN AT PIER P15
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.
SECTION D-D
(SHEAR STUDS ON BEAM P2 NOT SHOWN)
CROSS SECTION SPAN P15
NOTE: FOR DETAILS NOT SHOWN, SEE CROSS SECTION SPAN P14.
SECTION E-E
(SHEAR STUDS ON BEAM P2 NOT SHOWN)
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
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
T. DILLON
DESIGNED
H. REHAGEN
CHECKED
S. STEGMAN
DRAWN
T. DILLON
CHECKED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

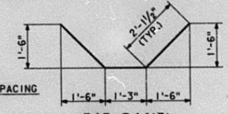
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	151
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

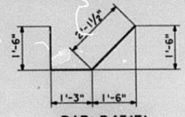


INSIDE ELEVATION OF EAST PARAPET

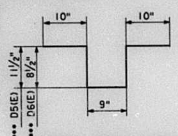
NOTE: E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.



BAR B44(E)

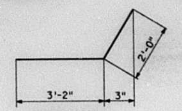


BAR B45(E)

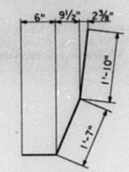


BARS D5(E) & D6(E)

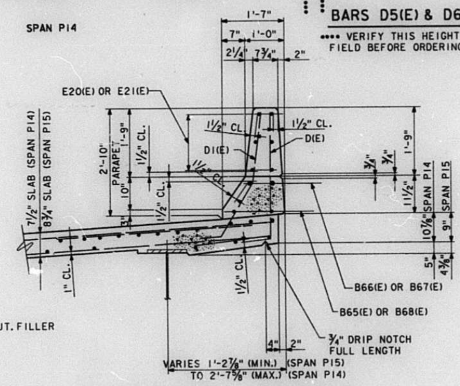
•••• VERIFY THIS HEIGHT IN FIELD BEFORE ORDERING



BAR D(E)

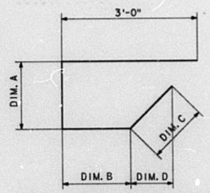


BAR D1(E)



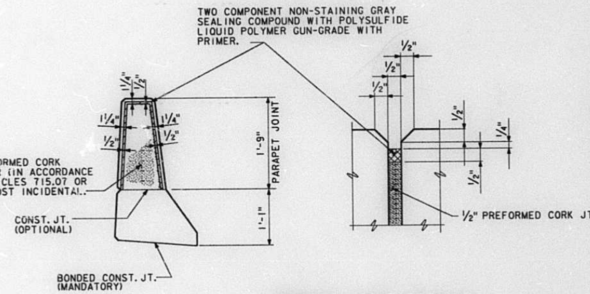
TYP. SECTION THRU PARAPET

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"



PARAPET JOINT DETAILS

BILL OF MATERIAL

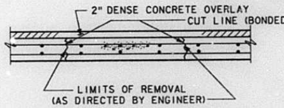
SPAN P14 & P15				
BAR	NO.	SIZE	LENGTH	SHAPE
A25(E)	158	#5	38'-8"	
A26(E)	158	#5	19'-10"	
A27(E)	183	#6	6'-0"	
A28(E)	40	#5	43'-2"	
A29(E)	26	#5	30'-11"	
A30(E)	5	#5	44'-6"	
A31(E)	4	#5	3'-5"	
A32(E)	5	#5	1'-5"	
A33(E)	2	#5	4'-6"	
A34(E)	2	#5	5'-5"	
A35(E)	2	#5	6'-4"	
A36(E)	2	#5	7'-3"	
A37(E)	2	#5	8'-2"	
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

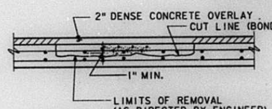
FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEETS 19 & 20.



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.

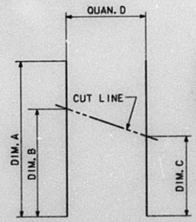


PARTIAL DEPTH PATCHING

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.

T.V.DILLON	DESIGNED
H. REHAGEN	CHECKED
J. CORLEY / S. STEGMAN	DRAWN
R.F. BECK / T.V. DILLON	CHECKED

35 54 56 57 63
PRF: DET146E
875663

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.

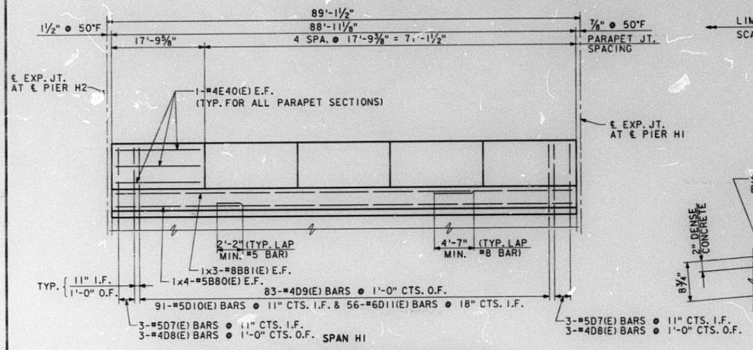
SHEET NO. 14 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	✱✱✱	ST. CLAIR	320	152
		ILLINOIS	PROJECT	

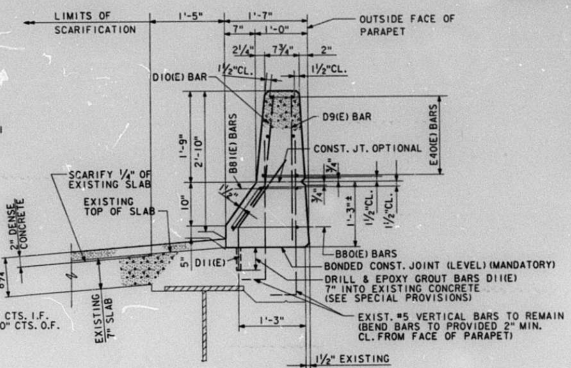
✱✱✱82-3HVB-2R-1

NOTE: 12.2 CU. YDS.
FOR PARAPET REMOVAL, 1740 LBS. REINFORCING BARS (EPOXY COATED) AND 9.9 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.



INSIDE ELEVATION OF EAST PARAPET

E.F. INDICATES EACH FACE.
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.
BARS D11(E) TO BE DRILLED AND GROUTED IN PLACE.



SECTION THRU PARAPET

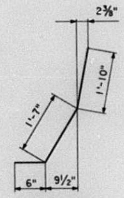
NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER, EXCEPT AS SHOWN.
FOR SECTION THRU PARAPET NEAR EXP. JOINT AT PIER H2 SEE ROADWAY H PLANS.

*Quantity of these bars included with Parapet Reconstruction - Alt. 1

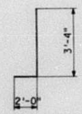
BILL OF MATERIAL

	SPAN H1				
	BAR	NO.	SIZE	LENGTH	SHAPE
*	B80(E)	8	#5	23'-9"	—
*	B81(E)	6	#8	32'-8"	—
*	D7(E)	6	#5	3'-11"	
*	D8(E)	6	#4	5'-4"	
*	D9(E)	83	#4	2'-8"	—
*	D10(E)	91	#5	2'-10"	
*	D11(E)	56	#6	2'-5"	
*	E40(E)	30	#4	17'-7"	—
	BITUMINOUS CONCRETE SURFACE REMOVAL			SQ. YDS.	236
	BRIDGE DECK CONCRETE OVERLAY OPTION			SQ. YDS.	249

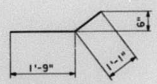
REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.



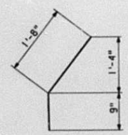
BAR D7(E)



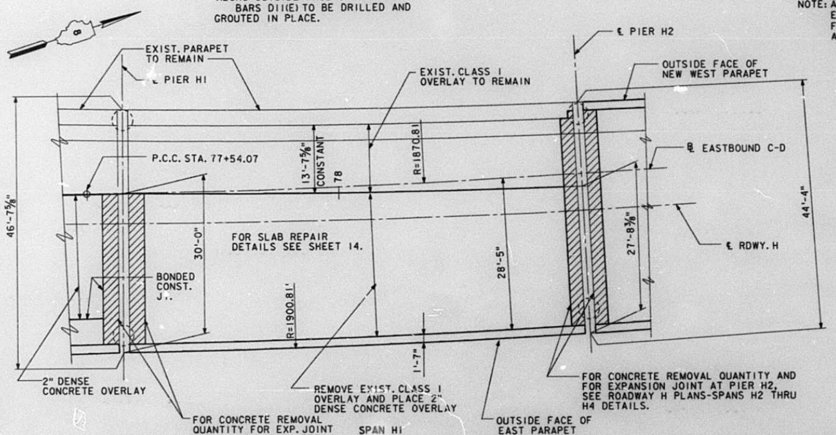
BAR D8(E)



BAR D10(E)



BAR D11(E)



LOCATION PLAN

NOTES

THE CONTRACTOR SHALL TEST 10% OF THE D11(E) BARS IN THE FRONT FACE OF THE NEW PARAPET, AS DIRECTED BY THE ENGINEER, TO MEET A MIN. CERTIFIED PULL OUT LOAD OF 13.3k. FOR EVERY BAR THAT FAILS TO MEET THE PULL OUT LOAD OF 13.3k, THE CONTRACTOR SHALL TEST TWO ADDITIONAL BARS AND REGROUT AN ADDITIONAL D5(E) BAR EITHER SIDE OF THE FAILED BAR. COST OF TESTING AND ADDITIONAL BARS SHALL BE INCIDENTAL TO "REINF. BARS (EPOXY COATED)".

T.V. DILLON	DESIGNED
C. LIZANA	CHECKED
L SCHURMAN-JGC	DRAWN
P.W. CLARK	CHECKED

875664 PRF: DET147E

35 54 56 57 63

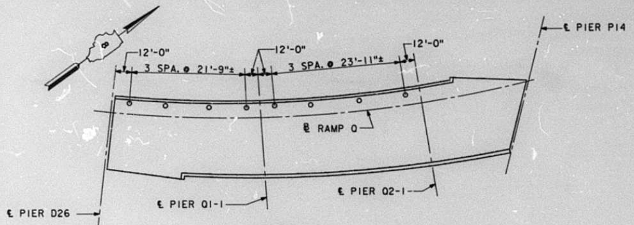
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H
EAST PARAPET - SPAN H1
STRUCTURE NO. 082-0256
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	153
		ILLINOIS	P[illegible] JECT	

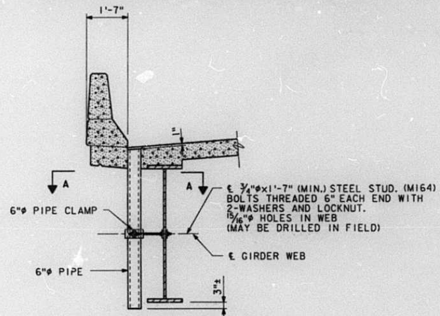
•82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



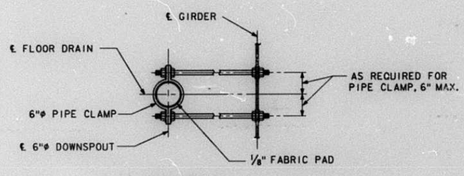
PLAN

RAMP Q - DECK DRAIN LOCATIONS

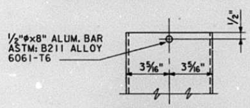


SECTION AT PARAPET

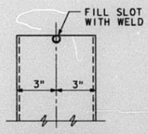
THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.



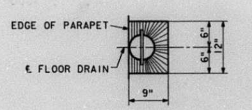
SECTION A-A



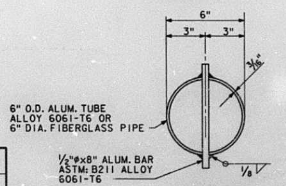
FIBERGLASS PIPE



ALUMINUM TUBE



TOP PLAN



TOP PLAN

ALUMINUM TUBE SHOWN

FLOOR DRAINS

NOTES

FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.

THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE ZINC-SILICATE AND VINYL PAINT SYSTEM SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
FLOOR DRAIN	EACH	8

DESIGNED	
CHECKED	K. SCHULT
DRAWN	R. NIEMIETZ
CHECKED	

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
FLOOR DRAINS

STRUCTURE NO. 082-0255 (RAMP Q)

STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 17 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	154
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
~~2"~~	~~2"~~	~~1½" Min.~~	
4"	3"	2½" Min.	Piers D26 & H2

INSTALLATION NOTES

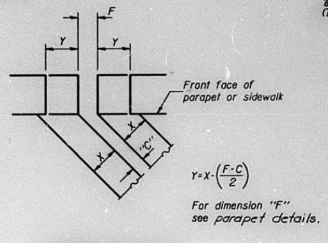
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

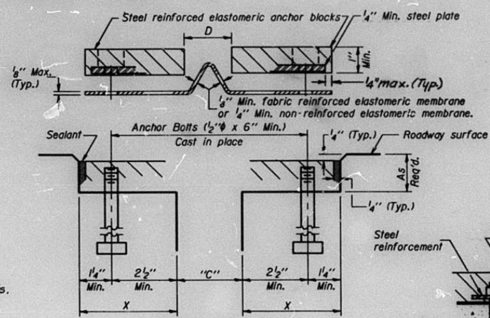
SKEW LIMITATIONS

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

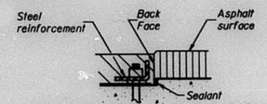
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also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



FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK 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.

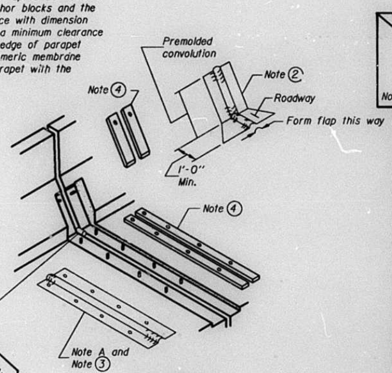
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

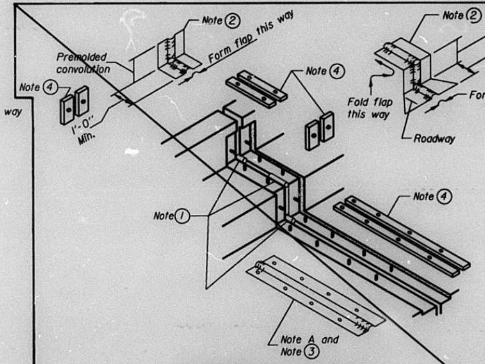
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

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.

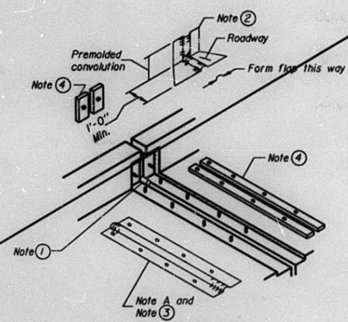
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



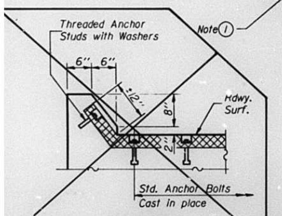
AT PARAPET



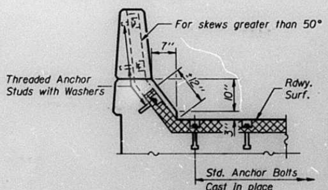
AT SIDEWALK OR MEDIAN



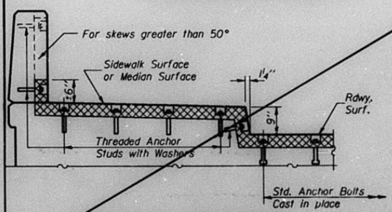
AT WALL



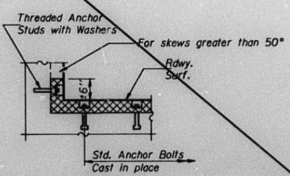
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN



AT WALL

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)

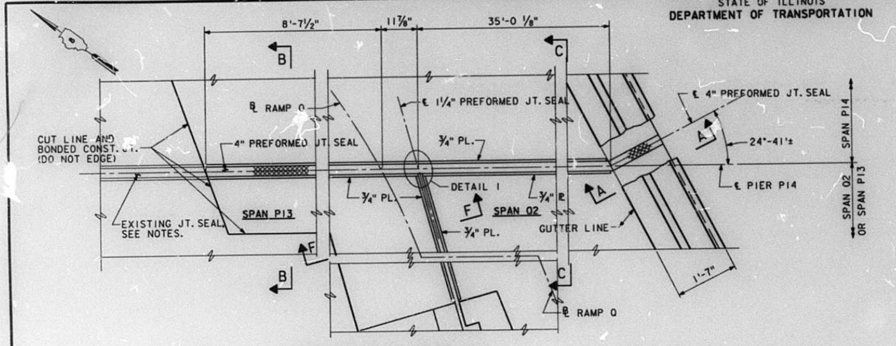
(FAI -70) ST. CLAIR CO.

SHEET NO. 18 OF 32

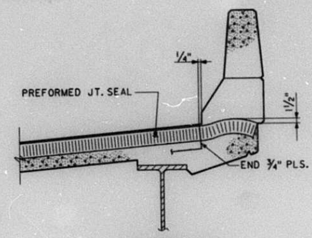
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	155
		ILLINOIS	PROJECT	

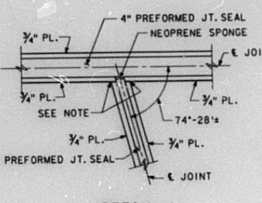
•82-3HVB-2R-1



PART PLAN AT PIER P14

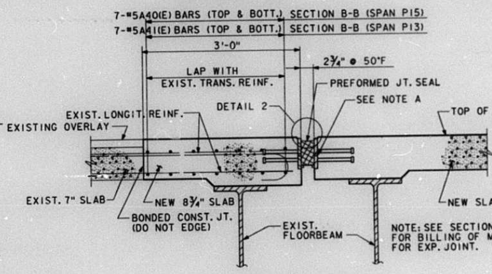


SECTION A-A



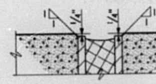
DETAIL 1

NOTE: BEVEL ENDS OF PLATES CLOSE FIT, GROOVE WELD IN FIELD.

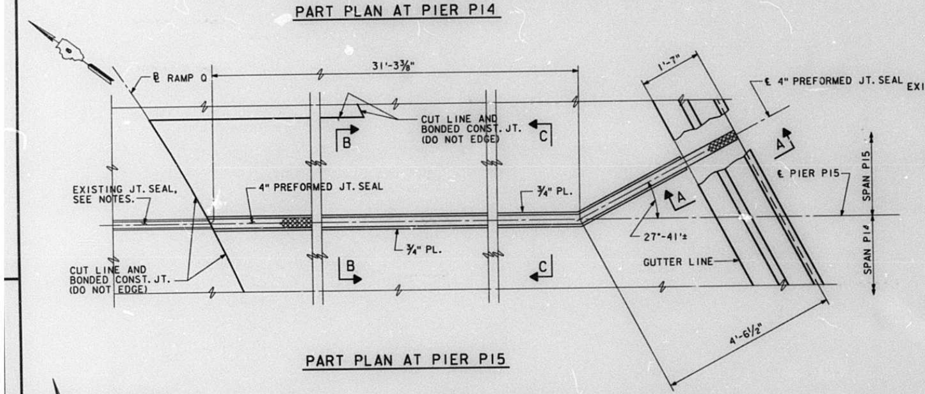


SECTION B-B

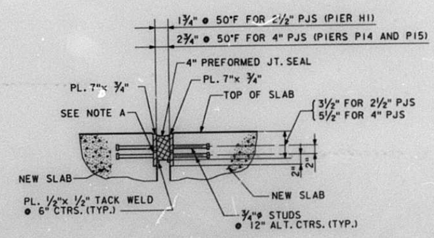
NOTE A: PROVIDE 7/16"φ HOLES @ 12" CTS. FOR ⅜" BOLTS. ALL BOLTS SHALL BE BURNED, SAWED OR CHIPPED OFF FLUSH WITH THE PLATES AFTER FORMS ARE REMOVED (TYP.)



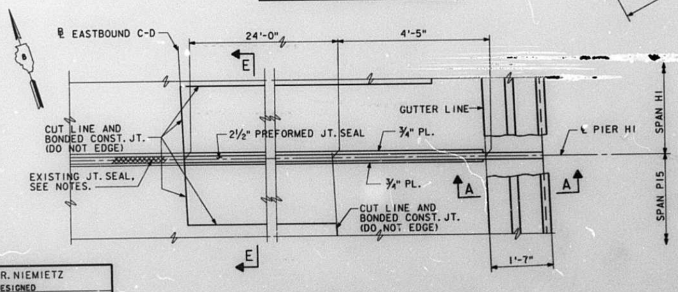
DETAIL 2



PART PLAN AT PIER P15



SECTION C-C



PART PLAN AT PIER H1

NOTES

FOR STRUCTURAL STEEL NOTES SEE SHEET 22.
FOR DEMOLITION DETAILS SEE SHEET 11.
WORK THIS SHEET WITH SHEET 20.
ALL STUDS TO BE ¾"φx8" GRANULAR OR SOLID FLUX FILLED HEADED STUDS CONFORMING TO ART. 710.38 OF THE STD. SPECIFICATIONS, AUTOMATICALLY END WELDED.
EXPANSION JOINT PLATES SHALL BE FABRICATED TO CONFORM TO THE GRADE AND CROSS SLOPE OF THE ROADWAY.
SPLICING OF THE EXISTING JOINT SEAL WITH THE NEW JOINT SEAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SEE SPECIAL PROVISIONS.
FOR SECTIONS E-E AND F-F SEE SHEET 20.
FOR BILL OF MATERIAL SEE SHEET 20.
LONGITUDINAL REINF. SHALL LAP A MIN. OF 1'-9".

R. NIEMIETZ	DESIGNED
F.A. CAMBA	CHECKED
D. FRIERDICH	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
PREFORMED JOINT SEALS
1¼", 2½" AND 4"
STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

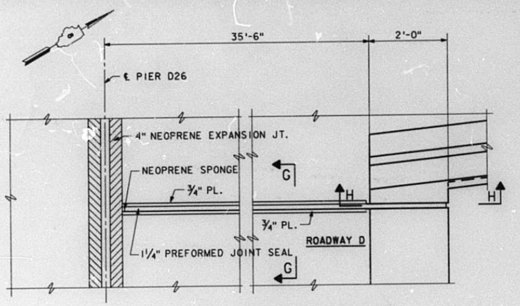
SHEET NO. 19 OF 32

87S667 PRF.DET150E
35 56 57 58 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	156

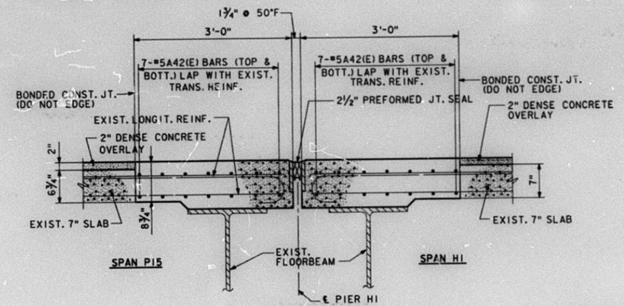
*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PART PLAN NEAR PIER D26

STRUCTURAL STEEL = 1380 LBS.



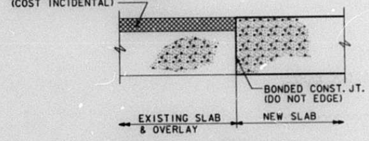
SECTION E-E

NOTE: SEE SECTION C-C SHEET 19 FOR JOINT DETAILS NOT SHOWN.

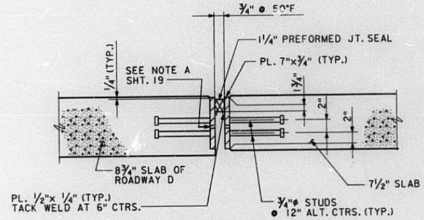
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
SPANS P13, P15 AND H1				
A40(E)	14	#5	28'-0"	——
A41(E)	14	#5	9'-6"	——
A42(E)	28	#5	29'-9"	——
B39(E)	33	#5	18'-0"	——
B69(E)	6	#5	37'-2"	——
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	15.8
REINFORCEMENT BARS (EPOXY COATED)			LBS.	2270
STRUCTURAL STEEL (M183)			LBS.	7630

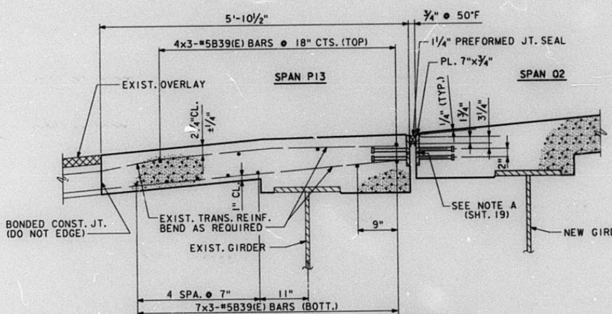
REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.



DETAIL AT BONDED JOINT



SECTION G-G

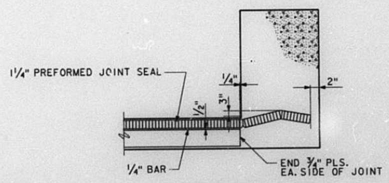


SECTION F-F

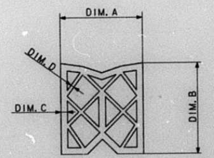
NOTE: FOR DETAILS NOT SHOWN, SEE SECTION C-C, SHT. 19.
FOR LENGTH OF JOINT, SEE SLAB DETAILS.

NOTES

WORK THIS SHEET WITH SHEET 19.



SECTION H-H



PREFORMED JOINT SEAL

PREFORMED JOINT SEAL				
JOINT SIZE	DIM. A	DIM. B	DIM. C	DIM. D
1¼	1¼"	1⁵⁄₁₆"	**	**
2½	2½"	2¾"	³⁄₁₆"	³⁄₃₂"
4	4"	4²³⁄₃₂"	¼"	³⁄₁₆"

** AS PER MANUFACTURER'S DETAILS.

R. NIEMIETZ	DESIGNED
F.A. CAMBA	CHECKED
D. FRIERDICH	DRAWN
T.V. DILLON	CHECKED

10320 875668 FILE: 2F3:[110,1]DET151E.DGN PRF: DET151E LEVELS PLOTTED 35 56 57 58 63 DATE: OCT. 14, 1987

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP O
PREFORMED JOINT SEALS
1¼", 2½" AND 4"
STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

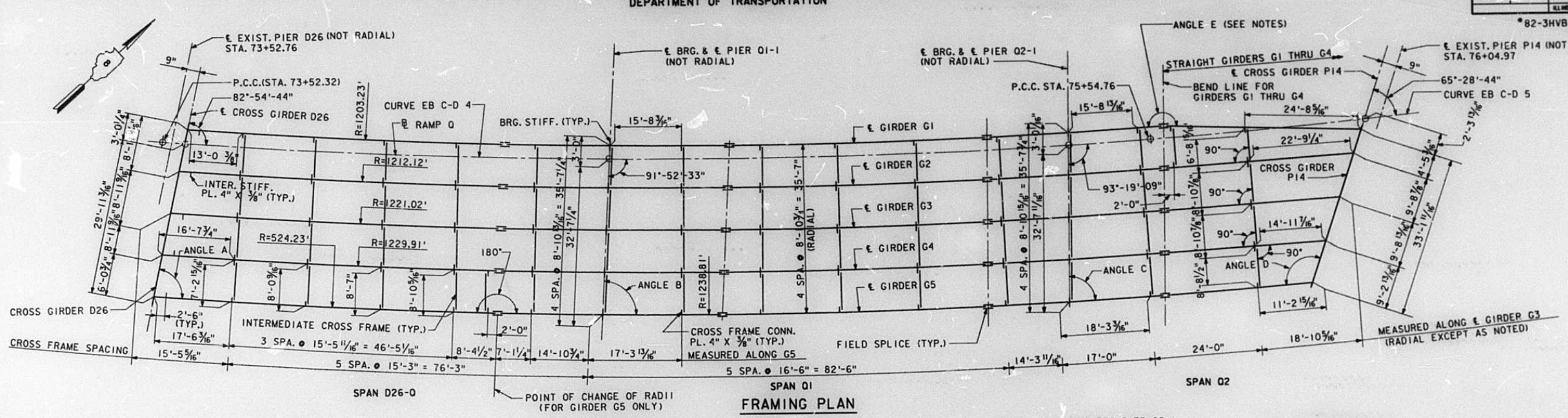
SHEET NO. 20 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

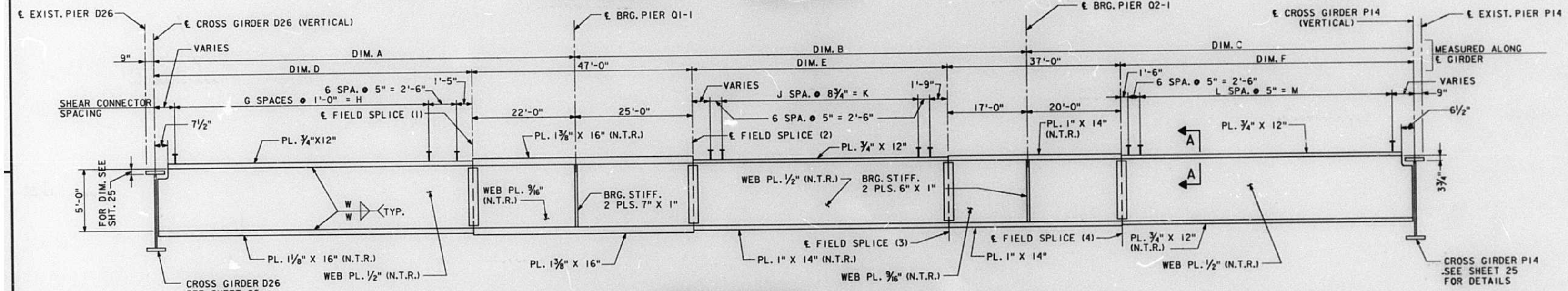
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	157

ILLINOIS PROJECT

*82-3HVB-2R-1



FRAMING PLAN



GIRDER ELEVATION

NOTE: FOR WELD SIZE W, SEE TABLE ON SHEET 22.

GIRDER VARIABLES

GIRDER	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F	SPA. G	DIM. H	SPA. J	DIM. K	SPA. L	DIM. M	ANGLE E
G1	88'-8 15/16"	95'-10 1/16"	64'-5 15/16"	66'-8 15/16"	53'-10 1/16"	44'-5 15/16"	62	62'-0"	62	45'-2 1/2"	95	39'-7"	186°-16'-16"
G2	90'-2 5/8"	96'-3 7/8"	63'-1 3/8"	68'-2 5/8"	54'-3 7/8"	43'-1 3/8"	63	63'-0"	63	45'-11 1/4"	92	38'-4"	180°
G3	91'-8 5/16"	96'-9 11/16"	59'-10 5/16"	69'-8 5/16"	54'-9 11/16"	39'-10 5/16"	65	65'-0"	63	45'-11 1/4"	84	35'-0"	180°
G4	93'-2"	97'-3 1/2"	56'-7 5/16"	71'-2"	55'-3 1/2"	36'-7 5/16"	66	66'-0"	64	46'-8"	76	31'-2"	180°
G5	94'-3 3/4"	97'-9 1/4"	53'-6 11/16"	72'-3 3/4"	55'-9 1/4"	33'-6 11/16"	67	67'-0"	65	47'-4 3/4"	69	28'-9"	180°

GIRDER VARIABLES

GIRDER	ANGLE A	ANGLE B	ANGLE C	ANGLE D
G1	82°-53'-41"	88°-07'-10"	86°-40'-22"	107°-27'-39"**
G2	82°-56'-49"	88°-08'-00"	86°-41'-50"	113°-42'-01"**
G3	82°-59'-55"	88°-08'-49"	86°-43'-16"	113°-40'-09"**
G4	83°-02'-58"	88°-09'-37"	86°-44'-42"	113°-38'-19"**
G5	87°-38'-36"	88°-10'-25"	86°-46'-06"	115°-09'-39"

NOTE: ANGLES A THRU D IN TABLE ABOVE ARE MEASURED FROM TANGENT TO GIRDER AT ℄ BRG. TO ℄ CROSS GIRDER OR ℄ PIER EXCEPT WHERE INDICATED BY **.

TOP OF WEB ELEVATIONS-SPANS D26-Q, Q1 AND Q2

LOCATION / GIRDER	℄ BRG. CROSS GDR. PIER D26	℄ FIELD SPL. 1	℄ BRG. PIER Q1-1	℄ FIELD SPL. 2 SPAN Q1	℄ FIELD SPL. 3 SPAN Q1	℄ BRG. PIER Q2-1	℄ FIELD SPL. 4	℄ BRG. CROSS GDR. PIER P14
G1	446.007	447.568	448.095	448.628	449.359	449.649	449.941	449.863
G2	446.700	448.281	448.800	449.331	450.069	450.176	450.256	450.180
G3	447.395	448.989	449.505	450.034	450.777	450.885	450.964	450.875
G4	447.855	449.698	450.211	450.737	451.485	451.594	451.673	451.566
G5	447.957	450.405	450.916	451.441	452.194	452.302	452.381	452.220

NOTE: TOP OF WEB ELEVATION SHOWN FOR FABRICATION ONLY. ELEVATIONS SHOWN FOR GIRDERS G1 THRU G5 AT CROSS GIRDERS D26 AND P14 ARE TOP OF GIRDER WEB EXTENDED.

NOTES

WORK THIS SHEET WITH SHEET 22.
FOR GENERAL NOTES, SEE SHEET 2 OF 32.
ANGLES AT SPLICES ARE MEASURED FROM TANGENT TO GIRDER ON CURVE TO STRAIGHT GIRDER FOR G1 THRU G4. AT GIRDER G5 THE ANGLE IS FROM TANGENT TO TANGENT.
FURNISHING OF STRUCTURAL STEEL IS NOT PART OF 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 Q
FRAMING PLAN AND GIRDER ELEVATION
SPANS D26-Q, Q1 AND Q2

STRUCTURE NO. 082-0255

STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

R. NIEMIETZ
DESIGNED
S. YORDY
CHECKED
S. STEGMAN
DRAWN
T.V. DILLON
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

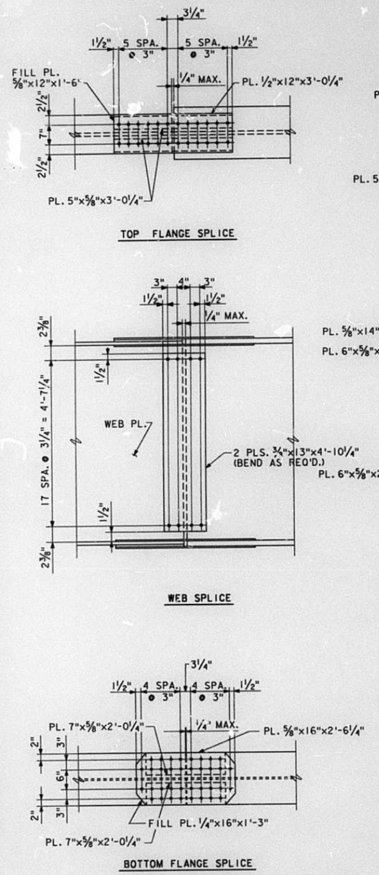
REV. 8/26/88
REV. 2/26/88

87S349 | PRF: DET37R

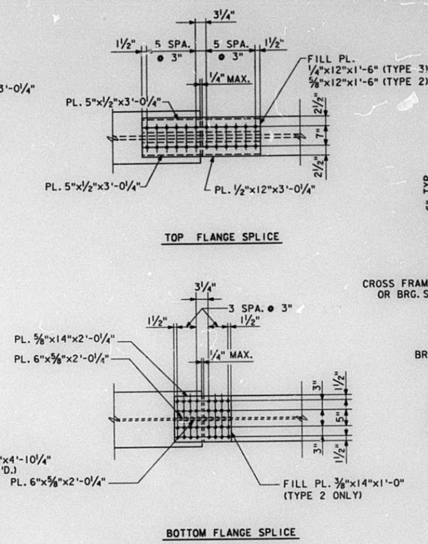
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	158
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

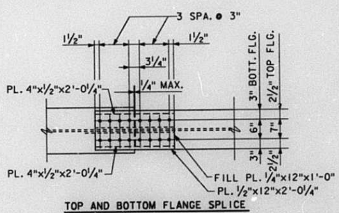


FIELD SPLICE TYPE 1



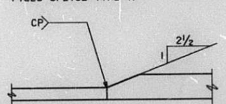
FIELD SPLICE TYPES 2 & 3

NOTE: WEB SPLICE SAME AS SHOWN FOR FIELD SPLICE TYPE 1.

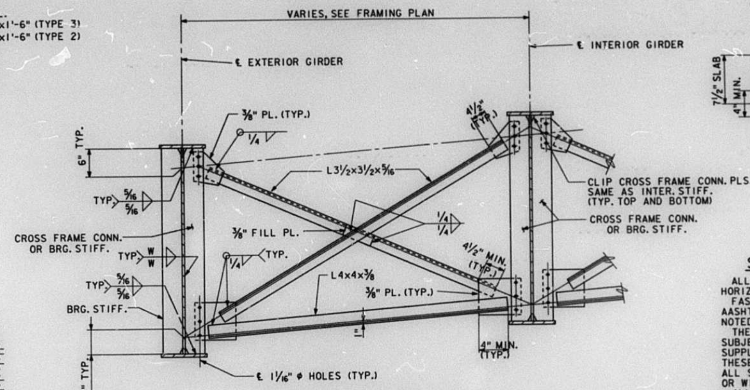


FIELD SPLICE TYPE 4

NOTE: WEB SPLICE SAME AS SHOWN FOR FIELD SPLICE TYPE 1.

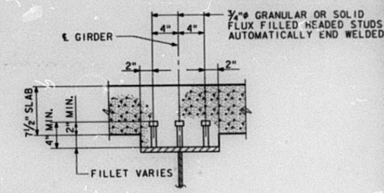


FLANGE SHOP SPLICE DETAIL



INTERMEDIATE CROSS FRAME

7/8"ϕ BOLTS FOR CROSS FRAME CONNECTIONS SHALL HAVE TWO HARDENED WASHERS.



SECTION A-A

(3573- 3/4"ϕ STUDS REQUIRED)

STRUCTURAL STEEL NOTES

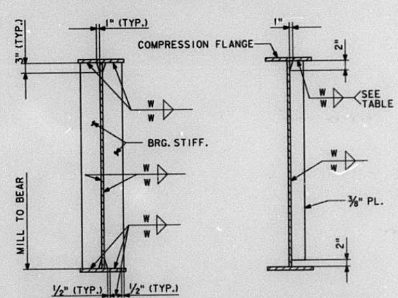
ALL PLAN DIMENSIONS ARE MEASURED HORIZONTALLY AT TOP OF GIRDER WEB PLATES.

FASTENERS SHALL BE 7/8"ϕ HIGH STRENGTH BOLTS AASHTO M164 WITH 15/16"ϕ OPEN HOLES UNLESS OTHERWISE NOTED.

THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE TENSION FLANGES, WEBS AND ALL SPLICE PLATE MATERIAL OF THE STEEL GIRDERS OR WIDE FLANGE BEAMS.

ALL BEARING STIFFENERS AND FIELD WEB SPLICES SHALL BE VERTICAL IN THE COMPLETED STRUCTURE. ALL INTERMEDIATE CROSS FRAME CONNECTION PLATES AND INTERMEDIATE STIFFENERS SHALL BE NORMAL TO GIRDER.

+ INDICATES HIGH STRENGTH BOLT, SHOP OR FIELD INSTALLED UNLESS OTHERWISE NOTED.



BEARING STIFFENERS

INTERMEDIATE STIFFENER

NOTES

WORK THIS SHEET WITH SHT. 21.
FOR GENERAL NOTES, SEE SHT. 2.
ALL SPLICE MATERIAL SHALL BE AASHTO M183

BOLTS IN FLANGE SPLICES SHALL BE PLACED WITH BOLT HEADS IN UP POSITION. AT TOP FLANGE. ANY WASHER, IF USED, SHALL BE UNDER NUT ONLY.

ALL SPLICE PLATES EXCEPT FILL PLATES ARE NTR.

ALL BOLT HOLES FOR SPLICES ARE 15/16"ϕ FOR 7/8"ϕ BOLTS.

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.

WELD TABLE	
** PL. SIZE	WELD SIZE, W
OVER 1/2" TO 3/4"	1/4
OVER 3/4"	5/16

**PLATE SIZE IS THE THICKNESS OF THE THICKER PART JOINED.

R. NIEMIETZ	DESIGNED
S. YORDY	CHECKED
P. NELSON	DRAWN
T. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
FIELD SPLICES
AND CROSS FRAME DETAILS
STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 22 OF 32

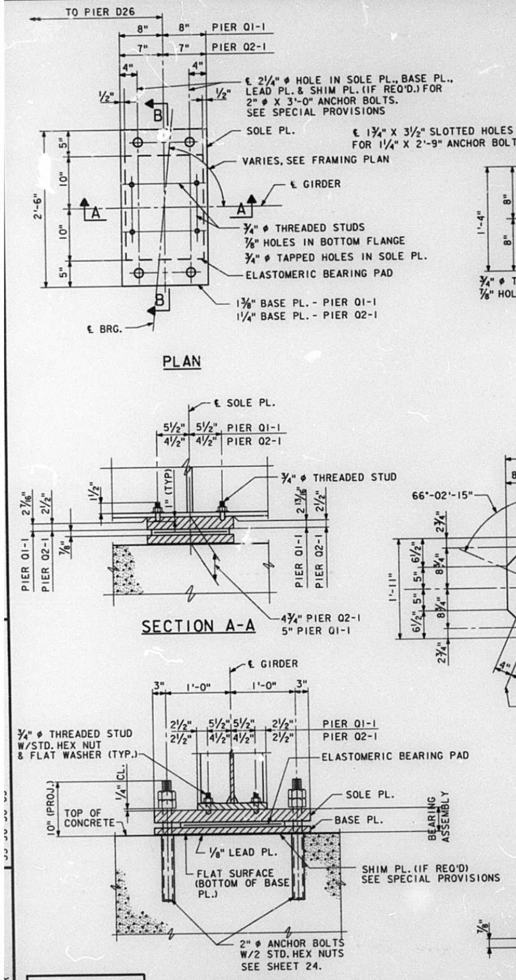
875554 PRF: DET38E

35 56 58

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	159

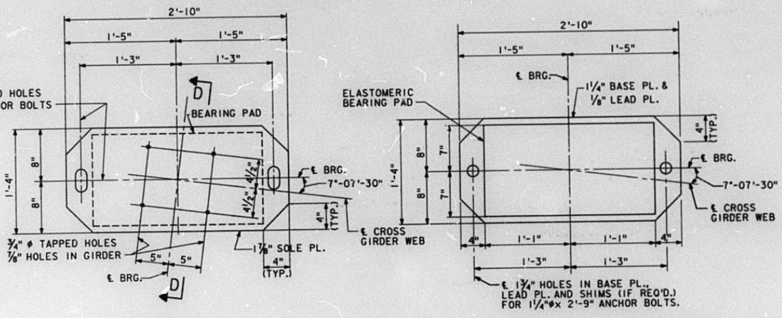
*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

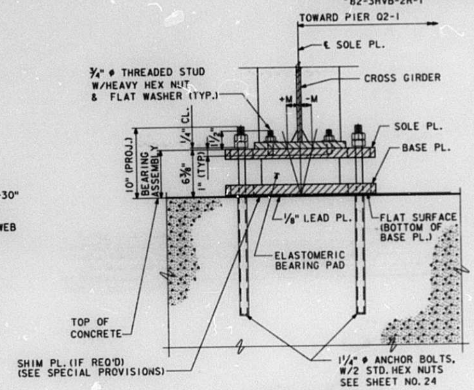


FIXED BEARING DETAILS

5 REQ'D. AT PIER Q1-1
5 REQ'D. AT PIER Q2-1

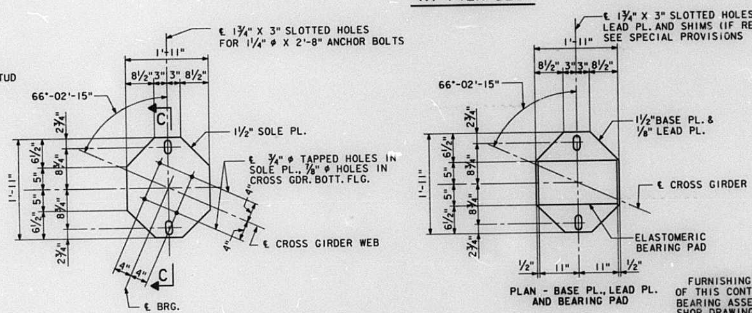


AT PIER D26



SECTION C-C

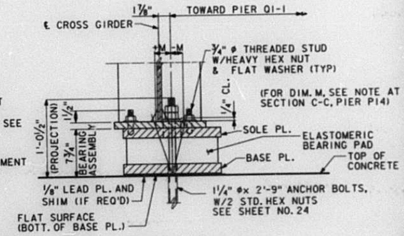
NOTE: DIM. M IS PLUS FOR EXPANSION FOR TEMP. INCREASE ABOVE 50°F. AND IS MINUS FOR TEMP. DECREASE BELOW 50°F. ADJUST BASE PL. SETTING ⅛" FOR EACH 10° TEMP. CHANGE ABOVE OR BELOW 50°F.



AT PIER P14

EXPANSION BEARING DETAILS

2 REQ'D. AT PIER D26
2 REQ'D. AT PIER P14



SECTION D-D

NOTES

FURNISHING OF BEARING ASSEMBLIES IS NOT PART OF THIS CONTRACT. INSTALLATION AND SETTING OF BEARING ASSEMBLIES ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.
MATERIAL FOR SOLE PL. AND BASE PL. SHALL CONFORM TO AASHTO DESIGNATION M223, GR 50.
MATERIAL FOR BEARING PAD STEEL PL. REINFORCEMENT SHALL CONFORM TO AASHTO DESIGNATION M183.
THE ELASTOMERIC PAD SHALL BE BONDED TO BOTH THE SOLE PL. AND BASE PL.
THREADED STUDS TO BE M164.
NUTS FOR STUDS TO BE ASTM A183.
FLAT WASHERS TO BE ASTM F844.
ANCHOR BOLTS AT ANY ONE OF THE FIXED BEARINGS MAY BE BUILT INTO THE PIER. SEE SHEET 24 FOR ANCHOR BOLT SETTING.
FOR METHOD OF PAYMENT AND MATERIAL IN PAYMENT ITEM ON BEARING, SEE SPECIAL PROVISIONS.

BEARING PAD DETAILS

DESIGNED	T.V. DILLON / R. NIEMIETZ
CHECKED	S. YORDY / H. REHAGEN
DRAWN	D. FRIERDICH
CHECKED	S. YORDY

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88
REV. 8/3/87

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
BEARING DETAILS
STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 23 OF 32

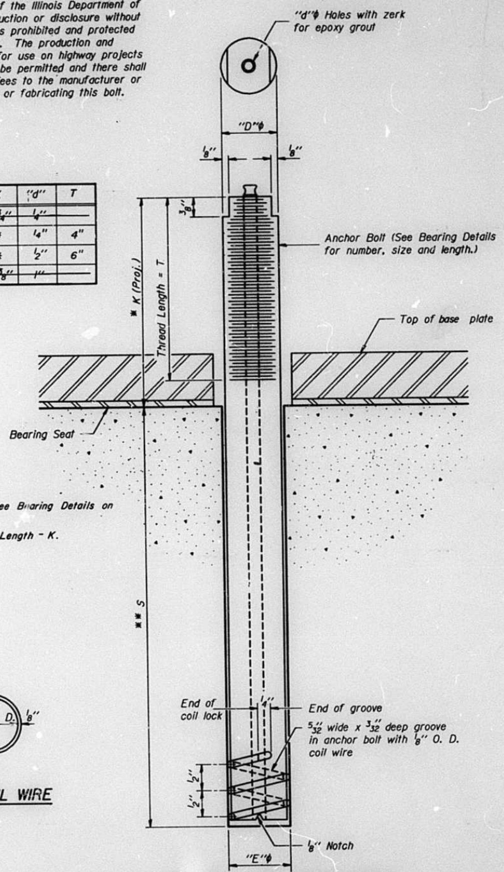
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. TO	*	ST. CLAIR	320	160

ILLINOIS PROJECT 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

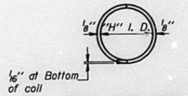
The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for 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"~~	~~13/16"~~	~~1 3/4"~~	~~1/4"~~	
1 1/4"	1 3/8"	1 1/16"	*	1/4"	4"
2"	2 1/8"	1 13/16"	*	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 comforming 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 nuts 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.

7/14/87

DESIGNED	
CHECKED	
DRAWN	
CHECKED	F. A. Camba

ABB-1 12-1-83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

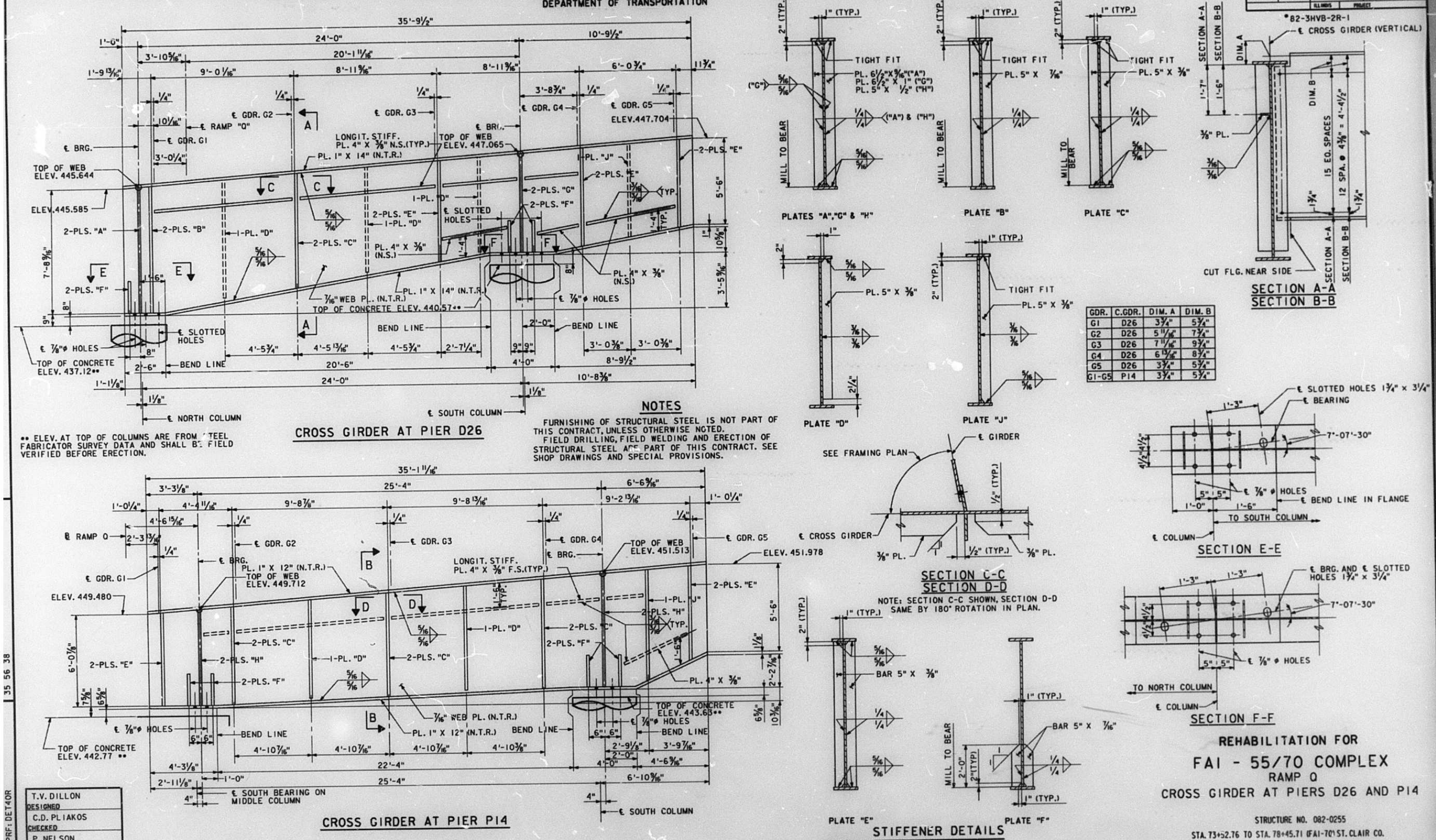
REHABILITATION FOR
FAI - 55/70 COMPLEX
ANCHOR BOLT DETAILS FOR BEARINGS
STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 24 OF 32

#10320

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	161



GDR.	C.GDR.	DIM. A	DIM. B
G1	D26	3¾"	5¾"
G2	D26	5 11/16"	7¾"
G3	D26	7 11/16"	9¾"
G4	D26	6 13/16"	8¾"
G5	D26	3¾"	5¾"
G1-G5	P14	3¾"	5¾"

NOTES

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.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
CROSS GIRDER AT PIERS D26 AND P14

STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

SHEET NO. 25 OF 32

T.V. DILLON — DESIGNED
C.D. PLIAKOS — CHECKED
P. NELSON — DRAWN
R. BECK — CHECKED

87S352 PRF.DET40R

35 56 38

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	162
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE

	0.4 SPAN D26-Q	PIER Q1-1	0.5 SPAN Q1	PIER Q2-1	0.6 SPAN Q2
Is (In⁴)	32,773	51,561	29,882	36,172	25,608
Ic n (In⁴)	80,965	——	71,726	——	59,313
Ic 3n (In⁴)	57,870	——	52,080	——	43,947
Ss (In³)	1,248	1,643	1,063	1,167	833
Sc n (In³)	1,701	——	1,462	——	1,165
Sc 3n (In³)	1,547	——	1,327	——	1,052
DL (KIPS/FT.)	1.083	1.500	1.059	1.491	1.039
M DL (FT.-KIPS)	62[illegible]	1,516	355	851	187
S DL (KIPS /FT.)	0.388	——	0.388	——	0.388
Ms DL (FT.-KIPS)	265	——	189	——	91
M LL (FT.-KIPS)	927	686	802	490	558
MI (FT.-KIPS)	214	156	181	120	151
5/3(M LL+I)+CF(FT.-KIPS)	2,025	1,494	1,745	1,082	1,256
Ma (FT.-KIPS)	3,795	3,913	2,976	2,513	1,994
f_s DL non-comp. (ksi)	6.0	11.1	4.0	8.8	2.7
f_s DL comp. (ksi)	2.1	——	1.7	——	1.0
f_s 5/3(LL+I)+CF(ksi)	14.3	10.9	14.3	11.1	12.9
f_w (ksi)	1.6	1.8	1.6	1.7	1.3
f_s (overload) (ksi)	24.0	23.8	21.6	21.6	17.9
f_s (total) (ksi)••	31.2	30.9	28.1	28.1	23.3
F_{bu} (ksi)	36.0	36.0	36.0	36.0	36.0
VR (KIPS)	74.1	——	70.5	——	75.1

••NON-COMPACT SECTION

Ma (APPLIED MOMENT) = 1.3 [M DL + M_s DL + 5/3 (M LL + I) + CF]

I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL AND OVERLOAD).

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

VR IS THE MAXIMUM LL + IMPACT SHEAR RANGE IN SPAN.

f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO 1.3 [M DL + M_s DL + $\frac{5}{3}$ (M LL + I) + CF]

f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO M DL + M_s DL + $\frac{5}{3}$ (M LL + I) + CF

f_w FACTORED NORMAL WARPING STRESS DUE TO CURVATURE.

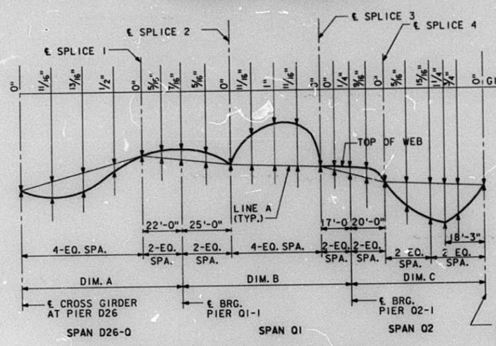
M DL - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

M_s DL - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

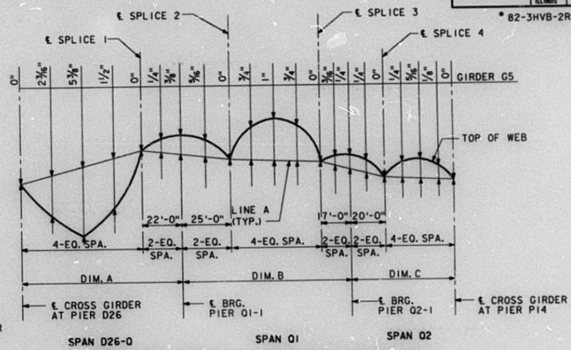
M LL - MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.

I - LIVE LOAD IMPACT

F_{bu} - MAXIMUM ALLOWABLE STRESS COMPUTED ACCORDING TO AASHTO [GUIDE TO HORIZ. CURVED HIGHWAY BRIDGES SECT. 2.12(B), 2.16 & 2.19]



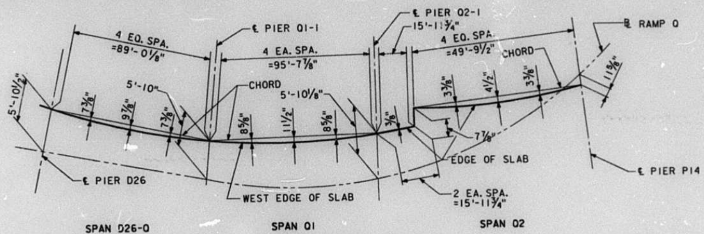
CAMBER DIAGRAM - EXTERIOR GIRDER G1



CAMBER DIAGRAM - EXTERIOR GIRDER G5

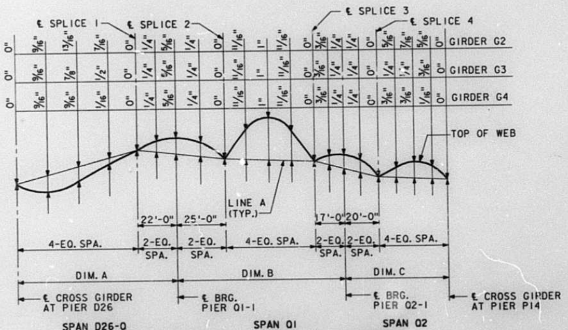
INTERIOR GIRDER REACTION TABLE

	PIER D26	PIER Q1-1	PIER Q2-1	PIER P14
R DL (K)	51.5	163.7	122.1	28.9
R LL (K)	52.6	80.2	70.1	48.9
Imp (K)	12.2	18.3	17.3	13.2
R TOTAL (K)	116.3	252.2	209.5	91.0

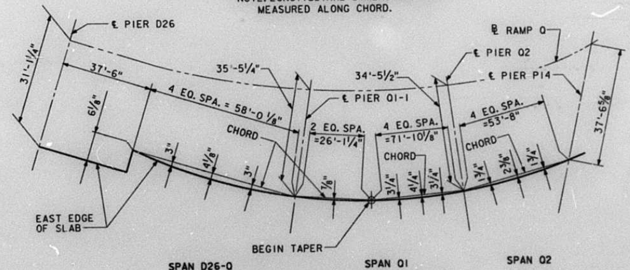


EDGE OF SLAB ORDINATES

NOTE: LONGITUDINAL DIMENSIONS ARE MEASURED ALONG CHORD.



CAMBER DIAGRAM - INTERIOR GIRDER



EDGE OF SLAB ORDINATES

NOTE: LONGITUDINAL DIMENSIONS ARE MEASURED ALONG CHORD.

NOTES

LINE A IS A STRAIGHT LINE BETWEEN ℄ BEARING AND FIELD SPLICE AND BETWEEN ℄ FIELD SPLICES AT TOP OF WEB.

CAMBER ORDINATES INCLUDE CORRECTION FOR CROSS SLOPE AND VERTICAL CURVE.

FOR DIMENSIONS A, B AND C, SEE GIRDER ELEVATIONS.

R. NIEMIETZ	DESIGNED
S. YORDY	CHECKED
P. NELSON	DRAWN
S. YORDY	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLEX

RAMP Q

STRESS TABLES, CAMBER DIAGRAMS AND EDGE OF SLAB ORDINATES

STRUCTURE NO. 082-0255

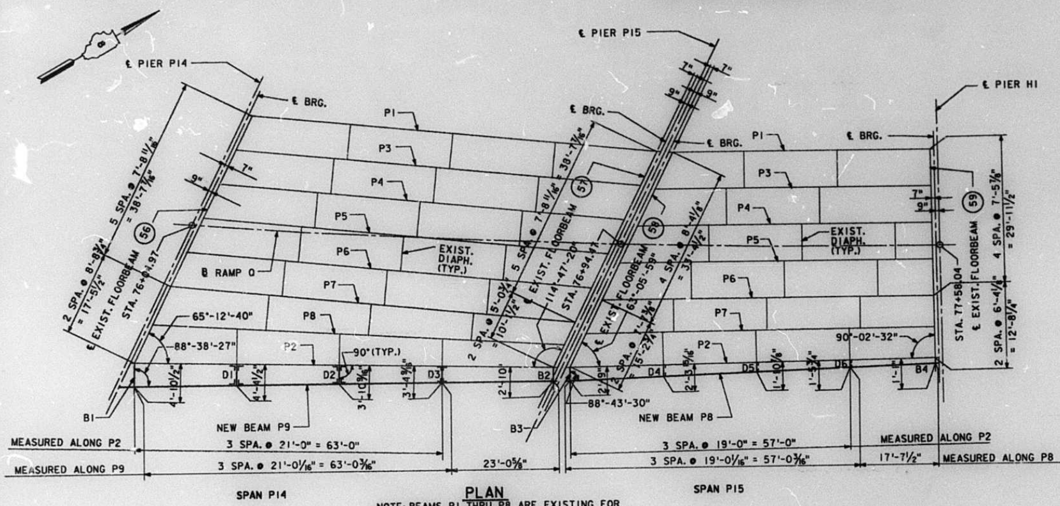
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 26 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

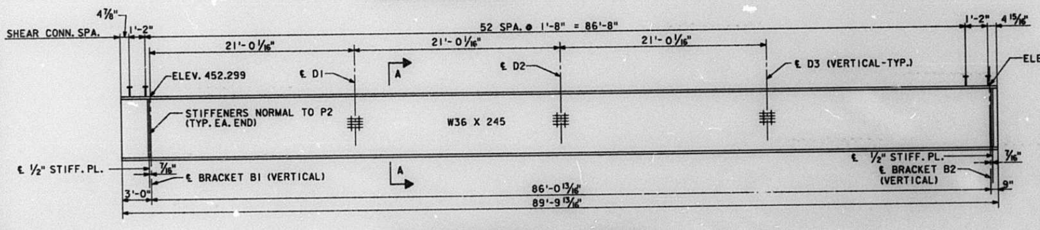
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	163

*82-3HVB-2R-1

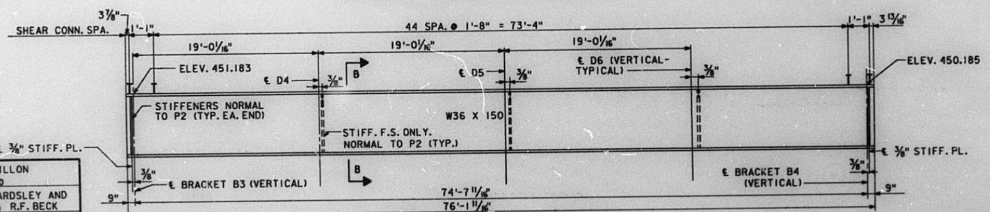


PLAN

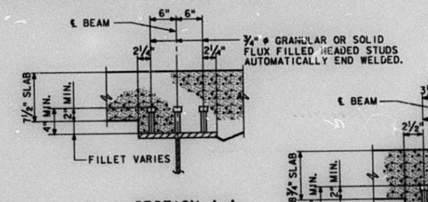
NOTE: BEAMS P1 THRU P8 ARE EXISTING FOR SPAN P14. BEAMS P1 THRU P7 ARE EXISTING FOR SPAN P15.



ELEVATION BEAM P9 - SPAN P14

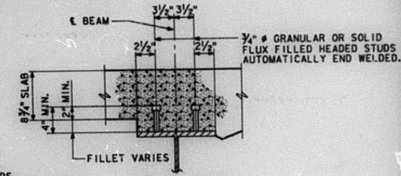


ELEVATION BEAM P8 - SPAN P15

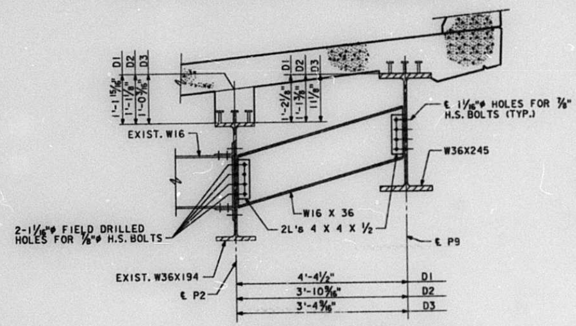


SECTION A-A

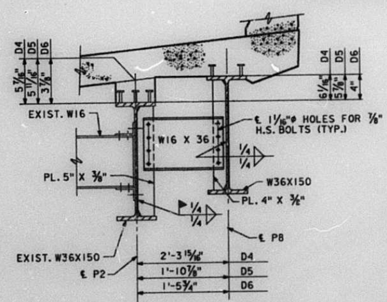
NOTE: 255 - 3/4"φ STUDS REQUIRED FOR NEW BEAMS P8 AND P9.



SECTION B-B



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.
7/8"φ 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.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

SHEET NO. 27 OF 32

T.V. DILLON	DESIGNED
D. BEARDSLEY AND R.F. BECK	CHECKED
S. STEGMAN	DRAWN
T.V. DILLON AND R.F. BECK	CHECKED

873354 PRF: DET42R
35 56 58 63

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
DL (KIPS/FT.)	0.718	0.475
M DL (FT.-KIPS)	664	343
fs DL non-comp. (ksi)	8.90	8.17
S DL (KIPS/FT.)	0.296	0.269
Ms DL (FT.-KIPS)	274	194
fs DL comp (ksi)	3.26	3.96
M LL (FT.-KIPS)	452	189
MI (FT.-KIPS)	108	47
fs LL+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 DL (KIPS)	43.6	28.3
R LL (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 LL + IMPACT SHEAR RANGE IN SPAN.
M DL - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.
Ms DL - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.
M LL - 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

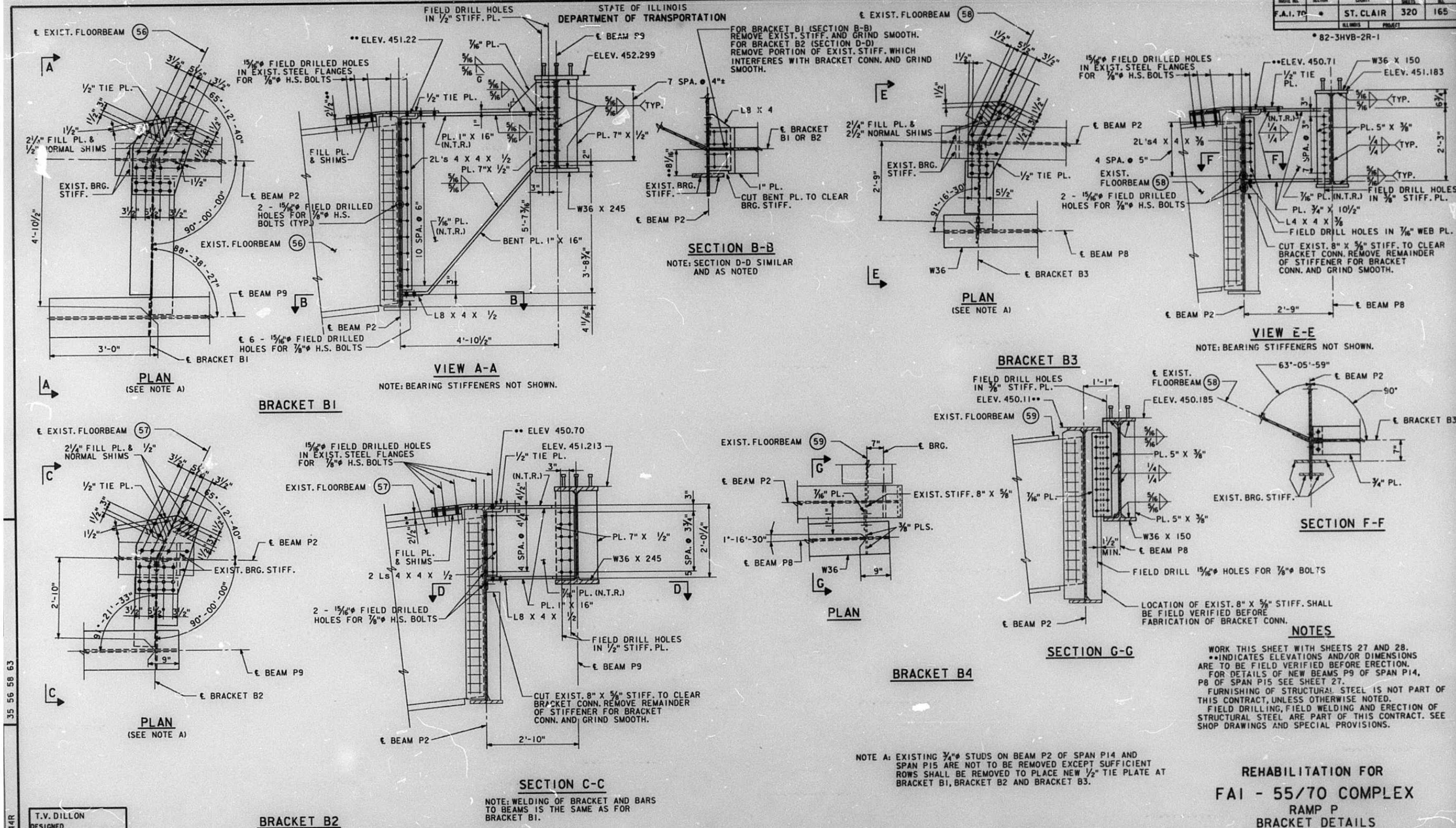
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

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.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	165

• 82-3HVB-2R-1



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"ϕ STUDS ON BEAM P2 OF SPAN P14 AND SPAN P15 ARE NOT TO BE REMOVED EXCEPT SUFFICIENT ROWS SHALL BE REMOVED TO PLACE NEW 1/2" TIE PLATE AT BRACKET B1, BRACKET B2 AND BRACKET B3.

DESIGNED	T.V. DILLON
CHECKED	D. BEARDSLEY AND R.F. BECK
DRAWN	S. STEGMAN
CHECKED	T.V. DILLON AND R.F. BECK

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

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.

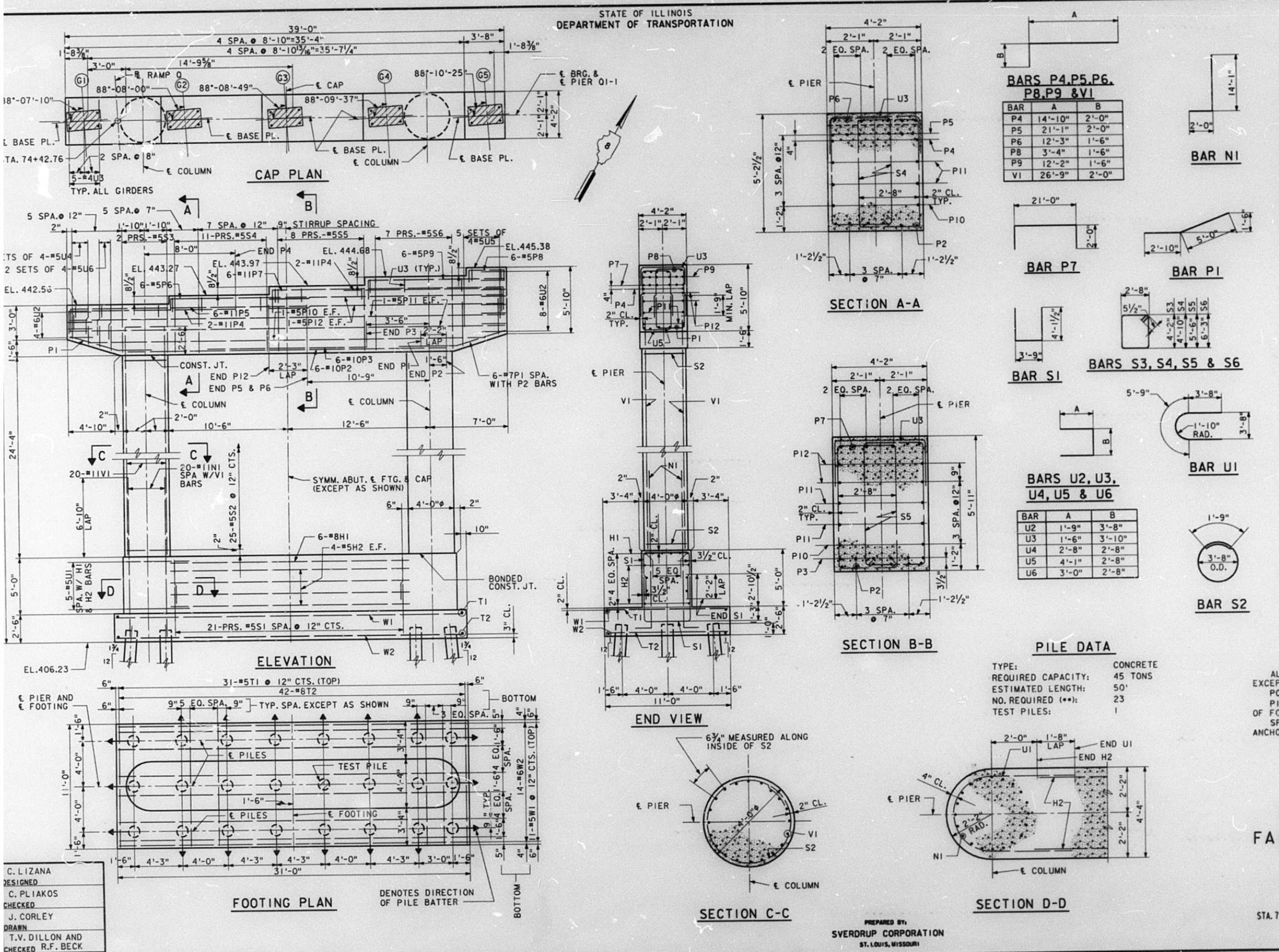
SHEET NO. 29 OF 32

87S356 PRF: DET44R
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	166
		ILLINOIS	PROJECT	

*82-3HVB-2R-1



BARS P4, P5, P6, P8, P9 & V1

BAR	A	B
P4	14'-10"	2'-0"
P5	21'-1"	2'-0"
P6	12'-3"	1'-6"
P8	3'-4"	1'-6"
P9	12'-2"	1'-6"
V1	26'-9"	2'-0"

BARS U2, U3, U4, U5 & U6

BAR	A	B
U2	1'-9"	3'-8"
U3	1'-6"	3'-10"
U4	2'-8"	2'-8"
U5	4'-1"	2'-8"
U6	3'-0"	2'-8"

PILE DATA

TYPE: CONCRETE
REQUIRED CAPACITY: 45 TONS
ESTIMATED LENGTH: 50'
NO. REQUIRED (**): 23
TEST PILES: 1

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
H1	6	#8	21'-0"	
H2	8	#5	21'-0"	
N1	40	#11	16'-1"	
P1	12	#7	7'-10"	
P2	6	#10	28'-0"	
P3	6	#10	18'-0"	
P4	4	#11	16'-10"	
P5	6	#11	23'-1"	
P6	6	#5	13'-9"	
P7	6	#11	25'-0"	
P8	6	#5	4'-10"	
P9	6	#5	13'-8"	
P10	2	#5	35'-8"	
P11	4	#5	38'-8"	
P12	4	#5	19'-9"	
S1	42	#5	12'-0"	
S2	50	#5	13'-3"	
S3	4	#5	14'-7"	
S4	22	#5	15'-11"	
S5	16	#5	17'-3"	
S6	14	#5	18'-9"	
T1	31	#5	10'-8"	
T2	42	#8	10'-8"	
U1	10	#5	13'-1"	
U2	12	#6	7'-2"	
U3	25	#4	6'-10"	
U4	12	#5	8'-0"	
U5	20	#5	10'-10"	
U6	8	#5	8'-8"	
V1	40	#11	28'-9"	
W1	11	#5	30'-8"	
W2	14	#6	30'-8"	

CLASS X CONCRETE	CU. YDS.	109.6
REINFORCEMENT BARS	LBS.	19,350
STRUCTURE EXCAVATION	CU. YDS.	90
FURN. CONC. PILES (**)	LIN. FT.	1150
DRIVING CONC. PILES (**)	LIN. FT.	1150
TEST PILE CONCRETE	EACH	1

(**) DOES NOT INCLUDE TEST PILE.

NOTES

ALL EDGES SHALL HAVE A STANDARD ¾" CHAMFER EXCEPT FOOTING.
POUR STEPS MONOLITHICALLY WITH CAP.
PILE SPACING SHOWN IS MEASURED AT BOTTOM OF FOOTING.
SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.

C. LIZANA	DESIGNED
C. PLIAKOS	CHECKED
J. CORLEY	DRAWN
T.V. DILLON AND R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP Q
PIER Q1-1
STRUCTURE NO. 082-0255
STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

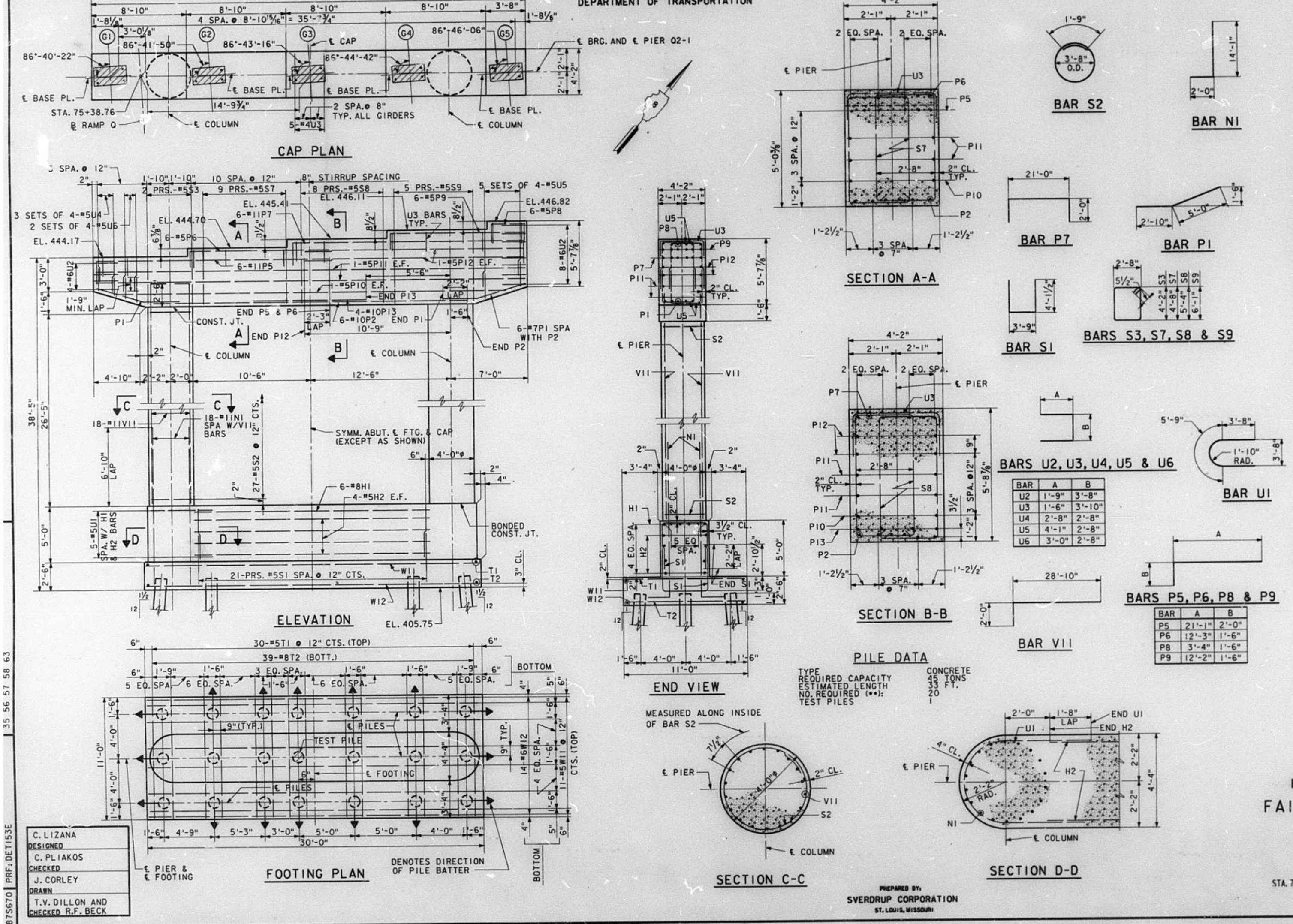
SHEET NO. 30 OF 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	167

ILLINOIS PROJECT

*82-3HVB-2R-1



BARS U2, U3, U4, U5 & U6

BAR	A	B
U2	1'-9"	3'-8"
U3	1'-6"	3'-10"
U4	2'-8"	2'-8"
U5	4'-1"	2'-8"
U6	3'-0"	2'-8"

BARS P5, P6, P8 & P9

BAR	A	B
P5	21'-1"	2'-0"
P6	12'-3"	1'-6"
P8	3'-4"	1'-6"
P9	12'-2"	1'-6"

PILE DATA

TYPE	CONCRETE
REQUIRED CAPACITY	45 TONS
ESTIMATED LENGTH	33 FT.
NO. REQUIRED (**):	20
TEST PILES	1

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
H1	6	#8	21'-0"	
H2	8	#5	21'-0"	
N1	36	#11	16'-1"	
P1	12	#7	7'-10"	
P2	6	#10	28'-0"	
P5	6	#11	23'-1"	
P6	6	#5	13'-9"	
P7	6	#11	25'-0"	
P8	6	#5	4'-10"	
P9	6	#5	13'-8"	
P10	2	#5	35'-8"	
P11	4	#5	38'-8"	
P12	4	#5	19'-9"	
P13	4	#10	14'-0"	
S1	42	#5	12'-0"	
S2	54	#5	13'-3"	
S3	4	#5	14'-7"	
S7	18	#5	15'-7"	
S8	16	#5	16'-11"	
S9	10	#5	18'-5"	
T1	30	#5	10'-8"	
T2	39	#8	10'-8"	
U1	10	#5	13'-1"	
U2	12	#6	7'-2"	
U3	25	#4	6'-10"	
U4	12	#5	8'-0"	
U5	20	#5	10'-10"	
U6	8	#5	8'-8"	
V11	36	#11	30'-10"	
W11	11	#5	29'-8"	
W12	14	#6	29'-8"	

CLASS X CONCRETE	CU. YDS.	109.6
REINFORCEMENT BARS	LBS.	17,977
STRUCTURE EXCAVATION	CU. YDS.	90
FURN. CONC. PILES(**)	LIN. FT.	660
DRIVING CONC. PILES(**)	LIN. FT.	660
TEST PILE, CONCRETE	EACH	1

(**) DOES NOT INCLUDE TEST PILE

NOTES

ALL EDGES SHALL HAVE A STANDARD 3/4" CHAMFER EXCEPT FOOTING.

POUR STEPS MONOLITHICALLY WITH CAP.

SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.

PILE SPACING SHOWN IS MEASURED AT BOTTOM OF FOOTING.

C. LIZANA	DESIGNED
C. PLIAKOS	CHECKED
J. CORLEY	DRAWN
T.V. DILLON AND R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX

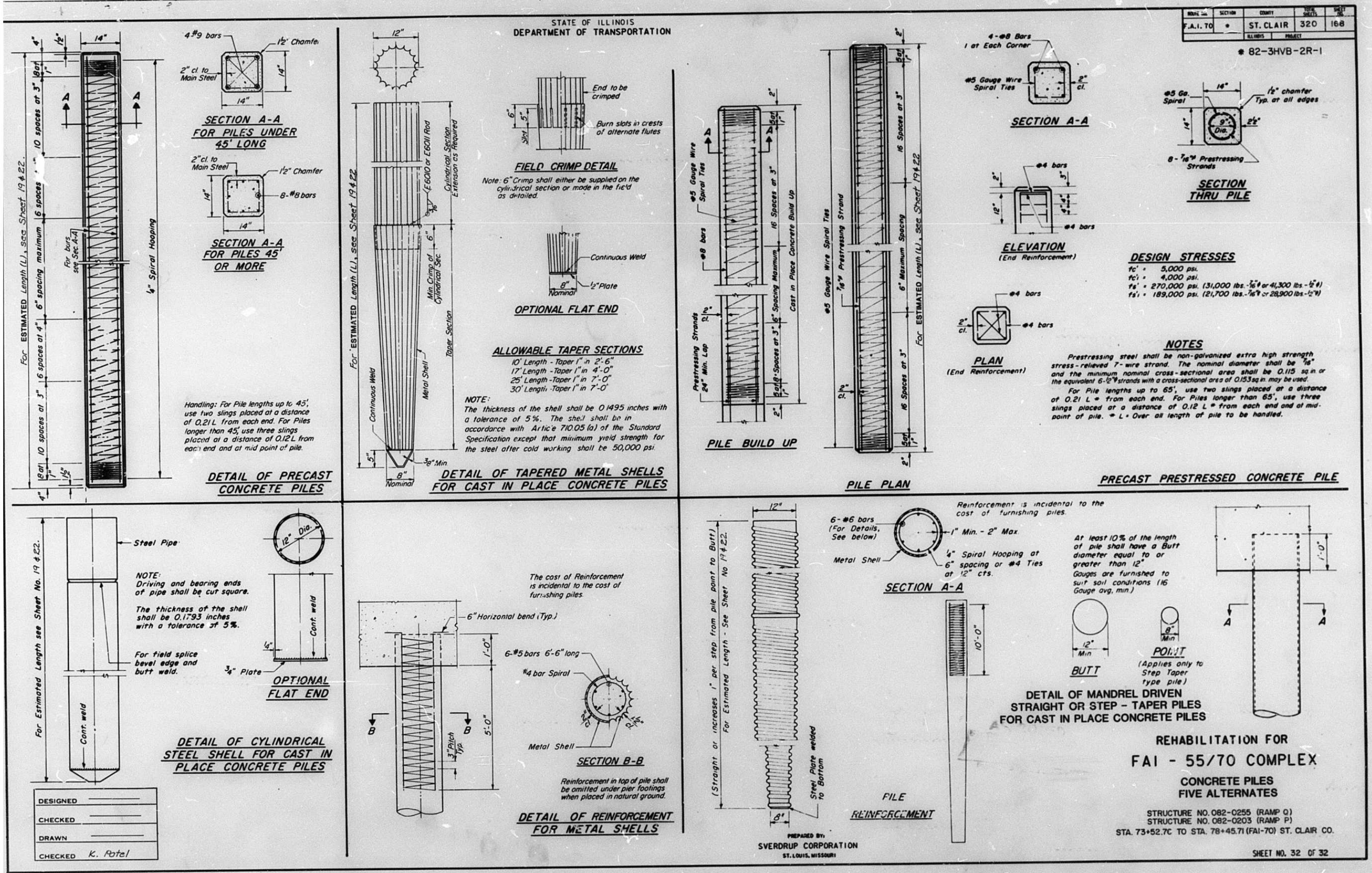
RAMP Q
PIER Q2-1

STRUCTURE NO. 082-0255

STA. 73+52.76 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.

SHEET NO. 31 OF 32

87S670 PRF: DET153E



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 168
82-3HVB-2R-1
SECTION A-A FOR PILES UNDER 45' LONG
SECTION A-A FOR PILES 45' OR MORE
4 #9 bars
1/2" Chamfer
2" cl. to Main Steel
8-#8 bars
For ESTIMATED Length (L), see Sheet 19 & 22.
1/4" Spiral Hooping
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 PRECAST CONCRETE PILES
FIELD CRIMP DETAIL
End to be crimped
Burn slots in crests of alternate flutes
Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.
OPTIONAL FLAT END
Continuous Weld
1/2" Plate
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 shell 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.
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES
Cylindrical Section Extension as Required
Taper Section
Metal Shell
PILE BUILD UP
Prestressing Strands 24" Min. Lap
Cast in Place Concrete Build Up
PILE PLAN
#5 Gauge Wire Spiral Ties
7/16" Prestressing Strand
6" Maximum Spacing
16 Spaces at 3"
SECTION A-A
4-#8 Bars 1 at Each Corner
ELEVATION (End Reinforcement)
PLAN (End Reinforcement)
#4 bars
SECTION THRU PILE
8-7/16" Prestressing Strands
1/2" chamfer Typ. at all edges
DESIGN STRESSES
f'c = 5,000 psi.
f'ci = 4,000 psi.
f's = 270,000 psi. (31,000 lbs.-7/16" or 41,300 lbs.-1/2")
f'si = 189,000 psi. (21,700 lbs.-7/16" or 28,900 lbs.-1/2")
NOTES
Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.115 sq in or the equivalent 6-1/2" 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
Steel Pipe
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.
Cont. weld
3/4" Plate
OPTIONAL FLAT END
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES
The cost of Reinforcement is incidental to the cost of furnishing piles.
6" Horizontal bend (Typ.)
6-#5 bars 6'-6" long
#4 bar Spiral
Metal Shell
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
(Straight or increases 1" per step from pile point to Butt) For Estimated Length - See Sheet No 19 & 22
Steel Plate welded to Bottom
Reinforcement is incidental to the cost of furnishing piles.
6-#6 bars (For Details, See below)
1" Min. - 2" Max.
1/4" Spiral Hooping at 6" spacing or #4 Ties at 12" cts.
SECTION A-A
PILE REINFORCEMENT
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
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI
DESIGNED
CHECKED
DRAWN
CHECKED K. Patel
REHABILITATION FOR
FAI - 55/70 COMPLEX
CONCRETE PILES
FIVE ALTERNATES
STRUCTURE NO. 082-0255 (RAMP Q)
STRUCTURE NO. 082-0203 (RAMP P)
STA. 73+52.70 TO STA. 78+45.71 (FAI-70) ST. CLAIR CO.
SHEET NO. 32 OF 32

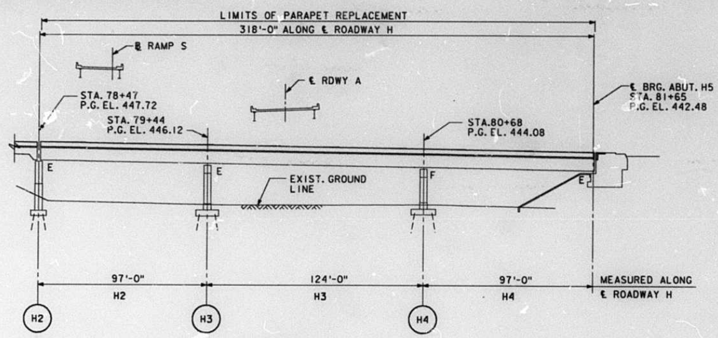
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	169
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

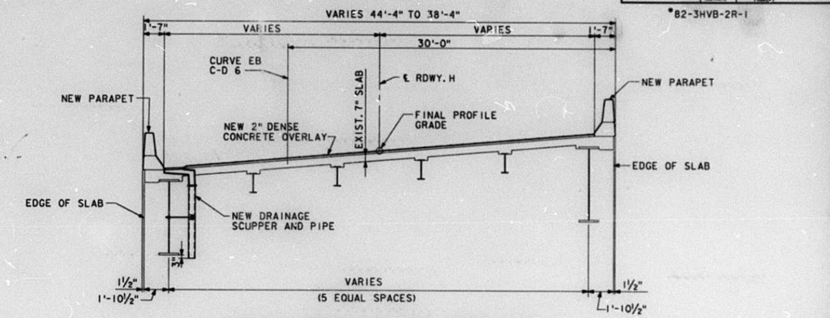
BENCH MARK B

CHISELED "□" IN CONCRETE AT END OF EAST WINGWALL ON E.B. I-55/70 BRIDGE ABUT. 400' S. OF TRENDLEY AVE. ELEV. 447.80



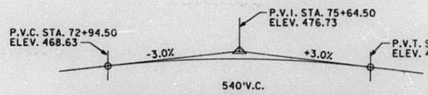
ELEVATION

NOTE: STATIONING IS ALONG ℄ ROADWAY H.
P.G. ELEVATIONS SHOWN ARE AT TOP OF EXISTING 7" SLAB.

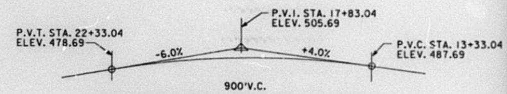


TYPICAL CROSS SECTION - SPAN H2-H4
(LOOKING AHEAD STATION)

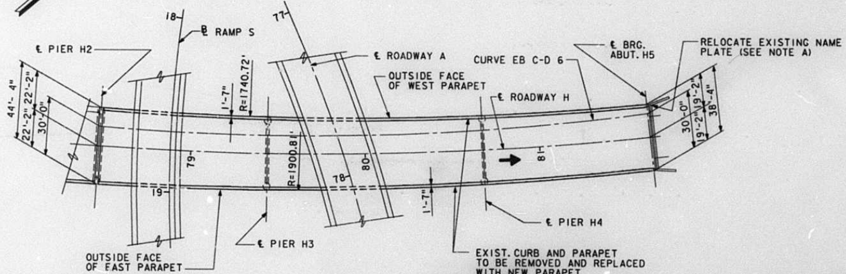
NOTE A: EXISTING NAME PLATE TO BE SALVAGED, CLEANED AND RELOCATED. (COST INCIDENTAL)



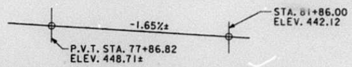
EXISTING PROFILE GRADE-℄ ROADWAY A
NOTE: ELEVATIONS SHOWN ARE AT TOP OF EXISTING SLAB.



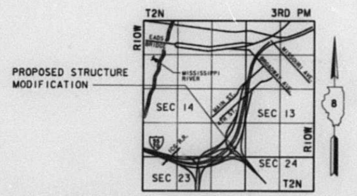
EXISTING PROFILE GRADE-℞ RAMP S
NOTE: ELEVATIONS SHOWN ARE AT TOP OF EXISTING SLAB.



PLAN



EXISTING PROFILE GRADE-℄ ROADWAY H
NOTE: ELEVATION SHOWN IS AT TOP OF EXISTING SLAB.



LOCATION SKETCH

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

DESIGN STRESSES

	EXIST. STRUCTURES	NEW CONSTRUCTION
DESIGN SPECIFICATIONS:	AASHO 1961 AND APPLICABLE 1962 AND 1963 INTERIMS.	AASHTO 1983 AND APPLICABLE 1984 THRU 1987 INTERIMS.
LOADING:	HS20-44 AND ALTERNATE	HS20-44 AND ALTERNATE
REINFORCED CONCRETE: DECK SLAB	fc=1400 psi n=10	fc=3500 psi
SUBSTRUCTURE	fc=1400 psi n=10 Vc=75 psi - FOOTINGS	
REINFORCING	fs=20,000 psi	fy=60,000 psi (REINFORCEMENT)
STRUCTURAL STEEL:	fs=20,000 psi	fy=36,000 psi (M183)

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. Leyburn
Structures

STATE OF ILLINOIS
EDUARDO A. LEZANA-FARIAS
81-3956
CHICAGO
REGISTERED STRUCTURAL ENGINEER

DESIGNED
CHECKED D. RIEHL
DRAWN P. HANSON
CHECKED

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H-DECK REHABILITATION GENERAL PLAN AND ELEVATION SPANS H2 THRU H4

STRUCTURE NO. 082-0256
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 8

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	170
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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.

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.

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.

TRAFFIC CONTROL ON ROADWAY H IS TO BE PART OF THE ROADWAY REHABILITATION CONTRACT BUT IT SHALL NOT EXEMPT THE CONTRACTOR FROM PROVIDING ADDITIONAL TRAFFIC CONTROL AND PROTECTION THAT MAY BE REQUIRED FOR THE SAFETY OF THE PUBLIC AND WORKMEN.

THE ZINC - SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUC. STEEL EXCEPT WHERE OTHERWISE NOTED.

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.

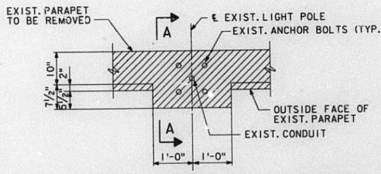
INDEX OF DRAWINGS

TOTAL BILL OF MATERIAL

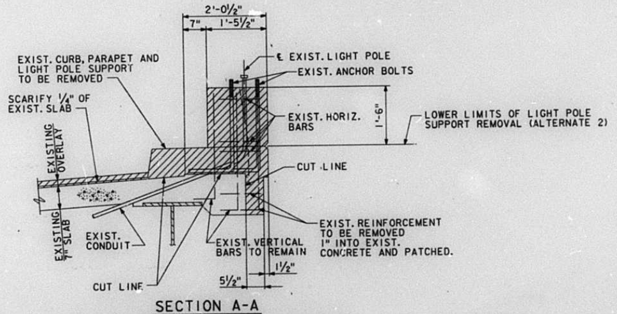
ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	26.9	——	26.9
REINFORCEMENT BARS, EPOXY COATED	LBS.	2,497	——	2,497
CONCRETE REMOVAL	CU. YDS.	24.5	——	24.5
BITUMINOUS CONCRETE SURFACE REMOVAL (BRIDGE DECK)	SQ. YDS.	1,248	——	1,248
CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ. YDS.	1,322	——	1,322
PARAPET RECONSTRUCTION	LIN. FT.	726	——	726
DECK SLAB REPAIR (PARTIAL DEPTH)	SQ. YDS.	35	——	35
DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	1	——	1
BRIDGE DECK CONCRETE OVERLAY OPTION	SQ. YDS.	1,322	——	1,322
NEOPRENE EXPANSION JOINT (2")	LIN. FT.	38	——	38
DRAINAGE SCUPPERS	EACH	6	——	6
PROTECTIVE COAT	SQ. YDS.	260	——	260
FLOOR DRAIN REMOVAL	EACH	51	——	51
FURNISHING AND ERECTING STRUCTURAL STEEL	LBS.	1350	——	1350

NOTE: PARAPET RECONSTRUCTION INCLUDES THE EAST PARAPET OF SPAN H1.

QUANTITY DOES NOT INCLUDE BRIDGE DECK SURFACE.



PLAN-EXISTING PARAPET AT LIGHT POLE



SECTION A-A

NOTE: DEMOLITION SHOWN FOR PARAPET RECONSTRUCTION ALTERNATE 1.
FOR ALTERNATE 2 REMOVE THE LIGHT POLE SUPPORT TO THE LIMITS SHOWN.
FOR ALTERNATE 3 THE LIGHT POLES SHALL BE REMOVED. LIGHT POLE SUPPORT TO REMAIN.
THE PORTION OF THE LIGHT POLE SUPPORTS TO REMAIN SHALL HAVE THE ROADWAY FACE REMOVED TO MATCH THE ADJACENT PARAPET REMOVAL AS SHOWN ON THE PARAPET RECONSTRUCTION DETAIL FOR ALTERNATES 2 AND 3.

G.J. DEE	DESIGNED
C. LIZANA	CHECKED
K. SCHULT	DRAWN
P. HANSON	CHECKED

87S758 PRF: GENOTH 35 56 57 58 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H-DECK REHABILITATION
SPANS H2 THRU H4
GENERAL NOTES, ESTIMATED QUANTITIES AND INDEX OF DRAWINGS
STRUCTURE NO. 082-0256
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 2 OF 8

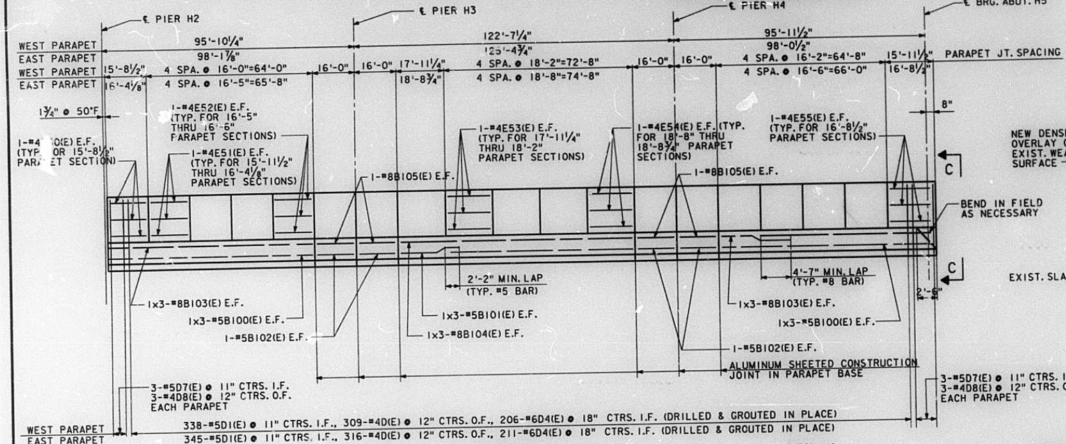
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	***	ST. CLAIR	320	171
		ILLINOIS	PROJECT	

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

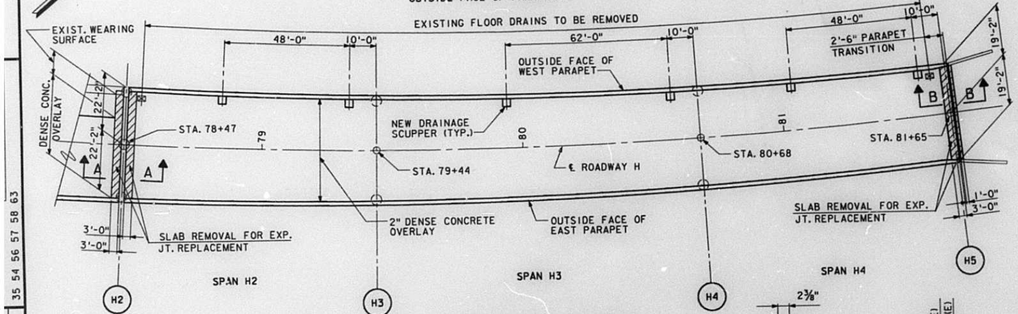
NOTE: 88.5 CU. YDS.
FOR PARAPET REMOVAL, 10,003 LBS. REINFORCING BARS (EPOXY COATED) AND 66.3 CU. YDS. CLASS X CONCRETE (SUPERSTR.) FOR PARAPET RECONSTRUCTION-ALTERNATE 1.

* Quantity of these bars included with Parapet Reconstruction - Alt. I



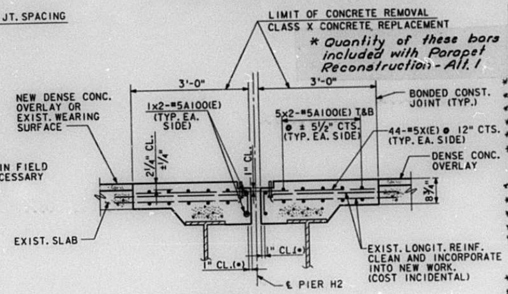
INSIDE ELEVATION OF WEST PARAPET

NOTE: EAST PARAPET SIMILAR, EXCEPT AS NOTED.
O.F. INDICATES OUTSIDE FACE.
I.F. INDICATES INSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.



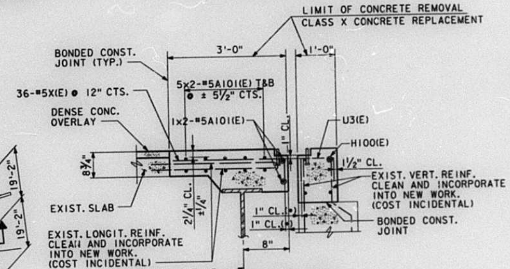
PLAN-SLAB AND PARAPET

NOTE: SPACE SCUPPERS TO MISS FLOORBEAMS.



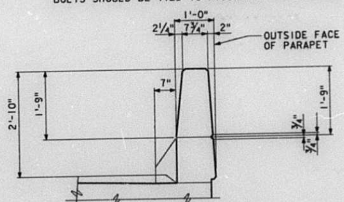
SECTION A-A

(•) PLACE A100(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A100(E) BARS.



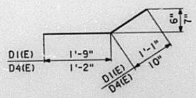
SECTION B-B

(•) PLACE A100(E) AND H100(E) BARS IN BACK OF ANCHOR BOLTS, IF REQUIRED, TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A100(E) AND H100(E) BARS.

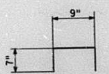


VIEW C-C

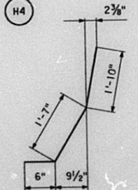
WEST PARAPET SHOWN
EAST PARAPET SIMILAR



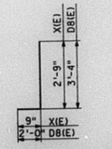
BARS D1(E) AND D4(E)



BAR U3(E)



BAR D7(E)



BARS D8(E) AND X(E)

BILL OF MATERIAL

SPANS H2 THRU H4				
BAR	NO.	SIZE	LENGTH	SHAPE
A100(E)	48	#5	23'-0"	
A101(E)	24	#5	20'-0"	
* B100(E)	12	#5	28'-11"	
* B101(E)	6	#5	32'-6"	
* B102(E)	16	#5	15'-9"	
* B103(E)	12	#8	30'-7"	
* B104(E)	6	#8	34'-2"	
* B105(E)	16	#8	15'-9"	
BX(E)	24	#5	2'-10"	
* D(E)	625	#4	2'-8"	
* D1(E)	683	#5	2'-10"	
* D4(E)	417	#6	2'-0"	
* D7(E)	12	#5	3'-11"	
* D8(E)	12	#4	5'-4"	
* E50(E)	6	#4	15'-5"	
* E51(E)	108	#4	15'-8"	
* E52(E)	48	#4	16'-2"	
* E53(E)	30	#4	17'-8"	
* E54(E)	30	#4	18'-5"	
* E55(E)	6	#4	16'-5"	
H100(E)	8	#6	20'-2"	
U3(E)	37	#5	1'-11"	
X(E)	124	#5	3'-6"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	26.9
REINFORCEMENT BARS (EPOXY COATED)			LBS.	2497
•• DECK SLAB REPAIR (FULL DEPTH)			SQ. YDS.	1
•• DECK SLAB REPAIR (PARTIAL)			SQ. YDS.	35
BRIDGE DECK CONCRETE OVERLAY OPTION			SQ. YDS.	1,322
CONCRETE REMOVAL			CU. YDS.	24.5

•• ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.

NOTES

REINFORCEMENT BARS MARKED (E) INDICATES EPOXY COATED.

BARS DESIGNATED 1x3-#8 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

FOR DRAINAGE SCUPPER DETAILS SEE SHEET 7 OF 8.

FOR DETAILS OF FULL DEPTH OR PARTIAL DEPTH PATCHING OF SLAB SEE SHEET 4 OF 8.

FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS AND SLAB PATCHING SEE SHEET 6 OF 8.

FOR DETAILS OF EXPANSION JOINT AT ABUT. H5, SEE SHEET 5 OF 8.

FOR ABUTMENT MODIFICATIONS, SEE SHEET 8 OF 8.

FOR DETAILS OF EXPANSION JOINT AT PIER H2, SEE SHEET 18 OF 32 SPAN H1 DETAILS.

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY H-DECK REHABILITATION
SPANS H2 THRU H4
PARAPETS

STRUCTURE NO. 082-0256

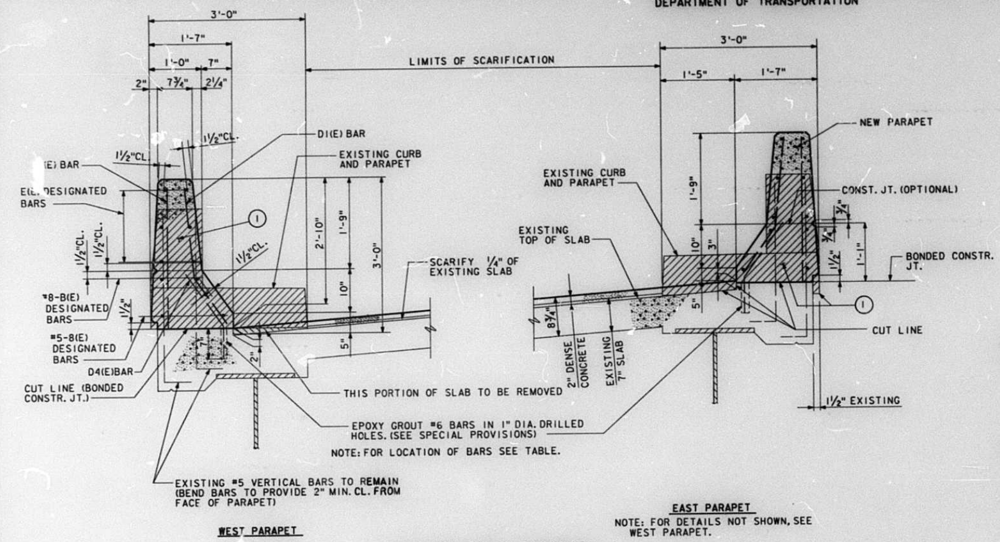
STA. 78+47.00 TO STA. 81+65.00 (FAI 70) ST. CLAIR CO.

B. CARLSON DESIGNED
P. HANSON CHECKED
K. SCHULT DRAWN
P. HANSON CHECKED

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

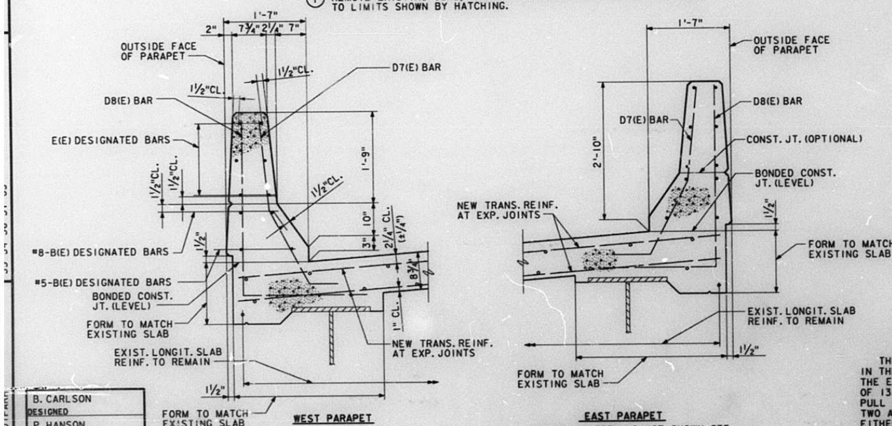
REV. 8/26/88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION THRU PARAPETS

(1) REMOVE EXISTING CURB, PARAPET AND PORTION OF EXISTING SLAB TO LIMITS SHOWN BY HATCHING.



SECTION THRU PARAPETS NEAR EXP. JOINT

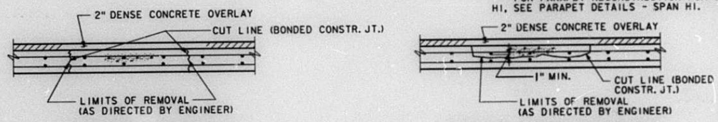
LOCATION - PARAPET REINFORCEMENT				
SPANS	#4(E) BARS	#5(E) BARS	#6(E) BARS	#8(E) BARS
H2 THRU H4	D(E), D8(E), E50(E) THRU E55(E)	B100(E) THRU B102(E) D1(E) & D7(E)	D4(E)	B103(E) THRU B105(E)

NOTE: SEE PARAPET ELEVATIONS FOR COMPLETE BAR BILLINGS.

SPANS H1 THRU H4 — PARAPET RECONSTRUCTION ALTERNATE I

ITEM	UNIT	QUANTITY
PARAPET REMOVAL	CU. YDS.	100.7
REINFORCEMENT BARS (EPOXY COATED)	LBS.	11,740
CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	76.2

NOTE: QUANTITIES SHOWN ARE FOR CONTRACTOR INFORMATION ONLY. PARAPET RECONSTRUCTION SHALL BE PAID FOR ON A LIN. FT. BASIS.
FOR PARAPET RECONSTRUCTION FOR SPAN H1, SEE PARAPET DETAILS - SPAN H1.



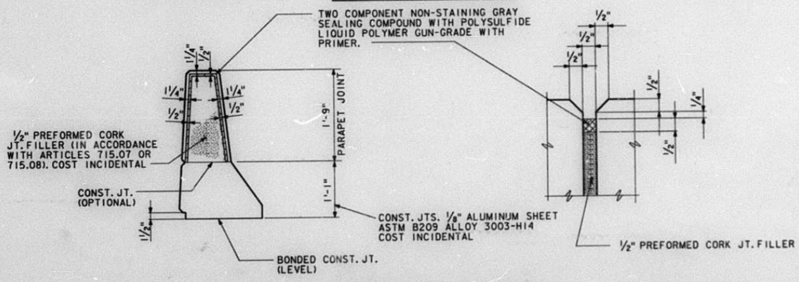
FULL DEPTH PATCHING

NOTES: AS DIRECTED BY ENGINEER REMOVE EXISTING CONCRETE THE FULL DEPTH OF THE DECK WITHOUT DAMAGING EXISTING REINFORCING BARS.
REMOVE STAY-IN-PLACE PANELS THAT ARE PRESENT WITHIN LIMITS OF FULL DEPTH PATCH.
CLEAN EXISTING REINFORCING BARS AND INCORPORATE INTO NEW WORK.
REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE.
NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
SEE SPECIAL PROVISIONS.

PARTIAL DEPTH PATCHING

NOTES: AS DIRECTED BY ENGINEER REMOVE EXISTING CONCRETE TO A MINIMUM DEPTH OF 1" BELOW THE TOP REINFORCING BARS, LEAVING EXISTING REINFORCING BARS IN PLACE.
CLEAN EXISTING REINFORCING BARS AND INCORPORATE IN THE NEW WORK.
CLEAN PATCH AREA OF ANY LOOSE MATERIAL.
REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE TO THE LEVEL OF ADJOINING CONCRETE.
NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
SEE SPECIAL PROVISIONS.

SLAB REPAIR DETAILS



PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.

NOTE

THE CONTRACTOR SHALL TEST 10% OF THE D4(E) BARS IN THE FRONT FACE OF THE NEW PARAPET, AS DIRECTED BY THE ENGINEER, TO MEET A MIN. CERTIFIED PULL OUT LOAD OF 13.3 KIPS. FOR EVERY BAR THAT FAILS TO MEET THE PULL OUT LOAD OF 13.3 KIPS, THE CONTRACTOR SHALL TEST TWO ADDITIONAL BARS AND REGROUT AN ADDITIONAL D4(E) BAR EITHER SIDE OF THE FAILED BAR. COST OF TESTING AND ADDITIONAL BARS SHALL BE INCIDENTAL TO "REINF. BARS (EPOXY COATED)".

B. CARLSON	DESIGNED
P. HANSON	CHECKED
D. RIEHL	DRAWN
P. HANSON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLEX

ROADWAY H-DECK REHABILITATION
SPANS H2 THRU H4
PARAPET DETAILS

STRUCTURE NO. 082-0256

STA. 78+?7.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	173

* 82-3HVB-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
2"	2"	1½" Min.	Abut. H5

INSTALLATION NOTES

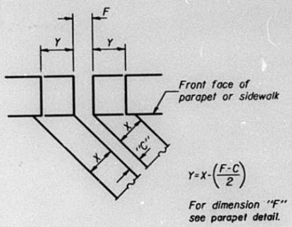
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

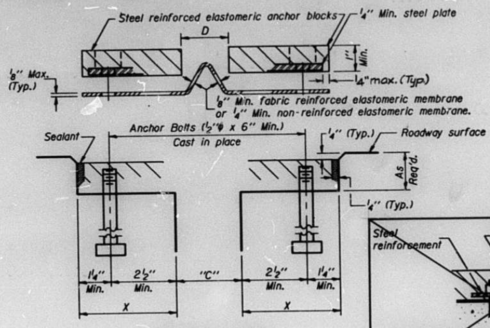
SKEW LIMITATIONS

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

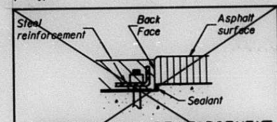
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also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



FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK 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.

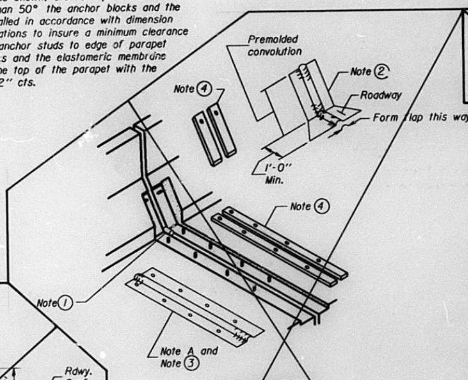
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

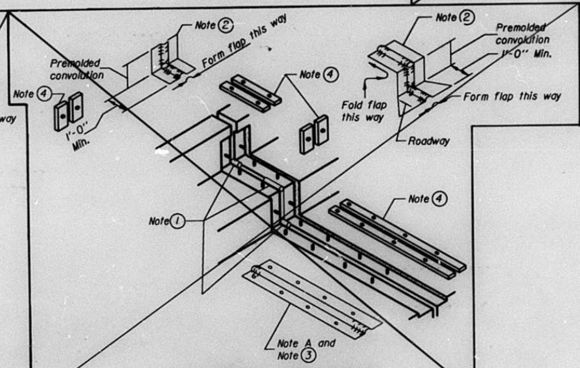
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

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.

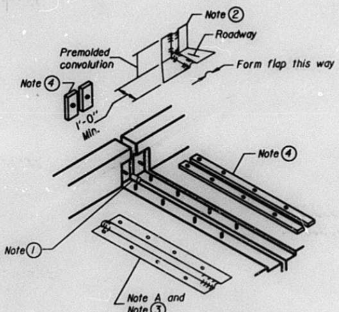
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



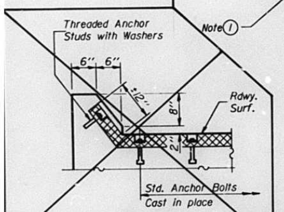
AT PARAPET



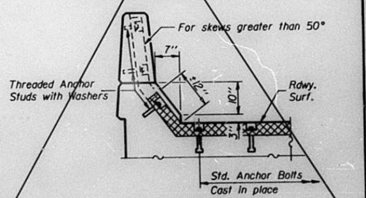
AT SIDEWALK OR MEDIAN



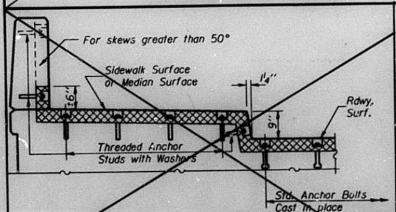
AT VERTICAL PARAPET WALL



AT CURB

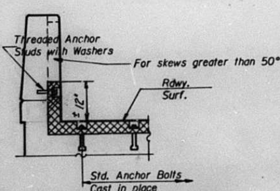


AT PARAPET



AT SIDEWALK OR MEDIAN

TYPICAL END TREATMENTS



AT VERTICAL PARAPET WALL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
(2") Neoprene Exp. Jt.	Lin. Ft.	38

REHABILITATION FOR
FAI - 55/70 COMPLEX
CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINT FOR 2" MOVEMENT

ROADWAY "H" STRUCTURE NO. 082-0256
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

DESIGNED
CHECKED
DRAWN
CHECKED P. Hanson

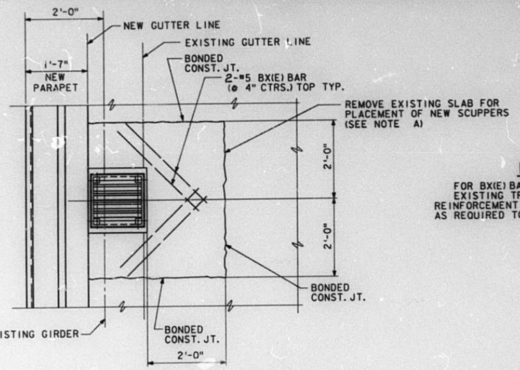
EJ-CS 12-1-83

SHEET NO. 5 OF 8

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	320	174
		ILLINOIS	PROJECT	

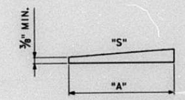
*82-3HVB-2R-1



PLAN

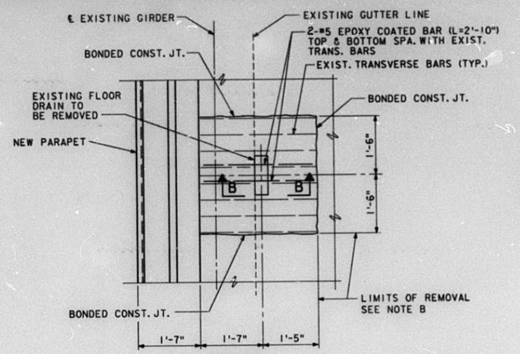
NOTE A

FOR BX(E) BAR QUANTITY, SEE SHEET 3 OF 8. EXISTING TRANSVERSE AND LONGITUDINAL REINFORCEMENT BARS SHALL BE CUT OR BENT AS REQUIRED TO MISS THE SCUPPER.

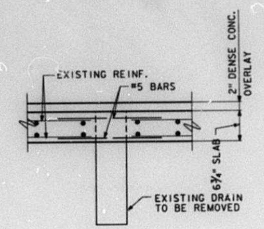


BEVELED WASHER DETAIL

NOTES: "S" EQUALS THE SLOPE OF THE SUPERELEVATION AT THE INDIVIDUAL SCUPPER LOCATION.
THE BEVEL SHALL BE AS REQUIRED FOR VERTICAL INSTALLATION OF DOWN-SPOUT.
DIMENSION "A" SHALL BE AS REQUIRED FOR THE PARTICULAR SCUPPER TYPE.



PLAN

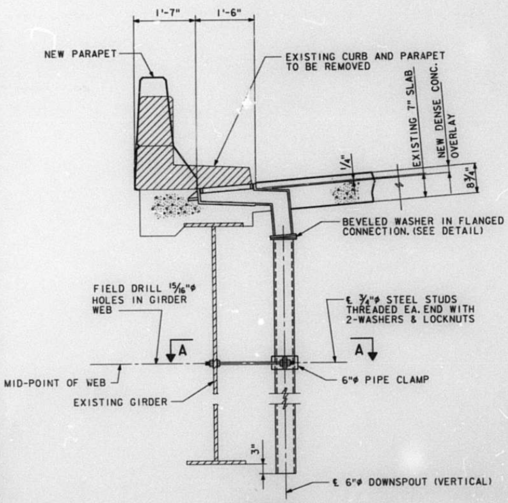


SECTION B-B

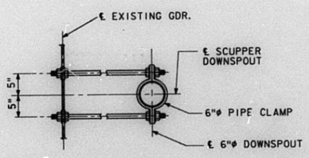
NOTE B

1. REMOVE THE EXISTING DRAIN TO LIMITS SHOWN WITHOUT DAMAGE TO EXISTING REINFORCEMENT BARS.
2. CLEAN EXISTING REINFORCEMENT BARS AND TIE NEW #5 BARS TO SPAN DRAIN HOLE.
3. REPLACE REMOVED CONCRETE WITH CLASS X CONCRETE TO THE LEVEL OF EXISTING CONCRETE.
4. NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
5. COST OF NEW CLASS X CONCRETE AND #5 BARS TO BE INCIDENTAL TO DECK SLAB REPAIR (FULL DEPTH).
6. IT IS ESTIMATED THAT IN SPANS H2 THRU H4 THERE ARE 51 FLOOR DRAINS TO BE REMOVED.

FLOOR DRAIN REMOVAL



SECTION



SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
DRAINAGE SCUPPERS	EACH	6

NOTE: FOR SPACING OF DRAINAGE SCUPPERS, SEE SHEET 3 OF 8.

B. CARLSON	DESIGNED
P. HANSON	CHECKED
K. SCHULT	DRAWN
P. HANSON	CHECKED

DRAINAGE SCUPPER

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

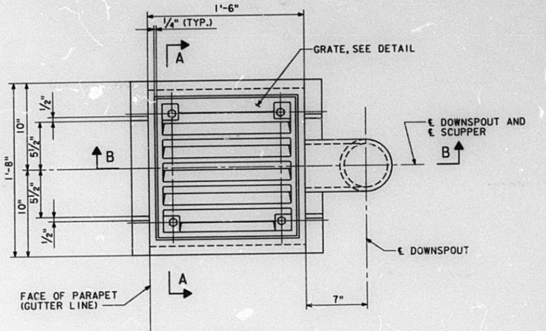
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H - DECK REHABILITATION
SCUPPER DETAILS
STRUCTURE NO. 082-0256
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

SHEET NO. 6 OF 8

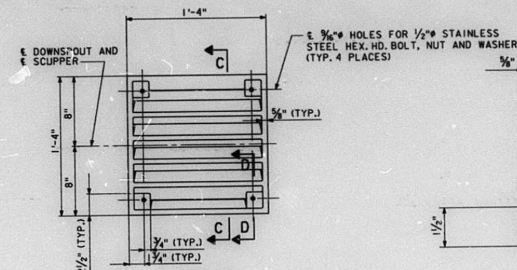
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	175
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

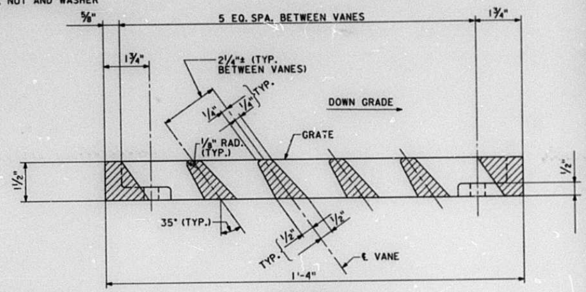
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



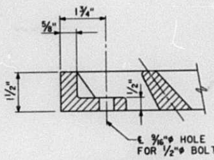
PLAN



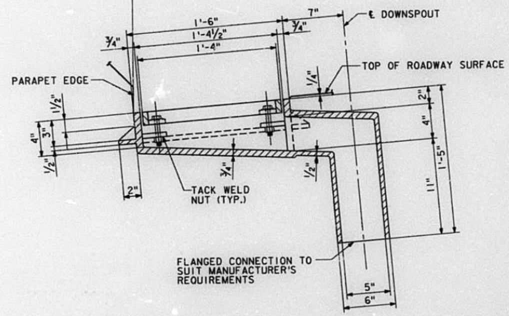
SECTION C-C

GRATE

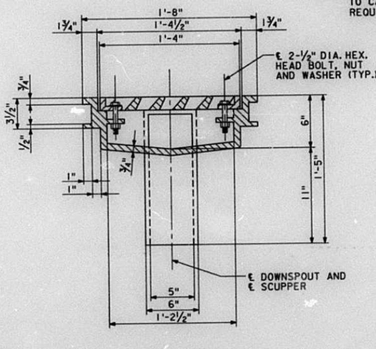
NOTE: LOCATION OF HOLES FOR FASTENING GRATE TO CASTING TO SUIT MANUFACTURER'S REQUIREMENTS.



SECTION D-D



SECTION B-B



SECTION A-A

NOTES

ALL CAST IRON PARTS SHALL BE GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 30.

BOLTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307.

ALL BOLTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.

AS AN ALTERNATE, BOLTS AND WASHERS MAY BE STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-193 TYPE 304.

COST OF THE GRATE, FRAME, DOWNSPOUT, BOLTS AND WASHERS INCLUDING COMPLETE INSTALLATION OF SCUPPER SHALL BE PAID FOR AT THE UNIT BID PRICE FOR "DRAINAGE SCUPPERS".

A MATERIAL SUCH AS GREASE SHOULD BE USED AS A TREATMENT FOR THE BOLTS ANCHORING THE GRATE TO THE FRAME.

DRAINAGE SCUPPER

NOTE: FOR CONNECTION OF SCUPPER TO DOWNSPOUT AND DOWNSPOUT TO GIRDER, SEE SHEET 6 SCUPPER DETAILS.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
DRAINAGE SCUPPERS	EACH	6

REHABILITATION FOR

FAI - 55/70 COMPLEX

CAST IRON DRAINAGE SCUPPER

STRUCTURE NO. 082-0256

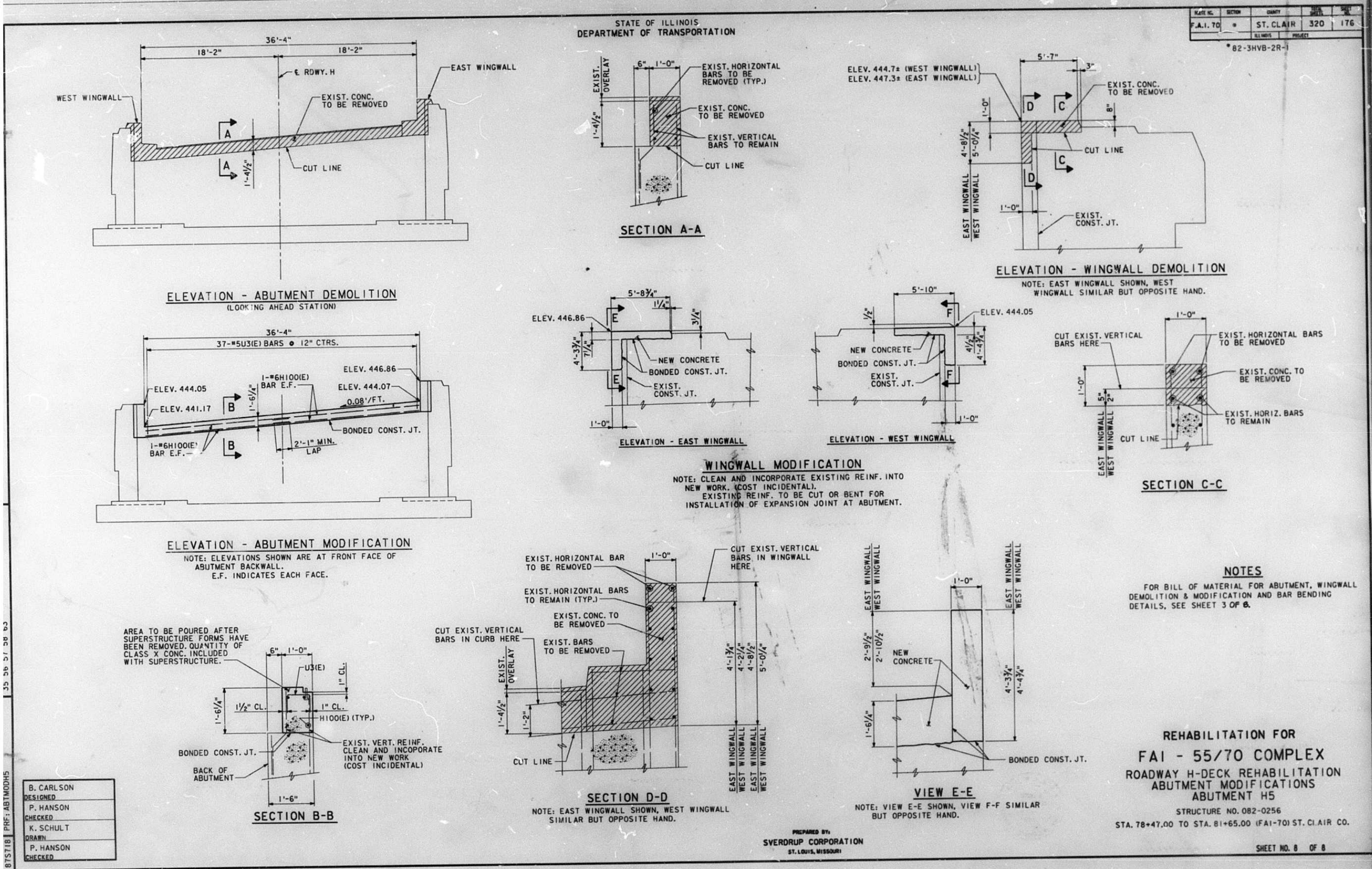
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.

G.J. DEE
DESIGNED

CHECKED
R. ROTH
DRAWN
R. BUTTERFIELD
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | * | ST. CLAIR | 320 | 176
*82-3HVB-2R-1
36'-4"
18'-2"
18'-2"
℄ RDWY. H
EAST WINGWALL
WEST WINGWALL
EXIST. CONC. TO BE REMOVED
CUT LINE
ELEVATION - ABUTMENT DEMOLITION
(LOOKING AHEAD STATION)
EXIST. OVERLAY
EXIST. HORIZONTAL BARS TO BE REMOVED (TYP.)
EXIST. CONC. TO BE REMOVED
EXIST. VERTICAL BARS TO REMAIN
CUT LINE
SECTION A-A
ELEV. 444.7± (WEST WINGWALL)
ELEV. 447.3± (EAST WINGWALL)
EXIST. CONC. TO BE REMOVED
CUT LINE
EXIST. CONST. JT.
EAST WINGWALL
WEST WINGWALL
ELEVATION - WINGWALL DEMOLITION
NOTE: EAST WINGWALL SHOWN, WEST WINGWALL SIMILAR BUT OPPOSITE HAND.
37-#5U3(E) BARS @ 12" CTRS.
ELEV. 444.05
ELEV. 441.17
1-#6H100(E) BAR E.F.
ELEV. 446.86
ELEV. 444.07
0.08'/FT.
BONDED CONST. JT.
2'-1" MIN. LAP
ELEVATION - ABUTMENT MODIFICATION
NOTE: ELEVATIONS SHOWN ARE AT FRONT FACE OF ABUTMENT BACKWALL.
E.F. INDICATES EACH FACE.
ELEV. 446.86
NEW CONCRETE
BONDED CONST. JT.
EXIST. CONST. JT.
ELEVATION - EAST WINGWALL
ELEV. 444.05
ELEVATION - WEST WINGWALL
WINGWALL MODIFICATION
NOTE: CLEAN AND INCORPORATE EXISTING REINF. INTO NEW WORK. (COST INCIDENTAL).
EXISTING REINF. TO BE CUT OR BENT FOR INSTALLATION OF EXPANSION JOINT AT ABUTMENT.
CUT EXIST. VERTICAL BARS HERE
EXIST. HORIZONTAL BARS TO BE REMOVED
EXIST. CONC. TO BE REMOVED
EXIST. HORIZ. BARS TO REMAIN
CUT LINE
SECTION C-C
AREA TO BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED. QUANTITY OF CLASS X CONC. INCLUDED WITH SUPERSTRUCTURE.
U3(E)
H100(E) (TYP.)
BONDED CONST. JT.
EXIST. VERT. REINF. CLEAN AND INCOPORATE INTO NEW WORK (COST INCIDENTAL)
BACK OF ABUTMENT
SECTION B-B
EXIST. HORIZONTAL BAR TO BE REMOVED
EXIST. HORIZONTAL BARS TO REMAIN (TYP.)
EXIST. CONC. TO BE REMOVED
CUT EXIST. VERTICAL BARS IN CURB HERE
EXIST. BARS TO BE REMOVED
CUT EXIST. VERTICAL BARS IN WINGWALL HERE
CUT LINE
SECTION D-D
NOTE: EAST WINGWALL SHOWN, WEST WINGWALL SIMILAR BUT OPPOSITE HAND.
NEW CONCRETE
BONDED CONST. JT.
VIEW E-E
NOTE: VIEW E-E SHOWN, VIEW F-F SIMILAR BUT OPPOSITE HAND.
NOTES
FOR BILL OF MATERIAL FOR ABUTMENT, WINGWALL DEMOLITION & MODIFICATION AND BAR BENDING DETAILS, SEE SHEET 3 OF 8.
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY H-DECK REHABILITATION
ABUTMENT MODIFICATIONS
ABUTMENT H5
STRUCTURE NO. 082-0256
STA. 78+47.00 TO STA. 81+65.00 (FAI-70) ST. CLAIR CO.
SHEET NO. 8 OF 8
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
B. CARLSON DESIGNED
P. HANSON CHECKED
K. SCHULT DRAWN
P. HANSON CHECKED
87ST18 PRF: ABTMODH5

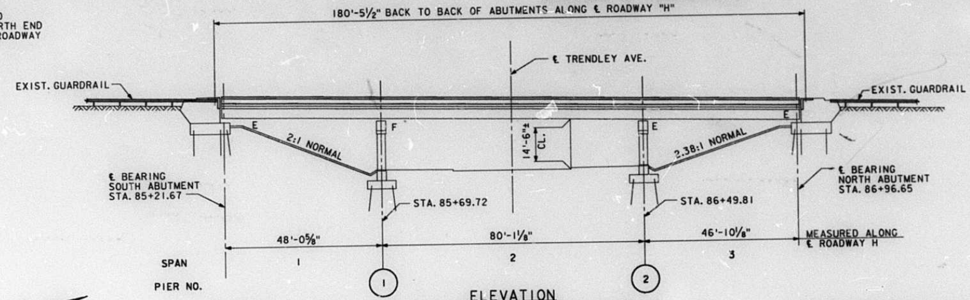
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	177

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCH MARK E

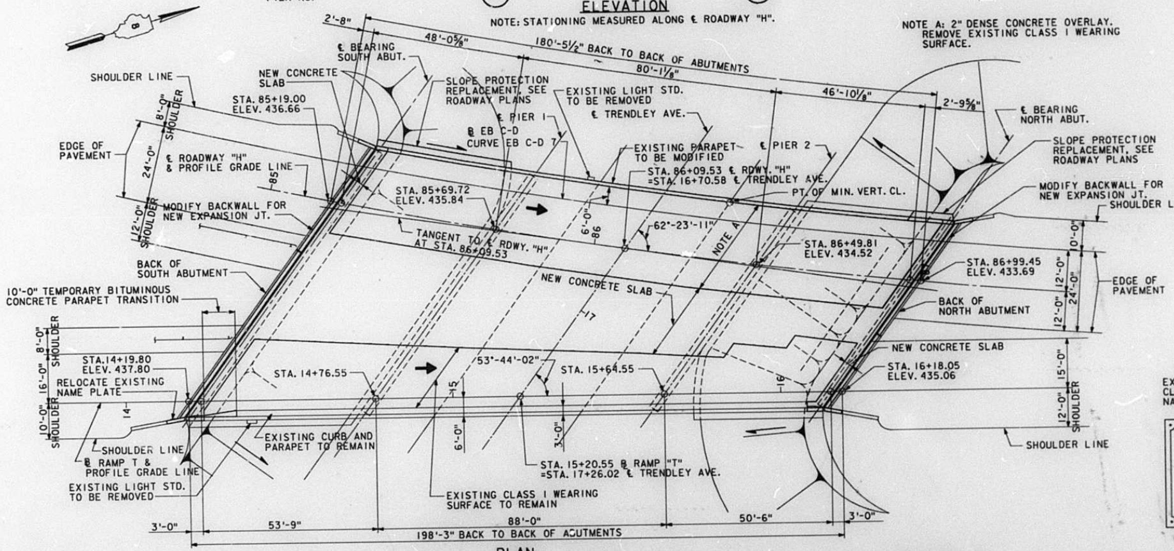
CHISELED "□" IN CENTER AT END OF NORTHWEST WINGWALL AT NORTH END OF BRIDGE OVER TRENDLEY ON ROADWAY "H", N.W. CORNER OF BRIDGE.
ELEV. 433.97



ELEVATION

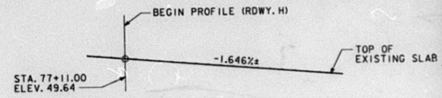
NOTE: STATIONING MEASURED ALONG ℄ ROADWAY "H".

NOTE A: 2" DENSE CONCRETE OVERLAY. REMOVE EXISTING CLASS I WEARING SURFACE.



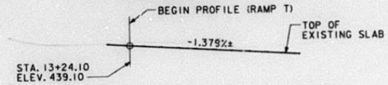
PLAN

NOTE: ELEVATIONS SHOWN ARE AT TOP OF DENSE CONCRETE OVERLAY OR TOP OF NEW CONCRETE SLAB.



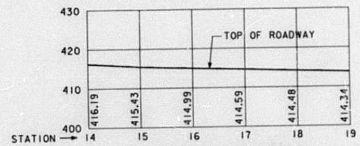
EXISTING PROFILE GRADE-℄ RDWY. "H"

NOTE: ELEVATION SHOWN IS AT TOP OF EXISTING SLAB.



EXISTING PROFILE GRADE-℄ RAMP "T"

NOTE: ELEVATION SHOWN IS AT TOP OF EXISTING SLAB.

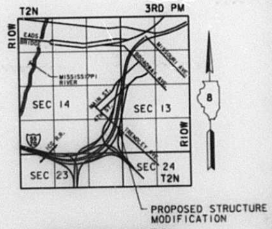


EXISTING PROFILE ℄ TRENDLEY AVE.

EXISTING NAME PLATE TO BE SALVAGED, CLEANED AND MOUNTED NEXT TO NEW NAME PLATE. COST INCIDENTAL.

STA. 86+09.53
REBUILT 198 BY
STATE OF ILLINOIS
F.A.I. 70 SEC. 82-3HVB-2R-1
PROJ. IR-70-1(155)
LOADING HS20 & ALT.
STR. NO. 082-0140

NAME PLATE
(STANDARD 2113)



LOCATION SKETCH

DESIGN STRESSES

	EXISTING STRUCTURES	NEW CONSTRUCTION
DESIGN SPECIFICATIONS:	AASHO 1961 AND APPLICABLE 1962 AND 1963 INTERIMS.	AASHTO 1983 AND APPLICABLE 1984 thru 1987 INTERIMS.
LOADING:	HS20-44 AND ALTERNATE	HS20-44 AND ALTERNATE
REINFORCED CONCRETE: DECK SLAB	fc=1400 psi n=10	f'c=3500 psi
SUBSTRUCTURE	fc=1400 psi n=10 Vc=75 psi - FOOTINGS	
REINFORCING	fs=20,000 psi	fy=60,000 psi (REINFORCEMENT)
STRUCTURAL STEEL:	fs=20,000 psi (M183)	fy=36,000 psi (M183)

CURVE DATA - EB C-D 7

P.I. STA. = 86+68.26
Δ = 13°-07'-45" LT
D = 3°-10'-16"
R = 1806.76'
T = 207.92'
L = 414.01'
E = 11.92'
P.C.C. STA. = 84+60.35
P.C.C. STA. = 88+74.36

CURVE DATA - ℄ ROADWAY "H"

P.I. STA. = 83+18.82
Δ = 36°-57'-31"
D = 3°-09'-01"
R = 1818.76'
T = 607.82'
L = 1173.19'
E = 98.88'
S.E. = 8.00%
P.C. STA. = 77+11.00
P.T. STA. = 88+84.19

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. Feyburn
Engineer of Bridges and Structures

STATE OF ILLINOIS
CARLOS A. LIZANA-FARIAS
81-3956
CHICAGO
REGISTERED STRUCTURAL ENGINEER

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

DESIGNED	
CHECKED	K. SCHULT
DRAWN	R. BUTTERFIELD
CHECKED	

87S561 PRF: GPEHTRE

REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H OVER TRENDLEY AVE.
GENERAL PLAN AND ELEVATION
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 22

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	178
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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:*
(•) ERECTING : 3525 LBS. (M183)
2315 LBS. (M223, GRADE 50)

• 3,525 LBS. (M183) AND 2,315 LBS. (M223, GRADE 50) FABRICATED UNDER SEPARATE CONTRACT. *(SEE SPECIAL PROVISIONS FOR FIELD PAINTING REQUIREMENTS)*

FASTENERS SHALL BE 3/4"ø HIGH STRENGTH BOLTS. 13/16" ø OPEN HOLES UNLESS OTHERWISE NOTED.

THE ZINC - SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUC. STEEL EXCEPT WHERE 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 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.

✦ INDICATES HIGH STRENGTH BOLT, SHOP OR FIELD INSTALLED UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE MEASURED AT A TEMPERATURE OF 50°F.

ALL TRANSVERSE AND LONGITUDINAL DIMENSIONS ARE MEASURED HORIZONTALLY.

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.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

THE CONCRETE FOR BRIDGE FLOORS FINISHED IN ACCORDANCE WITH ARTICLE 503.15 OF THE STANDARD SPECIFICATIONS, SHALL BE PLACED AND COMPACTED PARALLEL TO THE SKEW IN UNIFORM INCREMENTS ALONG CENTER LINE OF BRIDGE. THE FINISHING MACHINE, WHEN REQUIRED, SHALL BE SET PARALLEL TO THE SKEW FOR STRIKING OFF AND SCREEDING THE CONCRETE.

TRAFFIC CONTROL ON RAMP "T" AND THE EASTBOUND C-D IS TO BE PART OF THE ROADWAY CONTRACT BUT IT SHALL NOT EXEMPT THE BRIDGE CONTRACTOR FROM PROVIDING ADDITIONAL TRAFFIC CONTROL AND PROTECTION THAT MAY BE REQUIRED FOR THE SAFETY OF THE PUBLIC.

INDEX OF DRAWINGS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER STRUCTURE	SUB STRUCTURE	TOTAL
ERECTING STRUCTURAL STEEL	LUMP SUM	1	—	1
CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	146.6	—	146.6
REINFORCEMENT BARS, EPOXY COATED	LBS.	37,460	—	37,460
CONCRETE REMOVAL	CU. YDS.	168.2	—	168.2
BITUMINOUS CONCRETE SURFACE REMOVAL (BRIDGE DECK)	SQ. YDS.	395	—	395
CONCRETE BRIDGE DECK SCARIFICATION (1/4 INCH)	SQ. YDS.	395	—	395
DECK SLAB REPAIR (PARTIAL DEPTH)	SQ. YDS.	46	—	46
DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	16	—	16
Bridge Deck Concrete Overlay Option	SQ. YDS.	395	—	395
SLOPE WALL REMOVAL	SQ. YDS.	30	—	30
SLOPE WALL 4 INCH	SQ.YDS.	30	—	30
NEOPRENE EXPANSION JOINT (2")	LIN. FT.	174	—	174
DRAINAGE SCUPPERS	EACH	4	—	4
* PROTECTIVE COAT	SQ. YDS.	35	—	35
NAME PLATE	EACH	1	—	1
JACK AND REPOSITION BEARINGS	EACH	26	—	26

**Quantity does not include deck surface.*

REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
GENERAL NOTES, ESTIMATED QUANTITIES, AND INDEX OF DRAWINGS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

DESIGNED
CHECKED D. RIEHL
DRAWN R. BUTTERFIELD
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

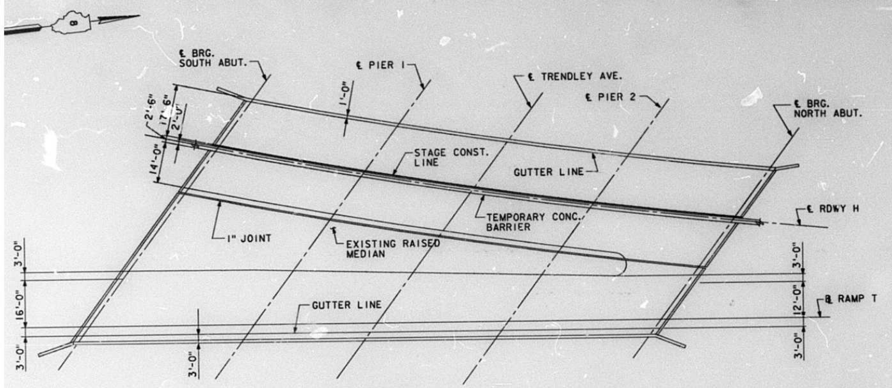
SHEET NO. 2 OF 22

10320 | FILE: 2F3E110,1)GENOTHTRE.DGN | LEVELS PLOTTED 35 56 63 | DATE: OCT. 14, 1987
87S562 | PRF: GENOTHTRE

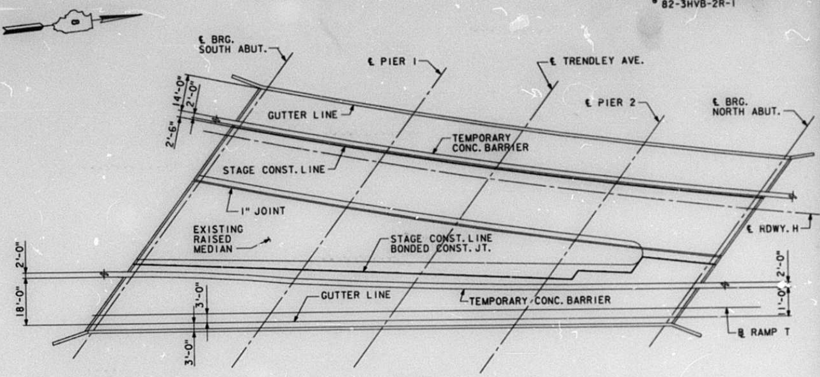
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	179
	ILLINOIS	PROJECT		

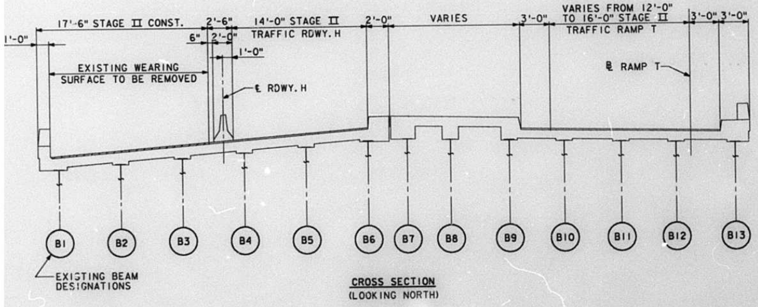
• 82-3HVB-2R-1



PLAN

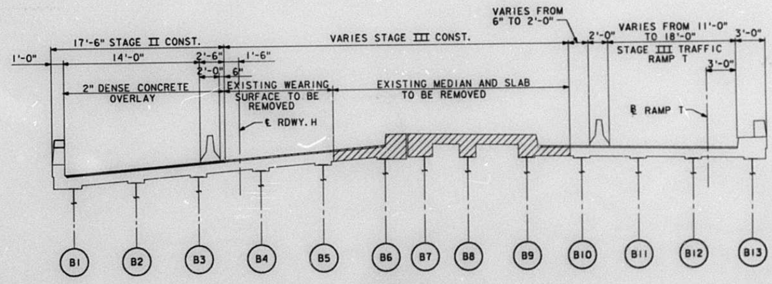


PLAN



CROSS SECTION
(LOOKING NORTH)

STAGE II



CROSS SECTION
(LOOKING NORTH)

STAGE III

NOTE

FOR LOCATION OF TEMPORARY CONCRETE BARRIERS BEYOND THE LIMITS OF THE STRUCTURE, SEE ROADWAY PLANS.
FOR PAY ITEM "TEMPORARY CONCRETE BARRIER," SEE ROADWAY PLANS.

REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
STAGE CONSTRUCTION
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

. CARLSON	SIGNED
R. BUTTERFIELD	ECKED
. SCHULT	AWN
. BUTTERFIELD	ECKED

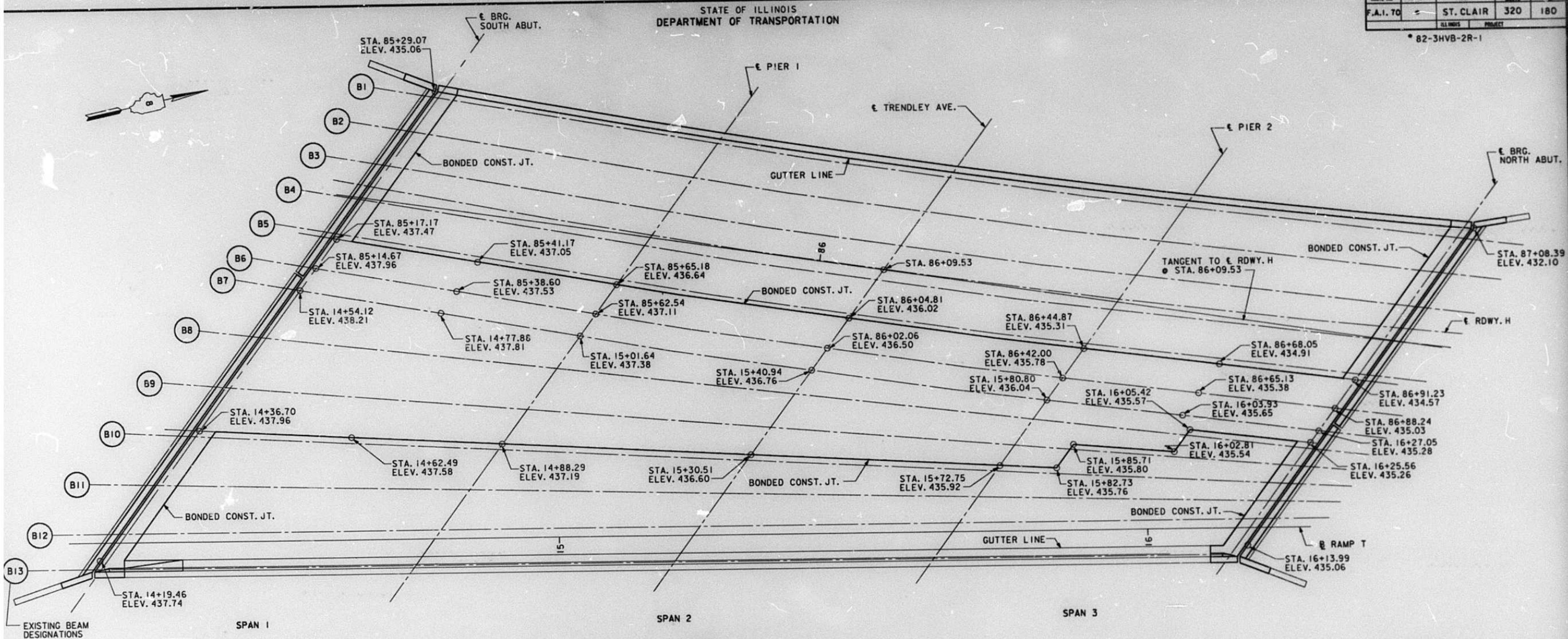
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SHEET NO. 3 OF 22

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	-	ST. CLAIR	320	180
	ILLINOIS	PROJECT		

• 82-3HVB-2R-1



PLAN

NOTE: ELAVATIONS SHOWN ARE THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS AT TOP OF NEW SLAB.
STA. 85+14.67 TO STA. 87+08.39 ARE MEASURED ALONG ℄ ROADWAY H. STA. 14+19.46 TO STA. 16+27.05 ARE MEASURED ALONG ℄ RAMP T.

NOTES

WORK THIS SHEET WITH SHEETS 7 & 8.

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
S. KAEMMERER	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
TOP OF SLAB ELEVATIONS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 4 OF 22

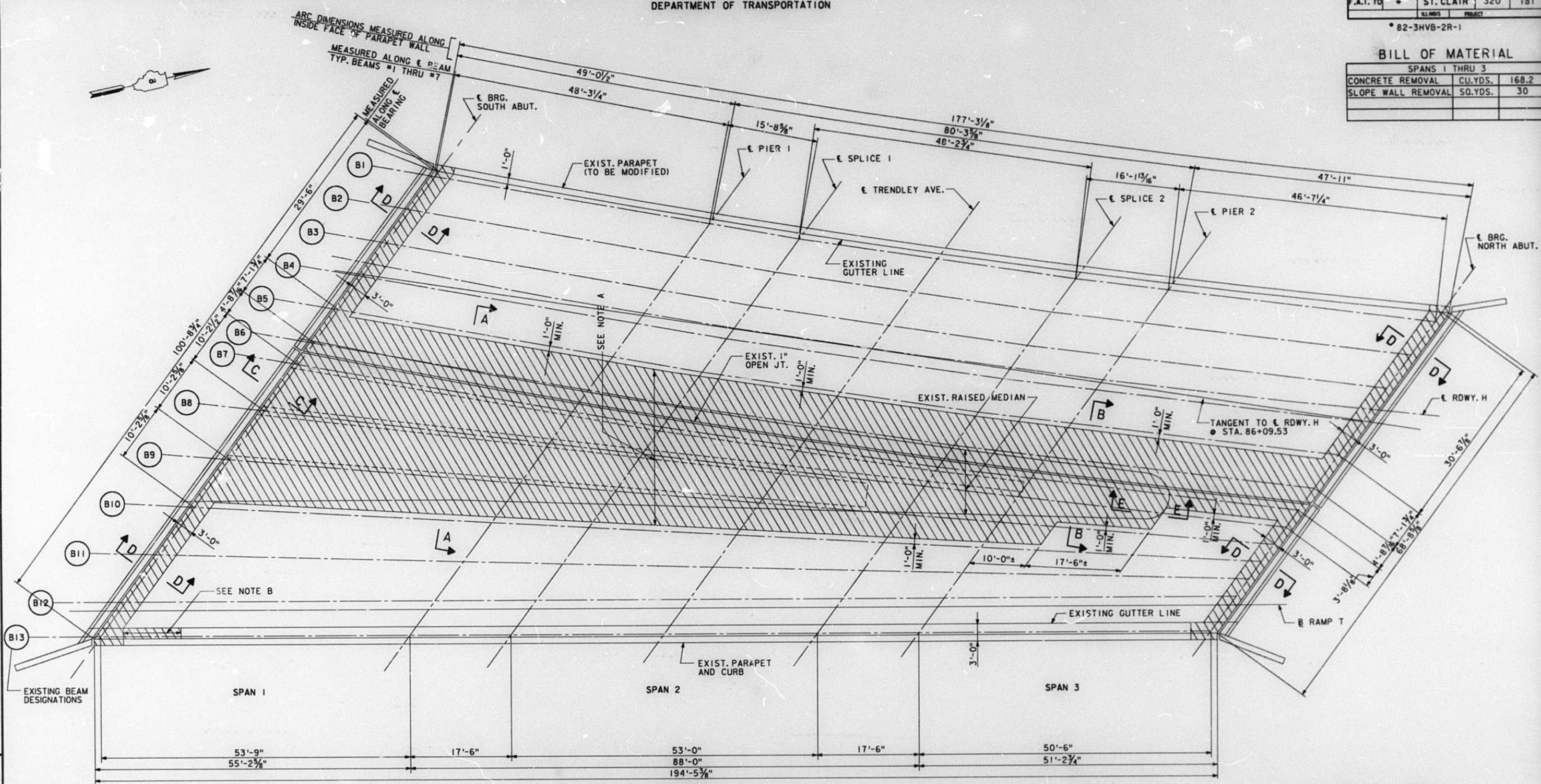
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	181

* 82-3HVB-2R-1

BILL OF MATERIAL

SPANS 1 THRU 3		
CONCRETE REMOVAL	CU.YDS.	168.2
SLOPE WALL REMOVAL	SQ.YDS.	30



PLAN

NOTE A: REMOVE EXISTING MEDIAN, SLAB, CURB AND PARAPET, TO TOP OF GIRDERS AND END DIAPHRAGMS.

NOTE B: REMOVE EXISTING CURB TO TOP OF EXISTING CONCRETE SLAB.

NOTES

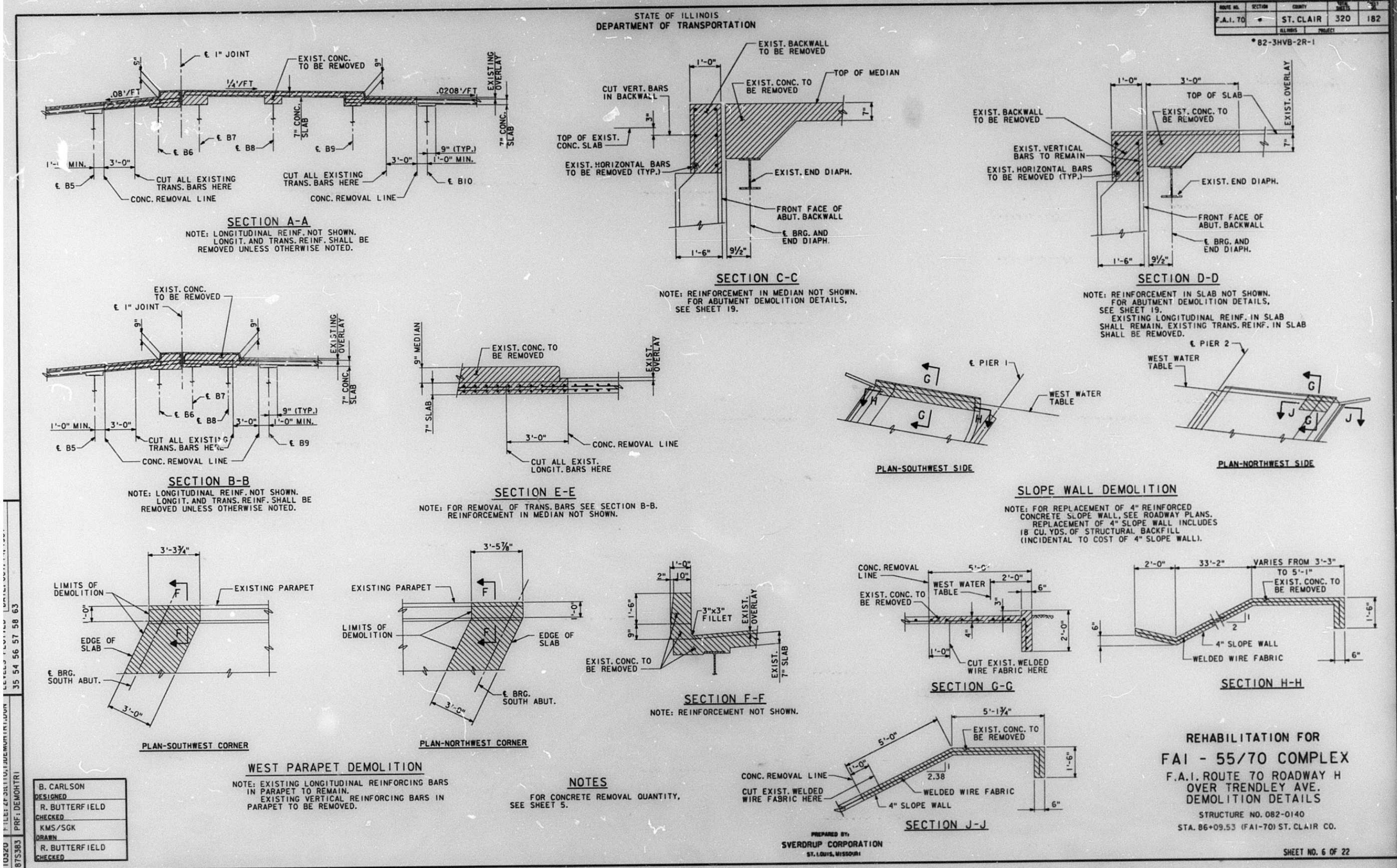
WORK THIS SHEET WITH SHEET 6 & 19.
FOR EXISTING PARAPET MODIFICATIONS, SEE SHEET 9, 10 & 11.

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
K. SCHULT	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
DECK DEMOLITION
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

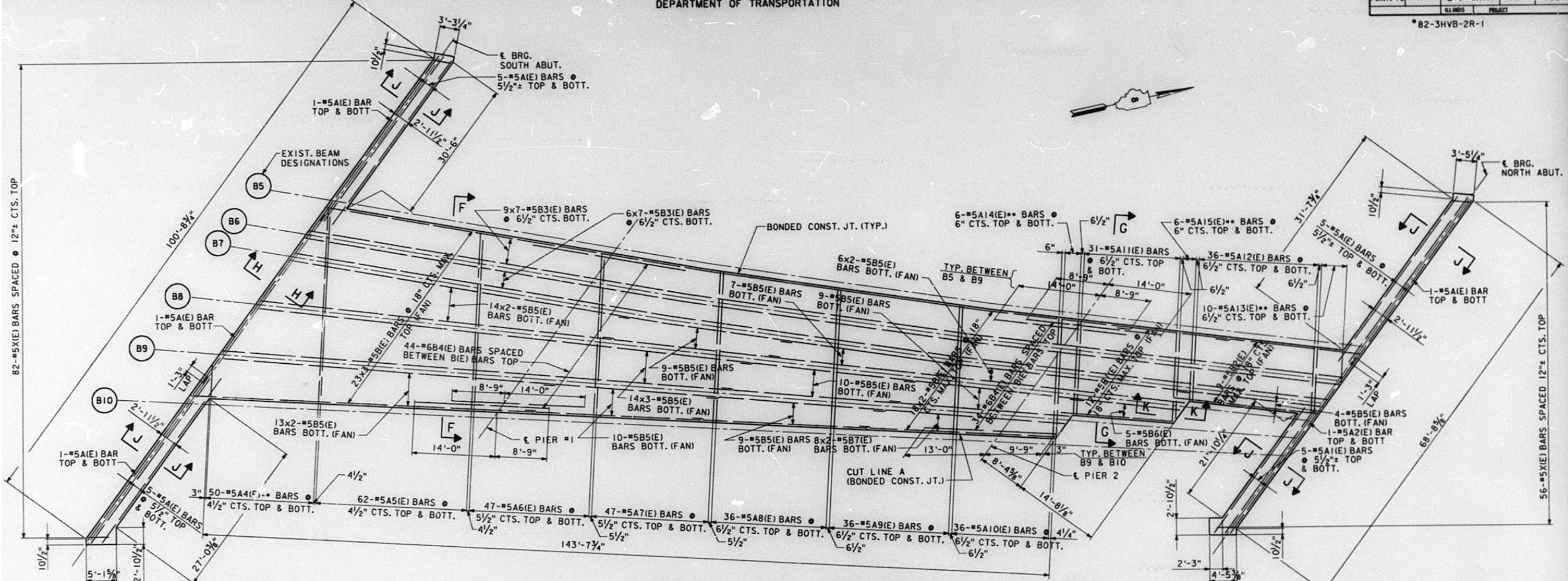
SHEET NO. 5 OF 22


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70
ST. CLAIR
320
182
*82-3HVB-2R-1
℄ 1" JOINT
EXIST. CONC. TO BE REMOVED
.08'/FT
1/4"/FT
.0208'/FT
EXISTING OVERLAY
7" CONC. SLAB
℄ B5
℄ B6
℄ B7
℄ B8
℄ B9
℄ B10
1'-0" MIN.
3'-0"
9" (TYP.)
CUT ALL EXISTING TRANS. BARS HERE
CONC. REMOVAL LINE
SECTION A-A
NOTE: LONGITUDINAL REINF. NOT SHOWN. LONGIT. AND TRANS. REINF. SHALL BE REMOVED UNLESS OTHERWISE NOTED.
EXIST. BACKWALL TO BE REMOVED
CUT VERT. BARS IN BACKWALL
EXIST. CONC. TO BE REMOVED
TOP OF MEDIAN
TOP OF EXIST. CONC. SLAB
EXIST. HORIZONTAL BARS TO BE REMOVED (TYP.)
EXIST. END DIAPH.
FRONT FACE OF ABUT. BACKWALL
℄ BRG. AND END DIAPH.
1'-6"
9 1/2"
SECTION C-C
NOTE: REINFORCEMENT IN MEDIAN NOT SHOWN. FOR ABUTMENT DEMOLITION DETAILS, SEE SHEET 19.
TOP OF SLAB
EXIST. VERTICAL BARS TO REMAIN
SECTION D-D
NOTE: REINFORCEMENT IN SLAB NOT SHOWN. FOR ABUTMENT DEMOLITION DETAILS, SEE SHEET 19. EXISTING LONGITUDINAL REINF. IN SLAB SHALL REMAIN. EXISTING TRANS. REINF. IN SLAB SHALL BE REMOVED.
SECTION B-B
NOTE: LONGITUDINAL REINF. NOT SHOWN. LONGIT. AND TRANS. REINF. SHALL BE REMOVED UNLESS OTHERWISE NOTED.
9" MEDIAN
7" SLAB
CUT ALL EXIST. LONGIT. BARS HERE
SECTION E-E
NOTE: FOR REMOVAL OF TRANS. BARS SEE SECTION B-B. REINFORCEMENT IN MEDIAN NOT SHOWN.
℄ PIER 1
WEST WATER TABLE
PLAN-SOUTHWEST SIDE
℄ PIER 2
PLAN-NORTHWEST SIDE
SLOPE WALL DEMOLITION
NOTE: FOR REPLACEMENT OF 4" REINFORCED CONCRETE SLOPE WALL, SEE ROADWAY PLANS. REPLACEMENT OF 4" SLOPE WALL INCLUDES 18 CU. YDS. OF STRUCTURAL BACKFILL (INCIDENTAL TO COST OF 4" SLOPE WALL).
3'-3 3/4"
LIMITS OF DEMOLITION
EXISTING PARAPET
EDGE OF SLAB
℄ BRG. SOUTH ABUT.
PLAN-SOUTHWEST CORNER
3'-5 7/8"
PLAN-NORTHWEST CORNER
WEST PARAPET DEMOLITION
NOTE: EXISTING LONGITUDINAL REINFORCING BARS IN PARAPET TO REMAIN. EXISTING VERTICAL REINFORCING BARS IN PARAPET TO BE REMOVED.
3"x3" FILLET
EXIST. OVERLAY
EXIST. 7" SLAB
SECTION F-F
NOTE: REINFORCEMENT NOT SHOWN.
NOTES
FOR CONCRETE REMOVAL QUANTITY, SEE SHEET 5.
CONC. REMOVAL LINE
CUT EXIST. WELDED WIRE FABRIC HERE
SECTION G-G
4" SLOPE WALL
WELDED WIRE FABRIC
VARIES FROM 3'-3" TO 5'-1"
33'-2"
SECTION H-H
5'-1 3/4"
SECTION J-J
B. CARLSON
DESIGNED
R. BUTTERFIELD
CHECKED
KMS/SGK
DRAWN
R. BUTTERFIELD
CHECKED
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
DEMOLITION DETAILS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.
SHEET NO. 6 OF 22

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

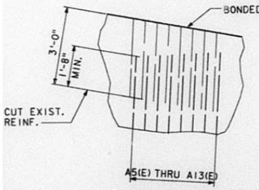
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	183
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

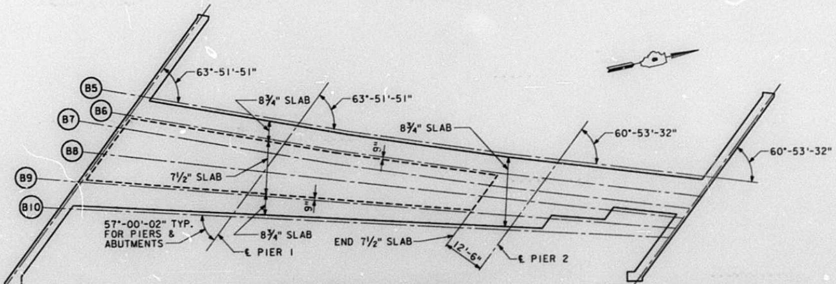


•• BARS TO BE CUT AS INDICATED IN FIELD CUTTING DIAGRAM.

PLAN



TRANSVERSE BAR PLACEMENT DETAIL



SLAB THICKNESS DIAGRAM

NOTES

WORK THIS SHEET WITH SHEET 8.

BARS BILLED AS: 22x5-#5 ETC. INDICATES 22 LINES OF BARS WITH 5 LENGTHS PER LINE.

TRANSVERSE BARS SHALL BE PLACED NORMAL TO AND ALONG CUT LINE A.

ALL LONGITUDINAL BARS SHALL BE SPLICED WITH A 1'-9" MINIMUM LAP, EXCEPT AS NOTED.

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
S. KAEMMERER	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

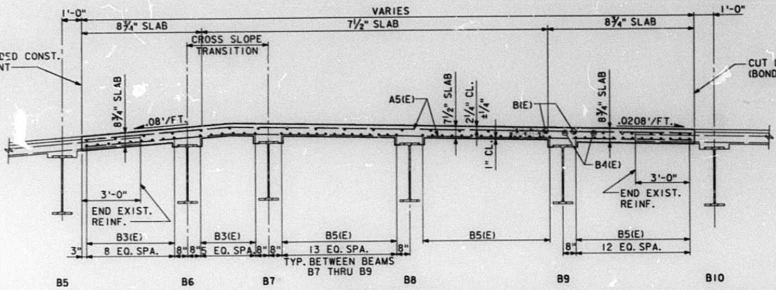
REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
SLAB MODIFICATION
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 7 OF 22

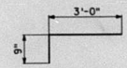
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	184
		ILLINOIS	PROJECT	

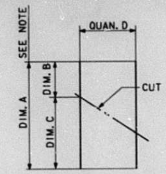
*82-3HVB-2R-1



SECTION F-F
(NORMAL TO CUT LINE A)



BAR X(E)



BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A4(E)	38'-6"	5'-0"	33'-6"	25
A13(E)	15'-0"	4'-0"	11'-0"	5
A14(E)	36'-0"	16'-0"	20'-0"	3
A15(E)	26'-0"	11'-0"	15'-0"	3

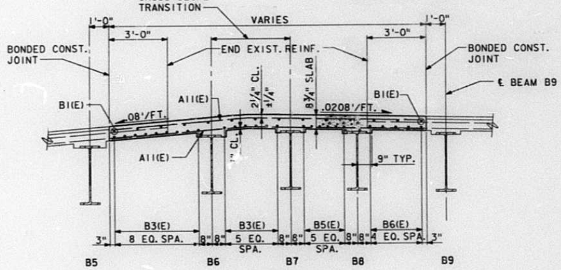
FIELD CUTTING DIAGRAM

NOTE: ORDER EACH BAR FULL LENGTH. CUT IN FIELD AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

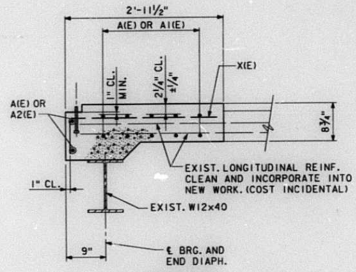
BILL OF MATERIAL

SPANS 1, 2 & 3				
BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	38	#5	34'-10"	——
A1(E)	10	#5	26'-1"	——
A2(E)	2	#5	36'-6"	——
A4(E)	50	#5	38'-6"	——
A5(E)	124	#5	30'-8"	——
A6(E)	94	#5	28'-2"	——
A7(E)	94	#5	25'-7"	——
A8(E)	72	#5	23'-9"	——
A9(E)	72	#5	22'-0"	——
A10(E)	72	#5	20'-3"	——
A11(E)	62	#5	15'-2"	——
A12(E)	72	#5	11'-2"	——
A13(E)	10	#5	15'-0"	——
A14(E)	6	#5	36'-0"	——
A15(E)	6	#5	26'-0"	——
B(E)	105	#5	30'-9"	——
B1(E)	12	#5	19'-0"	——
B2(E)	9	#5	23'-6"	——
B3(E)	105	#5	26'-9"	——
B4(E)	78	#6	22'-9"	——
B5(E)	168	#5	27'-2"	——
B6(E)	5	#5	34'-1"	——
B7(E)	16	#5	23'-5"	——
X(E)	138	#5	3'-9"	┌──
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	129.6
REINFORCEMENT BARS (EPOXY COATED)			LBS.	35,530

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

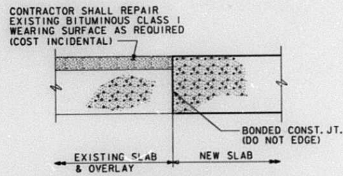


SECTION G-G
(NORMAL TO ℄ BEAM B9)

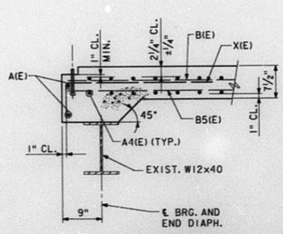


SECTION J-J

NOTE: PLACE A(E) OR A2(E) BARS IN BACK OF ANCHOR BOLT IF REQUIRED TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A(E) OR A2(E) BARS.

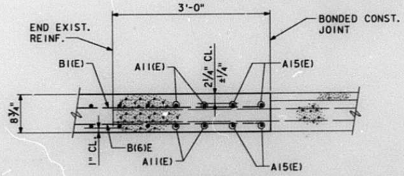


DETAIL AT BONDED JOINT



SECTION H-H

NOTE: PLACE A(E) BARS IN BACK OF ANCHOR BOLT IF REQUIRED TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A(E) BARS.



SECTION K-K

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
S. KAEMMERER	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
SLAB MODIFICATION DETAILS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

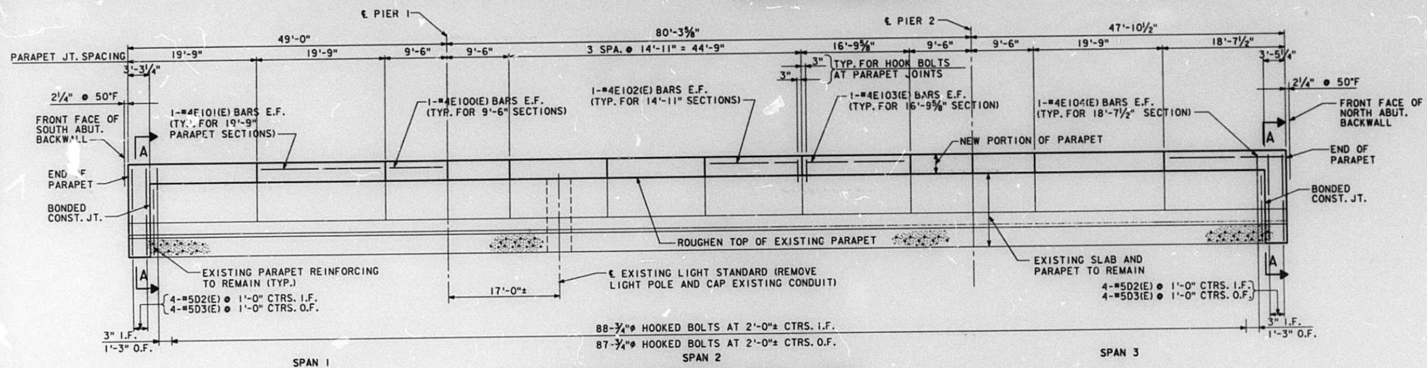
SHEET NO. 8 OF 22

LEVELS PLOTTED 35 56 57 58 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	185

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



INSIDE ELEVATION OF WEST PARAPET

NOTES: I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE.
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG INSIDE FACE OF PARAPET.
PARAPET REINFORCING TO BE CUT OR BENT FOR INSTALLATION OF EXPANSION JOINT AT ABUTMENTS.

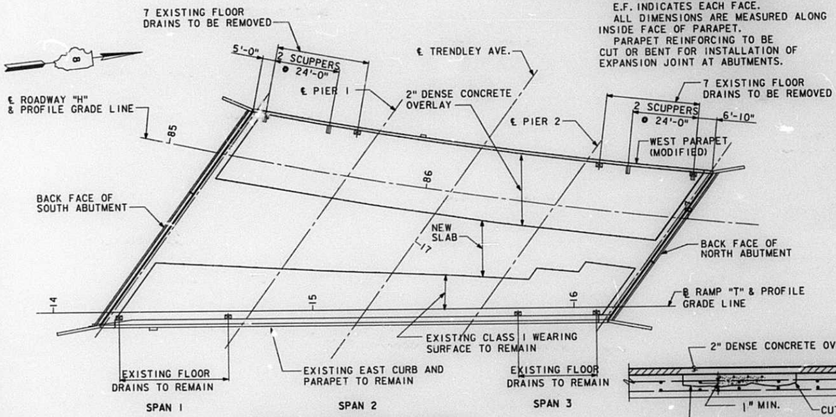
BILL OF MATERIAL

SPANS 1, 2 & 3

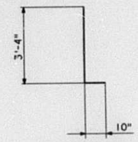
BAR	NO.	SIZE	LENGTH	SHAPE
D2(E)	8	#5	4'-2"	
D3(E)	8	#5	5'-6"	
E100(E)	8	#4	9'-2"	
E101(E)	6	#4	19'-6"	
E102(E)	6	#4	14'-7"	
E103(E)	2	#4	16'-6"	
E104(E)	2	#4	18'-4"	
BX(E)	16	#5	2'-0"	

CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	4.3
REINFORCEMENT BARS (EPOXY COATED)	LBS.	350
BRIDGE DECK CONCRETE OVERLAY	SQ. YDS.	395
**DECK SLAB REPAIR (FULL DEPTH)	SQ. YDS.	16
**DECK SLAB REPAIR (PARTIAL)	SQ. YDS.	46
EXP. BOLTS ¾"φ×1'-9"	EACH	175

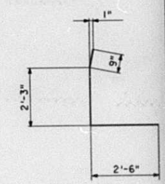
REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.
**ACTUAL EXTENT OF PATCHING TO BE DETERMINED AFTER REMOVAL OF EXISTING WEARING SURFACE.



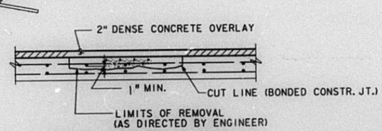
PLAN - SLAB AND PARAPET



BAR D2(E)

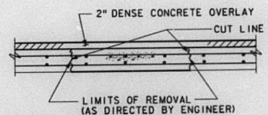


BAR D3(E)



PARTIAL DEPTH PATCHING

NOTES: AS DIRECTED BY ENGINEER REMOVE EXISTING CONCRETE TO A DEPTH OF ¾" BELOW THE TOP REINFORCING BARS, LEAVING EXISTING REINFORCING BARS IN PLACE.
CLEAN EXISTING REINFORCING BARS AND INCORPORATE INTO NEW WORK.
CLEAN PATCH AREA OF ANY LOOSE MATERIAL.
REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE TO THE LEVEL OF ADJOINING CONCRETE.
NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
SEE SPECIAL PROVISIONS.



FULL DEPTH PATCHING

NOTES: AS DIRECTED BY ENGINEER, REMOVE EXISTING CONCRETE THE FULL DEPTH OF THE DECK WITHOUT DAMAGING EXISTING REINFORCING BARS.
REMOVE STAY-IN-PLACE PANELS THAT ARE PRESENT WITHIN LIMITS OF FULL DEPTH PATCH.
CLEAN EXISTING REINFORCING BARS AND INCORPORATE INTO NEW WORK.
REPLACE REMOVED MATERIAL WITH CLASS X CONCRETE.
NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
SEE SPECIAL PROVISIONS.

SLAB REPAIR DETAILS

NOTES

FOR DRAINAGE SCUPPER DETAILS, SEE SHEET 15.
FOR DETAILS OF REMOVAL OF EXISTING FLOOR DRAINS SEE SHEET 15.
FOR TYPICAL SECTION THROUGH WEST PARAPET AND SECTION A-A, SEE SHEET 10.
FOR PARAPET DEMOLITION, SEE SHEET 6.

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
S. KAEMMERER	DRAWN
R. BUTTERFIELD	CHECKED

87S442 PRF: WPHTR

35 56 57 58 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

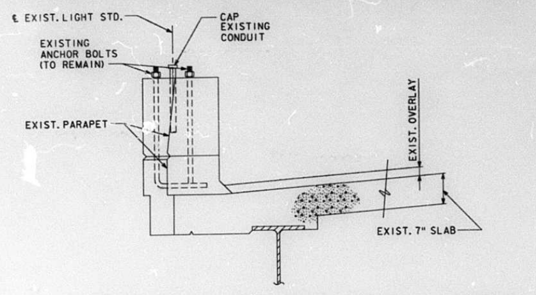
REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
WEST PARAPET MODIFICATIONS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 9 OF 22

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

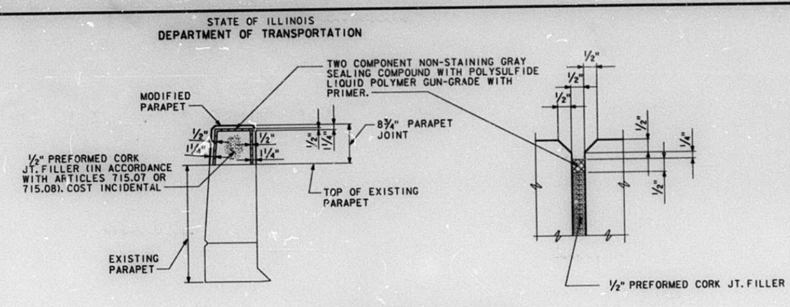
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	186
		ILLINOIS	PROJECT	

*82-3HVB-2R-1



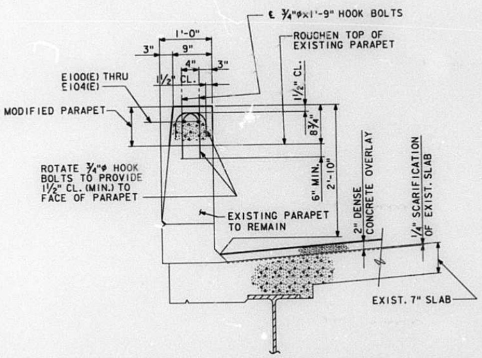
SECTION THRU EXISTING PARAPET AT LIGHT STANDARD

NOTE: REMOVE EXISTING LIGHT POLE AND CAP EXISTING CONDUIT ON EAST AND WEST PARAPETS.



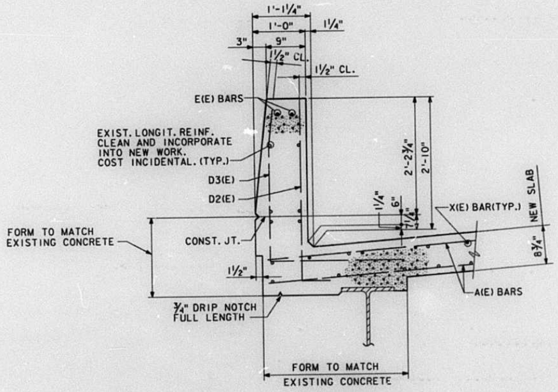
PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER. UNLESS OTHERWISE NOTED.



TYPICAL SECTION THRU WEST PARAPET

NOTE: REMOVE EXISTING HANDRAIL AND POSTS. EXISTING POST ANCHORS TO REMAIN. NEW HOOK BOLT INSERTS TO BE SHIFTED TO MISS EXISTING POST ANCHORS.
EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS AND ¾"φx1'-9" HOOKED BOLTS.



SECTION A-A

35 56 57 58 63

87S443 PRF: WPHTR2

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
S. KAEMMERER	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

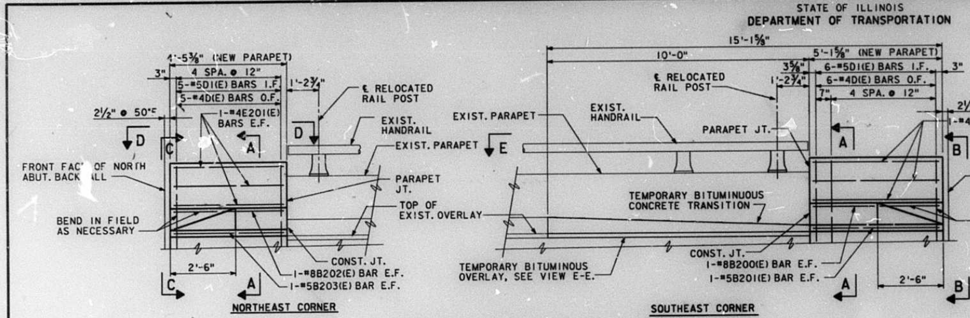
REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
WEST PARAPET MODIFICATIONS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 10 OF 22

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

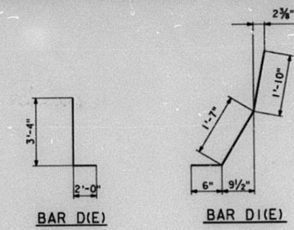
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	187
		ILLINOIS	PROJECT	

*82-3HVB-2R-1



INSIDE ELEVATION OF EAST PARAPET

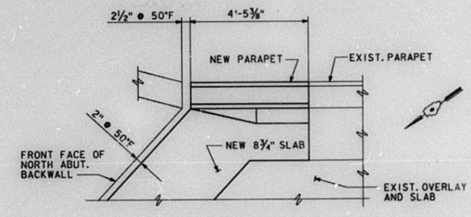
NOTE: I.F. INDICATES INSIDE FACE
O.F. INDICATES OUTSIDE FACE
E.F. INDICATES EACH FACE
PARAPET REINFORCING TO BE BENT FOR INSTALLATION OF EXPANSION JT. AT ABUTMENTS



BILL OF MATERIAL

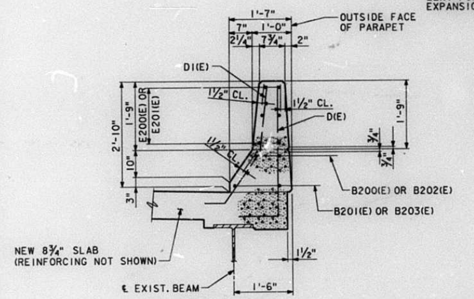
SPANS 1 & 3				
BAR	NO.	SIZE	LENGTH	SHAPE
B200(E)	2	#8	4'-10"	
B201(E)	2	#5	4'-10"	
B202(E)	2	#8	4'-2"	
B203(E)	2	#5	4'-2"	
D(E)	10	#4	5'-4"	
D1(E)	10	#5	3'-11"	
E200(E)	6	#4	4'-10"	
E201(E)	6	#4	4'-2"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	1.0
REINFORCEMENT BARS (EPOXY COATED)			LBS.	180

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

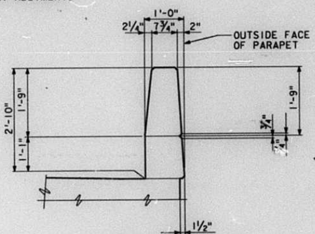


VIEW D-D

NOTE: EXIST. HANDRAIL AND POSTS NOT SHOWN.

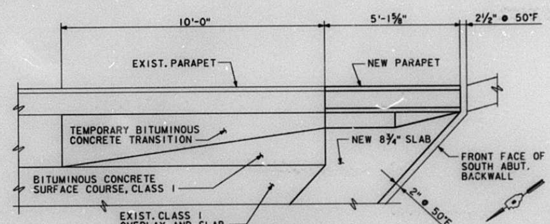


SECTION A-A



VIEW B-B

NOTE: VIEW C-C SIMILAR, BUT OPPOSITE HAND.



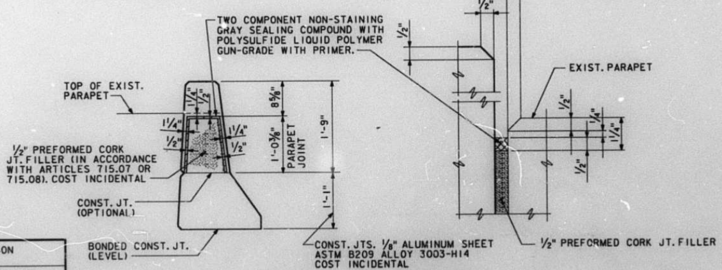
VIEW E-E

NOTE: EXIST. HANDRAIL AND POSTS NOT SHOWN.

NOTES

FOR CURB AND PARAPET DEMOLITION, SEE SHEET 19.

BITUMINOUS CONCRETE AND PATCHING FOR PARAPET TRANSITION & OVERLAY SHALL BE CONSIDERED INCIDENTAL TO THE COST OF REPLACEMENT OF PARAPETS.



PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED.

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
S. KAEMMERER	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLEX

F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
EAST PARAPET MODIFICATIONS

STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 11 OF 22

87S500 PRF: EPHTR
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	188

ILLINOIS PROJECT

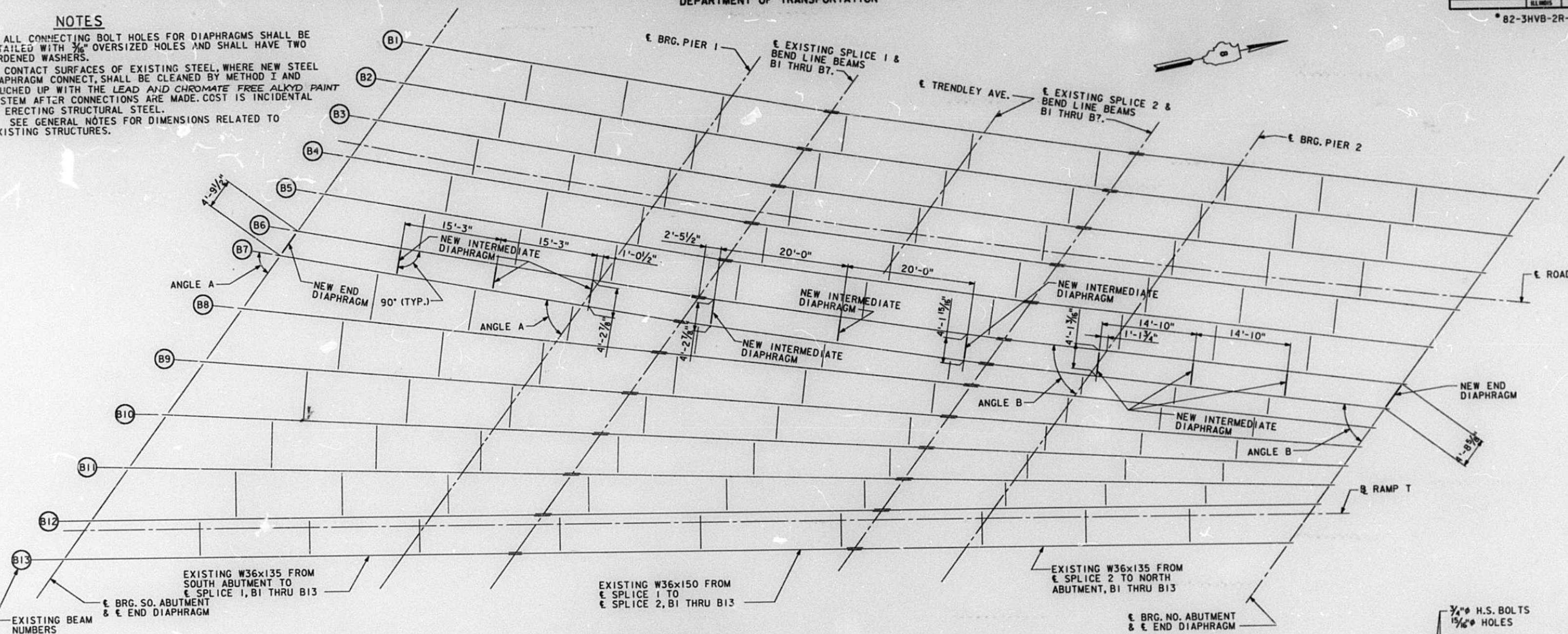
* 82-3HVB-2R-1

NOTES

ALL CONNECTING BOLT HOLES FOR DIAPHRAGMS SHALL BE DETAILED WITH 3/16" OVERSIZED HOLES AND SHALL HAVE TWO HARDENED WASHERS.

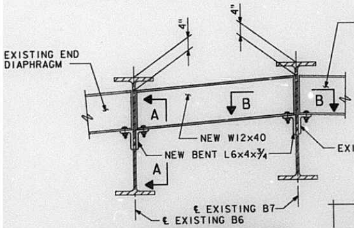
CONTACT SURFACES OF EXISTING STEEL, WHERE NEW STEEL DIAPHRAGM CONNECT, SHALL BE CLEANED BY METHOD I AND TOUCHED UP WITH THE *LEAD AND CHROMATE FREE ALKYD PAINT* SYSTEM AFTER CONNECTIONS ARE MADE. COST IS INCIDENTAL TO ERECTING STRUCTURAL STEEL.

SEE GENERAL NOTES FOR DIMENSIONS RELATED TO EXISTING STRUCTURES.

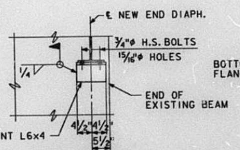


FRAMING PLAN

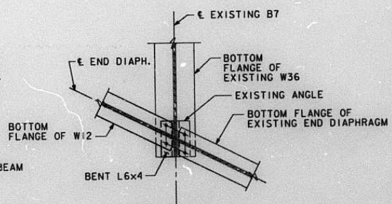
BEAM	ANGLE A	ANGLE B
6 & 7	63°-51'-51"	60°-53'-32"



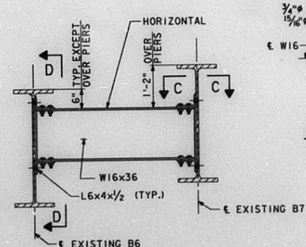
END DIAPHRAGMS
(2 REQUIRED)



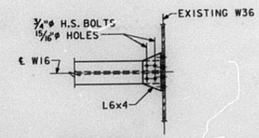
SECTION A-A



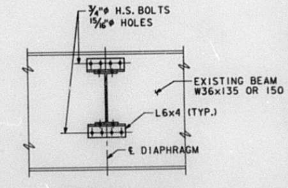
SECTION B-B



INTERMEDIATE DIAPHRAGMS
(9 REQUIRED)



SECTION C-C



SECTION D-D
ALL HOLES IN WEB OF EXISTING BEAM TO BE FIELD DRILLED.

B.E. CARLSON	DESIGNED
P.W. CLARK	CHECKED
S. KAEMMERER	DRAWN
R.V. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

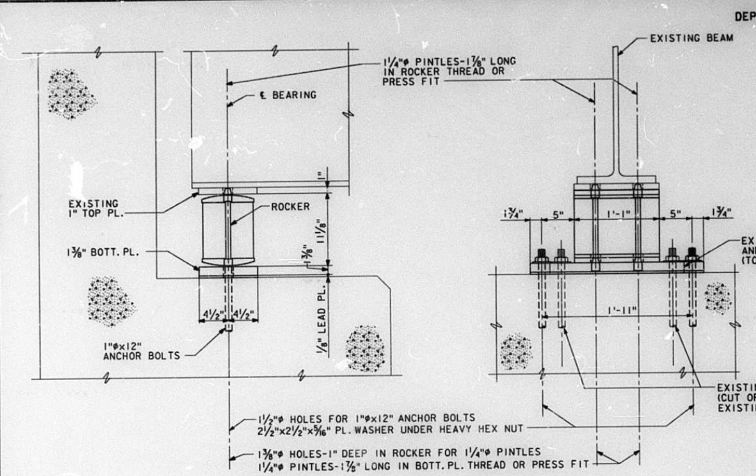
REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H OVER TRENDLEY AVE. FRAMING PLAN

STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

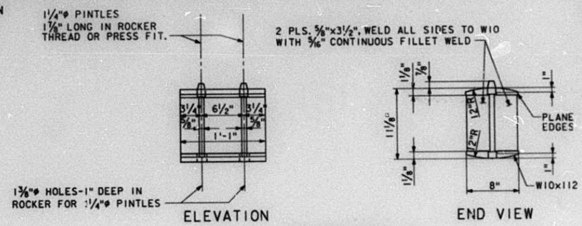
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	189
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

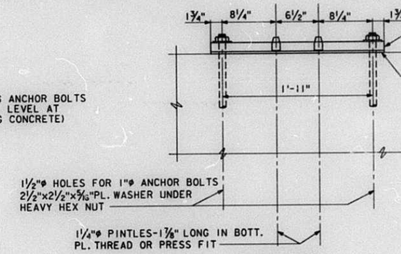


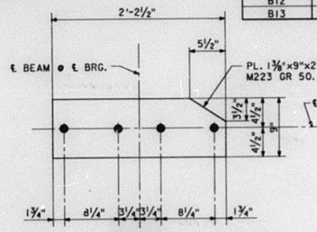
ABUTMENT EXPANSION BEARING MODIFICATION M1

NOTE: REPLACE ROCKER AND PINTLES, BOTTOM PLATE AND PINTLES, LEAD PLATE AND ANCHOR BOLTS.



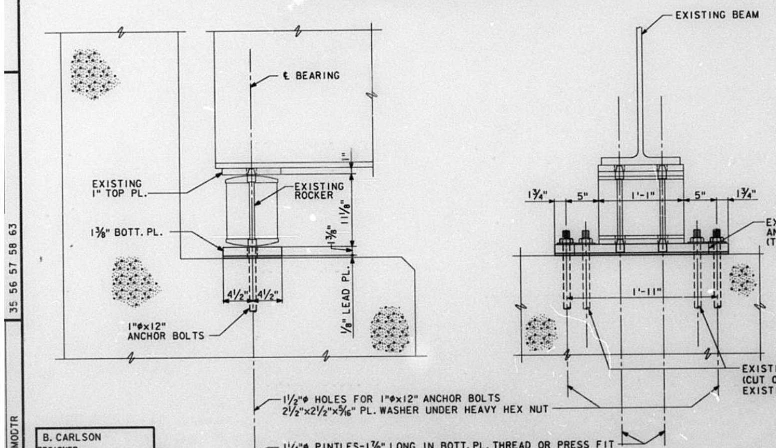
ROCKER DETAILS
(6 REQUIRED)





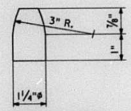
BOTTOM PLATE DETAILS
(26 REQUIRED)

ABUTMENT EXPANSION BEARING MODIFICATION		
BEAM	SOUTH ABUT.	NORTH ABUT.
B1	M1	M1
B2	M1	M1
B3	M1	M2
B4	M2	M2
B5	M2	M2
B6	M2	M2
B7	M2	M2
B8	M2	M2
B9	M2	M2
B10	M2	M2
B11	M2	M2
B12	M2	M2
B13	M1	M2

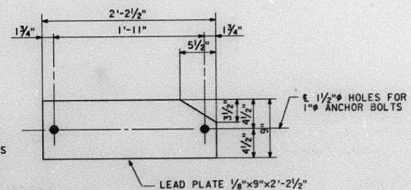


ABUTMENT EXPANSION BEARING MODIFICATION M2

NOTE: REPLACE BOTTOM PLATE AND PINTLES, LEAD PLATE, AND ANCHOR BOLTS.



PINTLE DETAIL
(64 REQUIRED)



PLAN

LEAD PLATE DETAILS
(26 REQUIRED)

NOTES

THE EXISTING BEARING ELEMENTS WHICH WILL NOT BE REPLACED SHALL BE CLEANED AND PAINTED WITH THE LEAD AND CHROMATE FREE ALKYD PAINT SYSTEM PRIOR TO PLACEMENT OF THE NEW BEARING ELEMENTS.

ABUTMENT EXPANSION BEARING MODIFICATIONS M1 AND M2 SHALL INCLUDE ABUTMENT EXPANSION BEARING REPOSITIONING.

1⅛"φ HOLES FOR NEW ANCHOR BOLTS TO BE DRILLED PRIOR TO REMOVAL OF THE EXISTING BEARING ELEMENTS. NEW ANCHOR BOLTS TO BE GROUTED IN HOLES FOLLOWING PLACEMENT OF THE NEW BEARING ELEMENTS.

EXISTING ANCHOR BOLTS TO BE CUT OFF LEVEL AT EXISTING CONCRETE PRIOR TO PLACEMENT OF THE NEW BEARING ELEMENTS.

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE ENGINEER, PLANS FOR JACKING PRIOR TO COMMENCING ANY WORK AT THE BEARINGS.

THE MAXIMUM DEAD LOAD REACTION PER BEARING AT THE ABUTMENTS IS 25 TONS.

THE ALLOWABLE BEARING STRESS ON THE CONCRETE ABUTMENT IS 1050 PSI.

JACKING SHALL BE LIMITED TO A MAXIMUM VERTICAL BEAM TRAVEL OF 1".

ALL ROCKERS INCLUDED IN BEARING MODIFICATION M2 SHALL BE REMOVED, CLEANED BY METHOD II AS SPECIFIED IN SECTION 509 OF THE STANDARD SPECIFICATIONS, PAINTED AND RESET IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND DETAILS SHOWN ON SHEET 14.

ALL WORK AT THE BEARINGS SHALL BE INCLUDED IN "JACK AND REPOSITION BEARINGS." SEE SPECIAL PROVISIONS.

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 SPECIAL PROVISIONS.

REHABILITATION FOR

FAI - 55/70 COMPLEX

F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
ABUTMENT EXPANSION BEARING MODIFICATIONS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

B. CARLSON	DESIGNED
P. CLARK	CHECKED
K. SCHULT	DRAWN
R. BUTTERFIELD	CHECKED

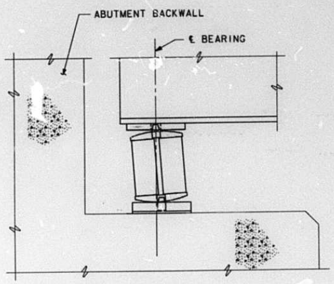
87S600 PRF: BRGMODTR

35 56 57 58 63

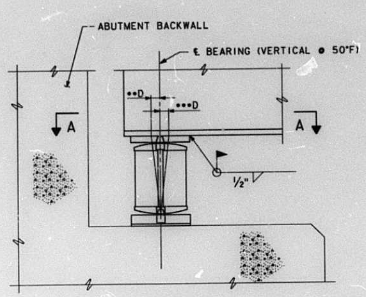
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	190
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1



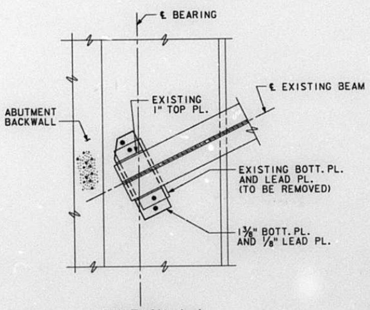
EXISTING POSITION
(@ 50°F)



ADJUSTED POSITION
(@ 50°F)

ABUTMENT EXPANSION BEARING REPOSITIONING

NOTE: ••D=1/8" PER 100' OF EXPANSION FOR EVERY 15°F ABOVE 50°F
•••D=1/8" PER 100' OF EXPANSION FOR EVERY 15°F BELOW 50°F



SECTION A-A

NOTES

ALL BEARINGS SHALL BE RESET AND JACKS REMOVED BEFORE START OF CONCRETE REMOVAL FOR THE SLAB MODIFICATIONS.

BEARINGS SHALL BE RESET AND JACKS REMOVED AT ONE ABUTMENT BEFORE JACKING BEGINS AT OTHER ABUTMENT.

THE WELDS ON THE EXISTING TOP PLATE SHALL BE REMOVED BY ARC GOUGING AND /OR GRINDING. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE BOTTOM FLANGE OF THE BEAM AND THE TOP PLATE. ANY UNAVOIDABLE GOUGES IN THE FLANGE SHALL BE GROUND SMOOTH.

AFTER THE REMOVAL OF EXISTING WELDS ON THE TOP PLATE, THE WELD AREA SHALL BE CLEANED BY METHOD I IN ACCORDANCE WITH SECTION 509 OF THE STANDARD SPECIFICATIONS.

ADJUST THE ROCKER AND TOP PLATE AS SHOWN.

LOWER JACKS TO ALLOW CONTACT BETWEEN THE BOTTOM FLANGE AND THE TOP PLATE.

FIELD WELD THE TOP PLATE AS DETAILED.

LOWER JACKS TO FULLY LOAD THE BEARING.

"JACK AND REPOSITIONING BEARINGS" IS REQUIRED ONLY IF "D" IS GREATER OR EQUAL TO 3/4" AT 50°F.

THE TOP PLATE MAY NOT BE REPOSITIONED CLOSER THAN 1/2" TO THE END OF THE BEAM, AS DIRECTED BY THE ENGINEER.

B.E. CARLSON	DESIGNED
P.W. CLARK	CHECKED
K. SCHULT	DRAWN
P.W. CLARK	CHECKED

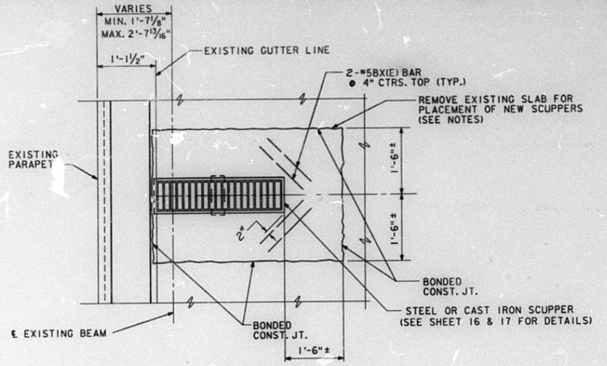
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
ABUTMENT EXPANSION BEARING
MODIFICATIONS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	191
	ILLINOIS	PROJECT		

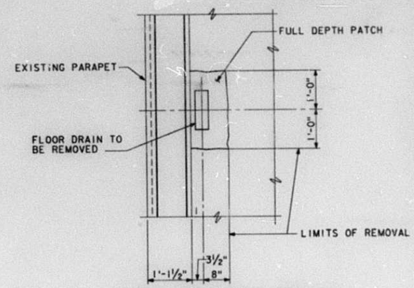
*82-3HVB-2R-1



PLAN

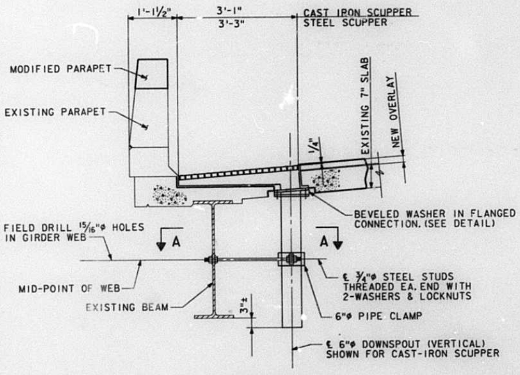
NOTES

REMOVE THE EXISTING SLAB TO THE LIMITS SHOWN WITHOUT DAMAGE TO EXISTING REINFORCEMENT BARS.
EXISTING TRANSVERSE REINFORCEMENT BARS SHALL BE BENT TO MISS SCUPPER. LONGITUDINAL REINFORCEMENT BARS MAY BE CUT TO ACCOMODATE SCUPPER AS REQUIRED.
CLEAN EXISTING REINFORCEMENT BARS AND ADD NEW BX(E) BARS.
REPLACE REMOVED CONCRETE WITH CLASS X CONCRETE TO THE LEVEL OF EXISTING CONCRETE.
NEW CONCRETE IS TO ATTAIN FULL 28-DAY STRENGTH PRIOR TO PLACING OVERLAY.
BILL OF MATERIAL FOR BX(E) BARS IS ON THE PARAPET JOINT SHEET (SEE SHEET 9 OF 22).



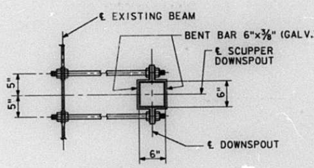
PLAN-FLOOR DRAIN REMOVAL

NOTE: FOR DETAILS OF FULL DEPTH PATCHING OF SLAB, SEE SHEET 9.



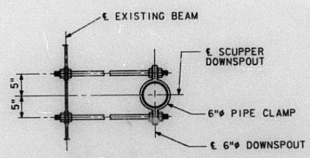
SECTION

NOTE: SQUARE PIPE CLAMP REQUIRED IF STEEL SCUPPER IS USED.



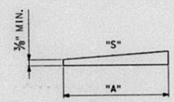
SECTION A-A

NOTE: PIPE CLAMP SHOWN FOR STEEL SCUPPER



SECTION A-A

NOTE: PIPE CLAMP SHOWN FOR CAST-IRON SCUPPER



BEVELED WASHER DETAIL

1. "S" EQUALS THE SLOPE OF THE SUPERELEVATION AT THE INDIVIDUAL SCUPPER LOCATIONS.
2. THE BEVEL SHALL BE SUFFICIENT TO ALLOW VERTICAL INSTALLATION OF DOWN-SPOUT.
3. DIMENSION "A" SHALL BE AS REQUIRED FOR THE PARTICULAR SCUPPER TYPE.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
DRAINAGE SCUPPERS	EACH	4

NOTE: FOR SPACING OF DRAINAGE SCUPPERS, SEE SHEETS 9.

DRAINAGE SCUPPER

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
K. SCHULT	DRAWN
R. BUTTERFIELD	CHECKED

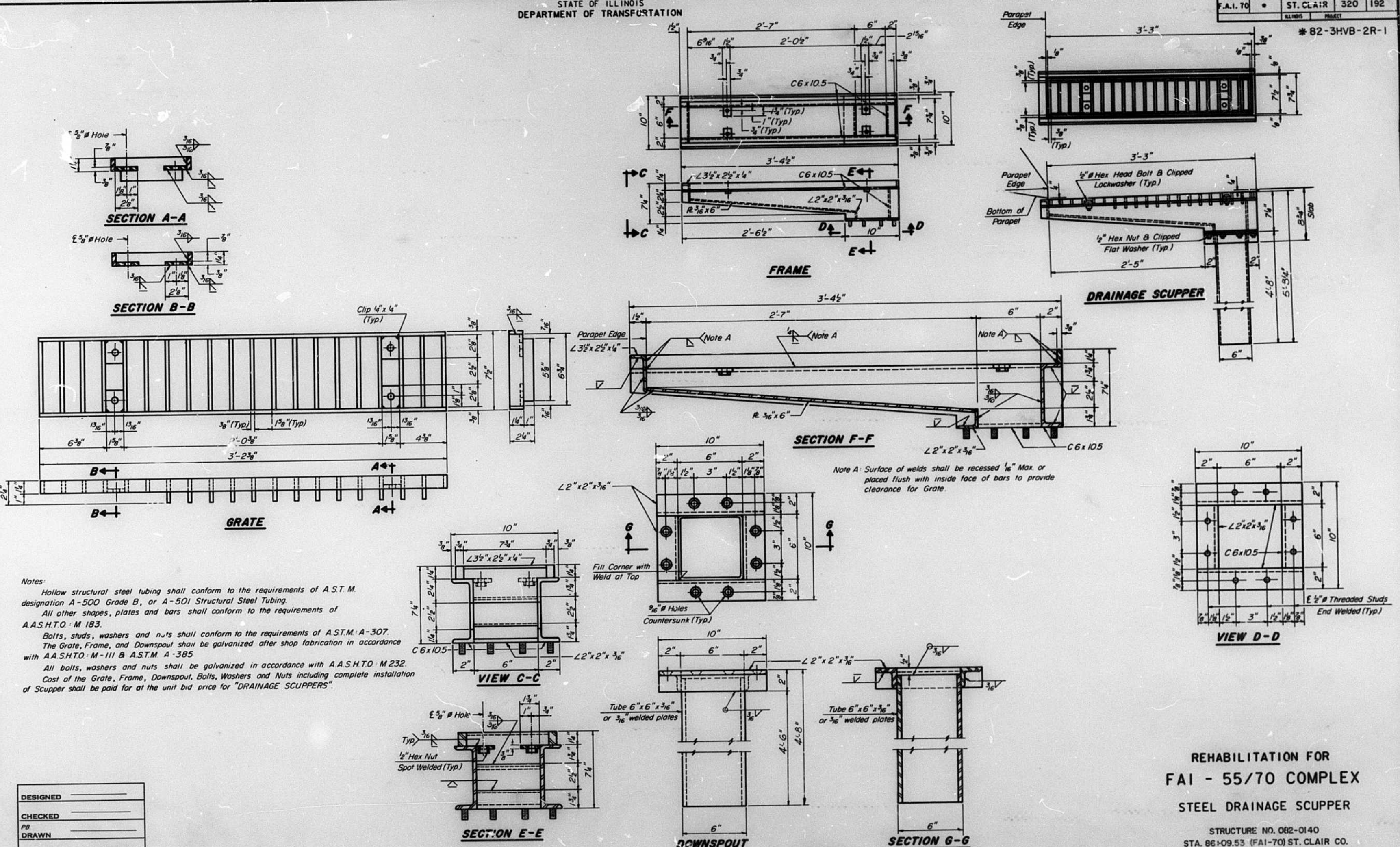
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
DECK REHABILITATION
SCUPPER DETAILS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	192
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Notes:

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B, or A-501 Structural Steel Tubing.

All other shapes, plates and bars shall conform to the requirements of A.A.S.H.T.O.: M 183.

Bolts, studs, washers and nuts shall conform to the requirements of A.S.T.M.: A-307.

The Grate, Frame, and Downspout shall be galvanized after shop fabrication in accordance with A.A.S.H.T.O.: M-111 & A.S.T.M. A-385

All bolts, washers and nuts shall be galvanized in accordance with A.A.S.H.T.O.: M 232.

Cost of the Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper shall be paid for at the unit bid price for "DRAINAGE SCUPPERS".

DESIGNED	
CHECKED	
DRAWN	PB
CHECKED	R. Butterfield

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
STEEL DRAINAGE SCUPPER

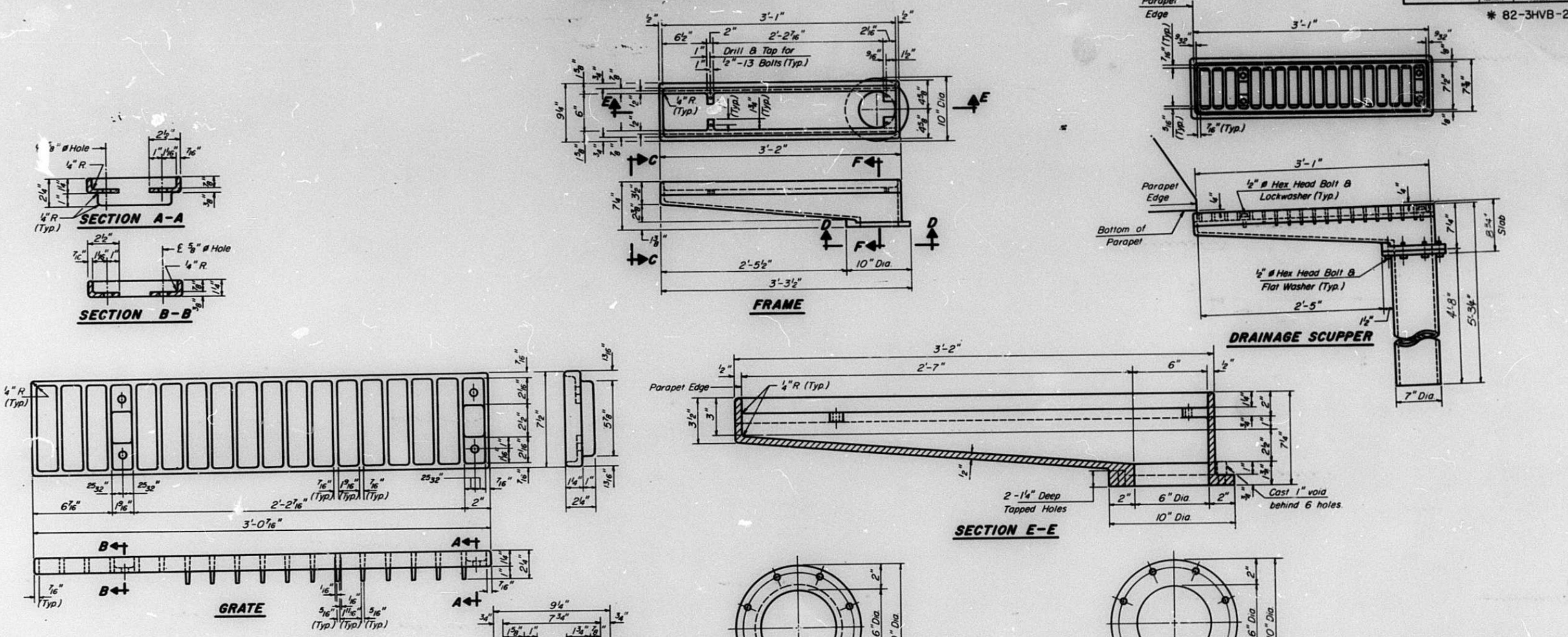
STRUCTURE NO. 082-0140
STA. 861+09.53 (FAI-70) ST. CLAIR CO.

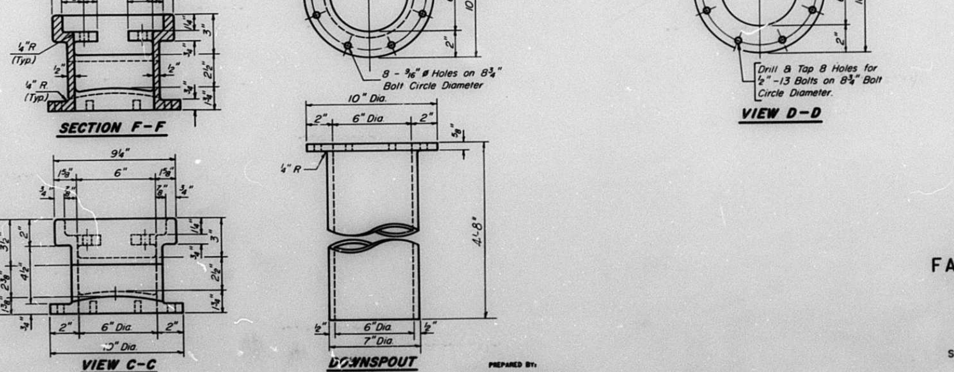
SHEET NO. 16 OF 22

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	193
		ILLINOIS	PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

* 82-3HVB-2R-1





Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M-105, Class 30.

Bolts and washers shall conform to the requirements of A.S.T.M.: A-307.

All bolts and washers shall be galvanized in accordance with A.A.S.H.T.O.: M-232.

As an alternate bolts and washers may be stainless steel conforming to the requirements of A.S.T.M.: A-193. Type 304.

Cost of the Grate, Frame, Downspout, bolts and washers including complete installation of Scupper shall be paid for at the unit bid price for "DRAINAGE SCUPPERS".

The Contractor may use at his option steel drainage scuppers or cast iron drainage scuppers.

DESIGNED	
CHECKED	
DRAWN	PB
CHECKED	R. Butterfield

DS-4 12-1-83 (W.T. to inside of exterior stringer flange shall not be > 3'-11")

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ALTERNATE-CAST IRON
DRAINAGE SCUPPER

STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	194
		ILLINOIS	PROJECT	

✱ 82-3HVB-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
2"	2"	1½" Min.	North & South Abuts.

INSTALLATION NOTES

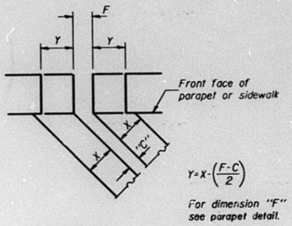
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

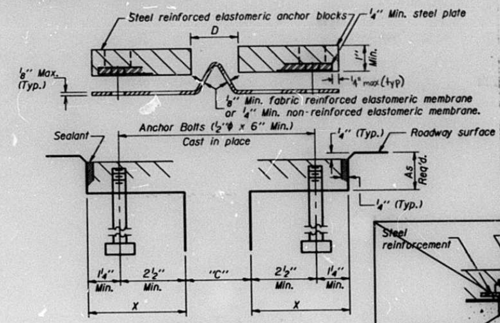
SKEW LIMITATIONS

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

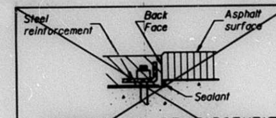
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also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



FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK 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.

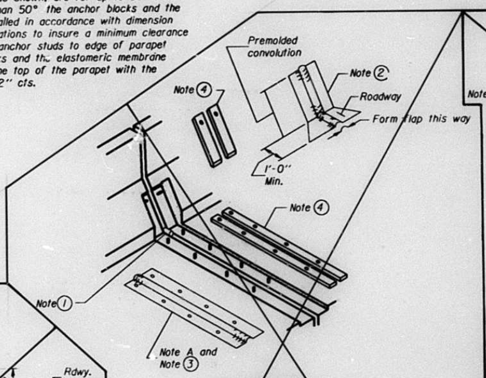
The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

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.

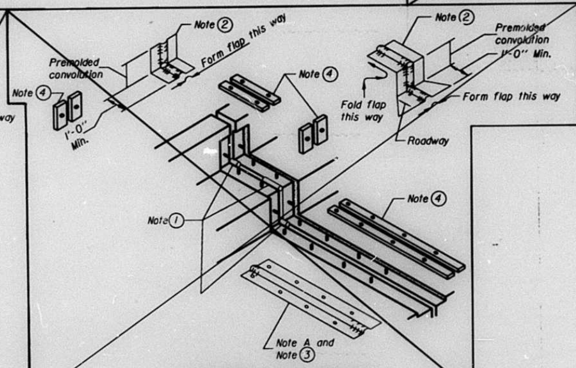
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

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.

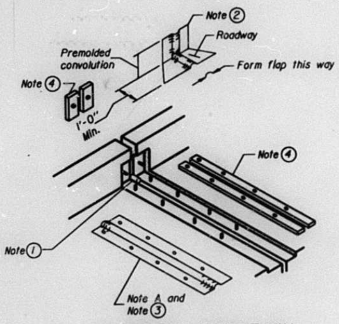
~~Anchor bolts, washers and nuts, to be plated against corrosion in accordance with the special provisions, shall be zinc-coated by the mechanical plating method conforming to ASTM B695, class 50. Zinc-coated nuts shall be tapped oversize in accordance with the requirements of AASHTO M291 and shall meet the supplementary requirements S1.1 thru S1.2.1 of the same specifications for lubricant and testing.~~



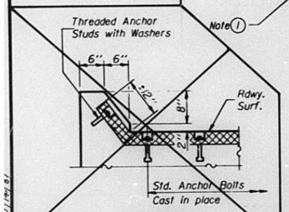
AT PARAPET



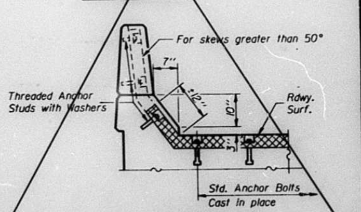
AT SIDEWALK OR MEDIAN



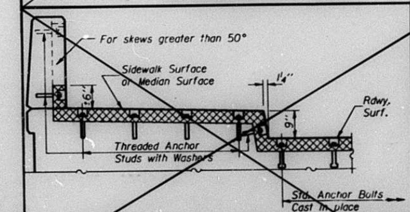
AT VERTICAL PARAPET WALL



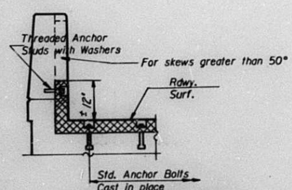
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN
TYPICAL END TREATMENTS



AT VERTICAL PARAPET WALL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
(2") Neoprene Exp. Jt.	Lin. Ft.	174

REHABILITATION FOR

FAI - 55/70 COMPLEX

CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINT FOR 2" MOVEMENT

STRUCTURE NO. 082-0140 (RDWY. H OVER TRENDLEY AVE.)

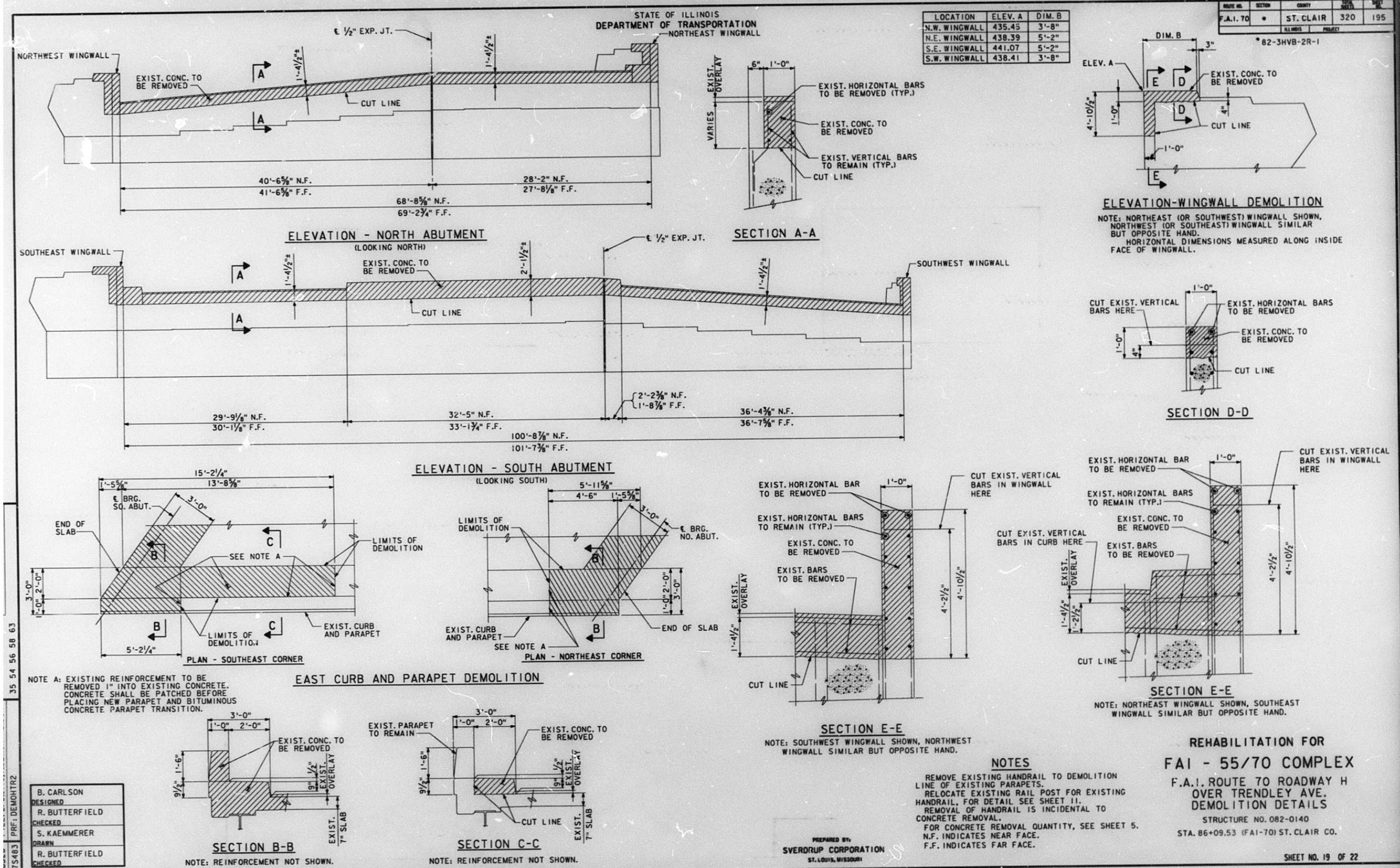
(FAI -70) ST. CLAIR CO.

SHEET NO. 18 OF 22

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

DESIGNED	
CHECKED	
DRAWN	
CHECKED	R. Butterfield

EJ-CS 12-1-83



LOCATION	ELEV. A	DIM. B
N.W. WINGWALL	435.45	3'-8"
N.E. WINGWALL	438.39	5'-2"
S.E. WINGWALL	441.07	5'-2"
S.W. WINGWALL	438.41	3'-8"

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	195

*82-3HVB-2R-1

NOTES

REMOVE EXISTING HANDRAIL TO DEMOLITION LINE OF EXISTING PARAPETS.

RELOCATE EXISTING RAIL POST FOR EXISTING HANDRAIL, FOR DETAIL SEE SHEET 11.

REMOVAL OF HANDRAIL IS INCIDENTAL TO CONCRETE REMOVAL.

FOR CONCRETE REMOVAL QUANTITY, SEE SHEET 5.

N.F. INDICATES NEAR FACE.

F.F. INDICATES FAR FACE.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

B. CARLSON — DESIGNED
R. BUTTERFIELD — CHECKED
S. KAEMMERER — DRAWN
R. BUTTERFIELD — CHECKED

87S483 PRF: DEMOHTR2

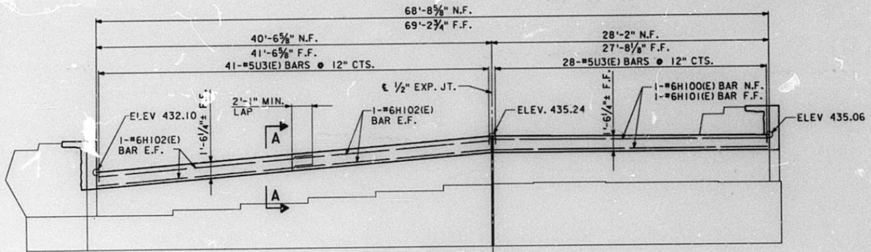
35 54 56 58 63

REHABILITATION FOR FAI - 55/70 COMPLEX

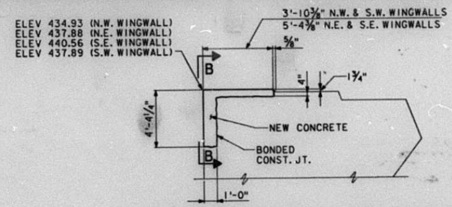
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
DEMOLITION DETAILS

STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION - NORTH ABUTMENT
(LOOKING NORTH)



ELEVATION - WINGWALL MODIFICATION

NOTE: NORTHEAST (OR SOUTHWEST) WINGWALL SHOWN, NORTHWEST (OR SOUTHEAST) WINGWALL SIMILAR BUT OPPOSITE HAND.
CLEAN AND INCOPORATE EXIST. REINF. INTO NEW WORK. (COST INCIDENTAL).
EXIST. REINF. TO BE CUT OR BENT FOR INSTALLATION OF EXPANSION JOINT AT ABUTMENT.
HORIZONTAL DIMENSIONS MEASURED ALONG INSIDE FACE OF WINGWALL.

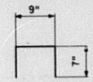
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	196
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

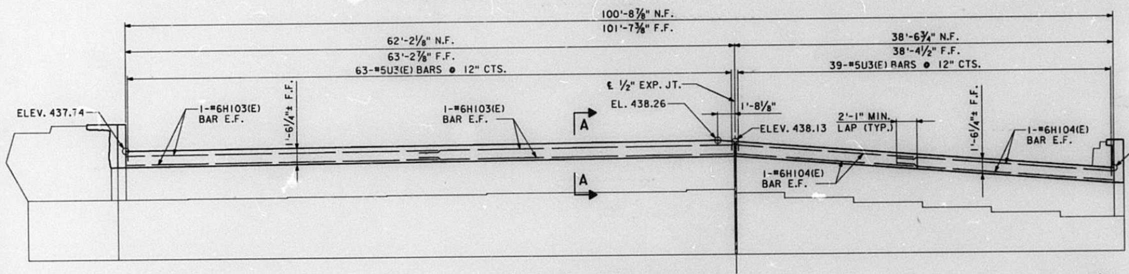
BILL OF MATERIAL

NORTH & SOUTH ABUTMENT				
BAR	NO.	SIZE	LENGTH	SHAPE
H100(E)	2	#6	27'-11"	——
H101(E)	2	#6	27'-5"	——
H102(E)	8	#6	21'-9"	——
H103(E)	8	#6	32'-7"	——
H104(E)	8	#6	20'-3"	——
U3(E)	171	#5	1'-11"	⊓
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	10.5
REINFORCEMENT BARS (EPOXY COATED)			LBS.	1400

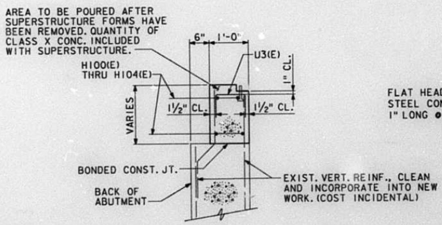
REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.



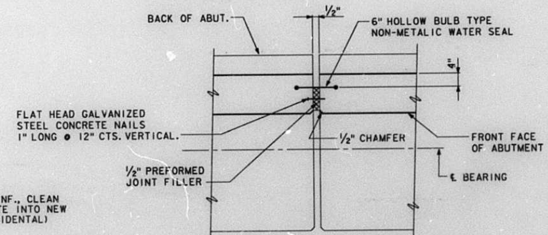
BAR U3(E)



ELEVATION - SOUTH ABUTMENT
(LOOKING SOUTH)

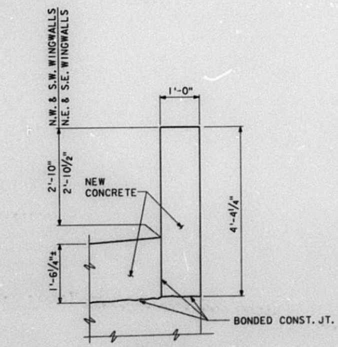


SECTION A-A



EXPANSION JOINT DETAIL

NOTE: REINFORCEMENT NOT TO PASS THRU JOINT. COST OF EXPANSION JOINT INCIDENTAL TO CLASS X CONCRETE.



VIEW B-B

NOTE: NORTHEAST (OR SOUTHWEST) WINGWALL SHOWN, NORTHWEST (OR SOUTHEAST) WINGWALL SIMILAR BUT OPPOSITE HAND.

NOTES

N.F. INDICATES NEAR FACE.
F.F. INDICATES FAR FACE.
E.F. INDICATES EACH FACE.

B. CARLSON	DESIGNED
R. BUTTERFIELD	CHECKED
S. KAEMMERER	DRAWN
R. BUTTERFIELD	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
F.A.I. ROUTE 70 ROADWAY H
OVER TRENDLEY AVE.
ABUTMENT MODIFICATIONS
STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 20 OF 22

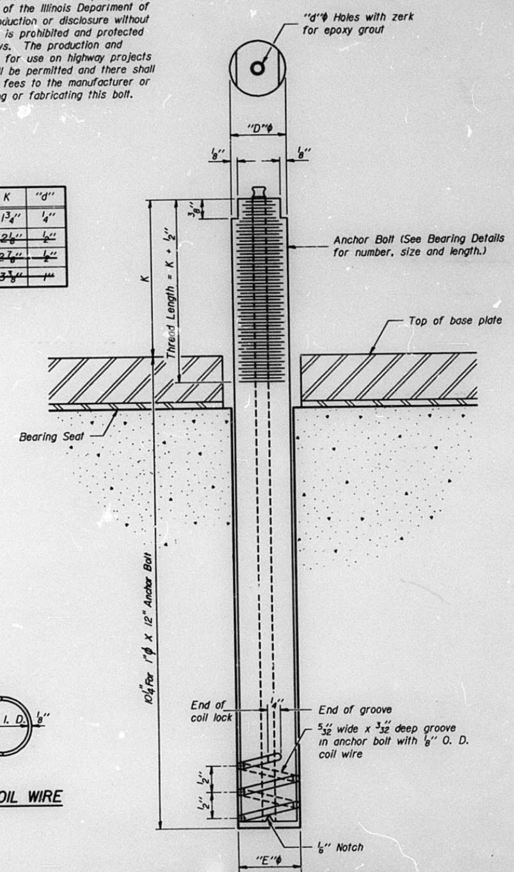
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	197
		ILLINOIS	PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

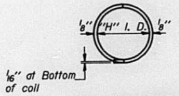
ϕ 82-3HVB-2R-1

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Deparment 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"
1"	$1\frac{1}{8}$"	$\frac{13}{16}$"	$1\frac{3}{4}$"	$\frac{1}{4}$"
~~$1\frac{1}{2}$"~~	~~$1\frac{5}{8}$"~~	~~$1\frac{5}{16}$"~~	~~$2\frac{1}{8}$"~~	~~$\frac{1}{2}$"~~
~~2"~~	~~$2\frac{1}{8}$"~~	~~$1\frac{13}{16}$"~~	~~$2\frac{7}{8}$"~~	~~$\frac{1}{2}$"~~
~~$2\frac{1}{2}$"~~	~~$2\frac{5}{8}$"~~	~~$2\frac{5}{16}$"~~	~~$3\frac{3}{8}$"~~	~~1"~~



ILLINOIS COIL-LOCK ANCHOR BOLT



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 hexagonal nuts and cut washers.

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 comforming 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 and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
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.

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 to the diameter and depth shown or in accordance with the manufacturer's recommendation prior to removal of the existing bearing elements.

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 nuts 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	
CHECKED	R. Butterfield

7/21/87

ABB-1 12-1-83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

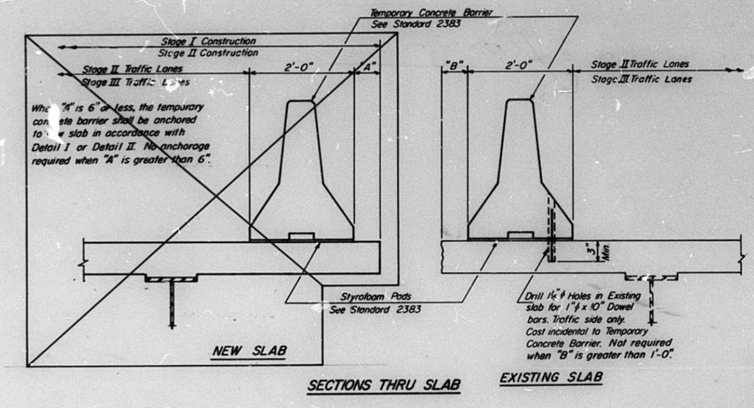
REHABILITATION FOR
FAI - 55/70 COMPLEX
ANCHOR BOLT DETAILS FOR BEARING

STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	198

* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



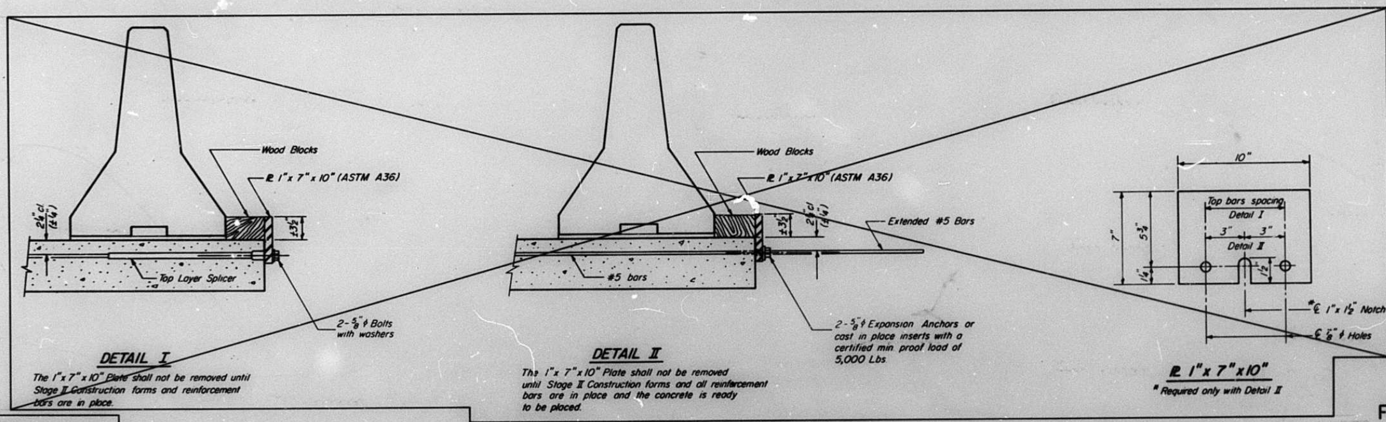
NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x 10" steel PL to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each 10'-0" barrier panel.

Detail II - With Extended Reinforcement Bars
Connect one (1) 1" x 7" x 10" steel PL to the concrete slab with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each 10'-0" barrier panel.

Cost of anchorage is incidental to Temporary Concrete Barrier.

For "Temporary Concrete Barrier", see Roadway Plans.
For Location of "Temporary Concrete Barriers", see Sheet 3.



DESIGNED	
CHECKED	
DRAWN	
CHECKED	R. Butterfield

7/31/87

R-27 6-15-83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

STRUCTURE NO. 082-0140
STA. 86+09.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 22 OF 22

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	199

ILLINOIS PROJECT

• 82-3HVB-2R-1

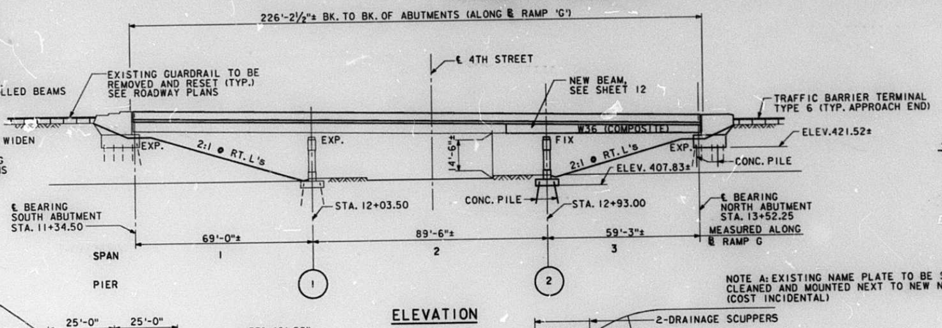
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BENCH MARK C-3

CHISELED "□" IN CONC. FOUNDATION OF PIER 2 ON WB I-55/70 BRIDGE OVER 4TH ST. ELEV. 413.44.

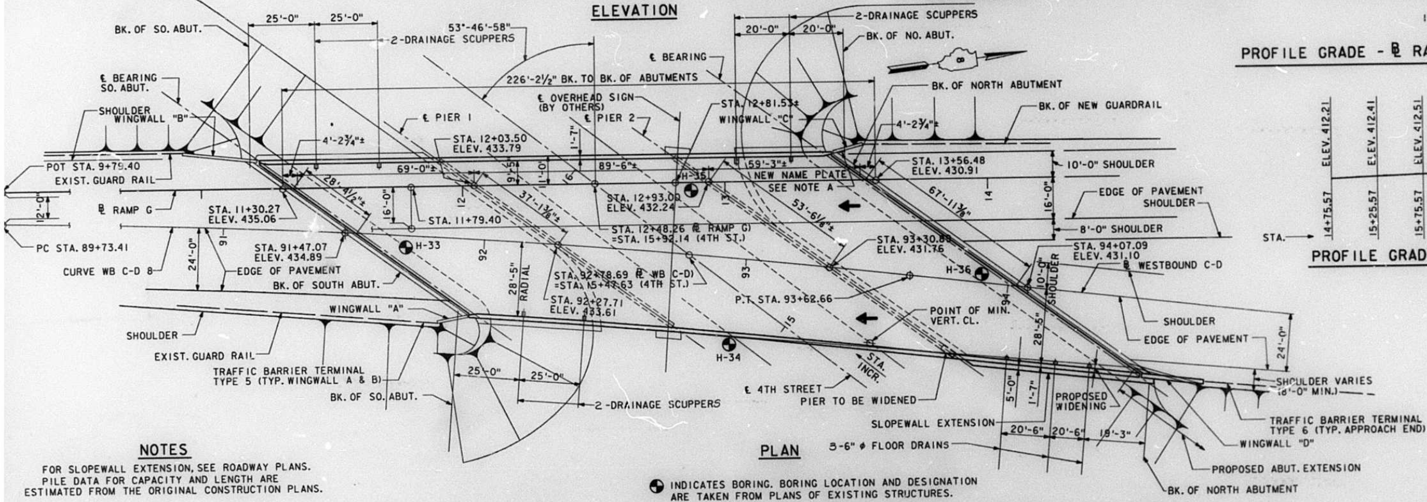
EXISTING STRUCTURE: NO. 082-0206
BUILT AS F.A.I. RTE. 70, SECTION 82-4HB-1 AT STA. 92+64.64 IN 1965.
SUPERSTRUCTURE - 3 SPAN CONT. ROLLED BEAMS
SUBSTRUCTURES - 2 R.C. MULTIPLE COLUMNS PIERS & 2 R.C. PILE

WORK TO BE DONE:
REMOVE & REPLACE CONCRETE DECK. WIDEN DECK ON NORTHEAST SIDE WHICH REQUIRES NEW BEAM AND EXTENDING NO. ABUT. & PIER 2. ALL EXIST. BEAMS & NEW BEAM TO BE COMPOSITE FOR FUTURE WEARING SURFACE.



ELEVATION

NOTE A: EXISTING NAME PLATE TO BE SALVAGED, CLEANED AND MOUNTED NEXT TO NEW NAME PLATE. (COST INCIDENTAL)

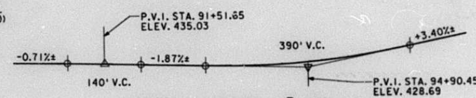


PLAN

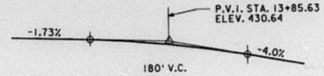
⊕ INDICATES BORING. BORING LOCATION AND DESIGNATION ARE TAKEN FROM PLANS OF EXISTING STRUCTURES.

NOTES

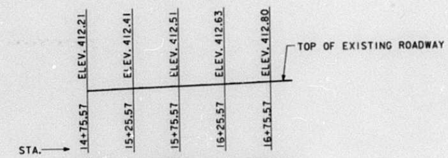
FOR SLOPEWALL EXTENSION, SEE ROADWAY PLANS.
PILE DATA FOR CAPACITY AND LENGTH ARE ESTIMATED FROM THE ORIGINAL CONSTRUCTION PLANS.



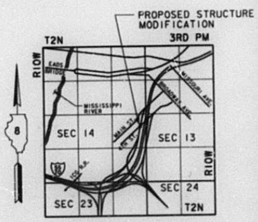
PROFILE GRADE - ℄ WB C-D



PROFILE GRADE - ℄ RAMP G



PROFILE GRADE-4TH STREET



LOCATION SKETCH

DESIGN STRESSES

EXISTING STRUCTURES

DESIGN SPECIFICATIONS: AASHO 1961 AND APPLICABLE 1962 AND 1963 INTERIMS.

LOADING: HS20-44 AND ALTERNATE

REINFORCED CONCRETE:
DECK SLAB fc=1400 psi n=10
SUBSTRUCTURE fc=1400 psi n=10
Vc=75 psi - FOOTINGS
REINFORCING fs=20,000 psi

STRUCTURAL STEEL: fs=20,000 psi

NEW CONSTRUCTION

AASHTO 1983 & APPLICABLE INTERIM 1984 thru 1987 INTERIM SPECIFICATIONS

HS20-44 LOADING

ALLOW 25 p.s.f. FOR FUTURE WEARING SURFACE

f'c=3500 psi (CONCRETE)

fy=60,000 psi (REINF.)

fs=20,000 psi (STRUCT. STEEL) M183

STA. 11+32.81
BUILT 198 BY
STATE OF ILLINOIS
F.A.I. 70 SEC. 82-3HVB-2R-1
PROJ. IR-70-1(155)
LOADING HS20 & ALT.
STR. NO. 082-0206

NAME PLATE
(STANDARD 2113)

CURVE DATA - WB C-D 8

P.I. STA. = 91+68.27
Δ = 6° - 51' - 03" RT.
D = 1° - 45' - 36"
R = 3255.50'
T = 194.86'
L = 389.25'
E = 5.83'
P.C. STA. = 89+73.41
P.T. STA. = 93+62.66
S.E.=0.032 FT./FT.
S.E. TRANSITION
STA. 93+12.66 TO 94+62.66

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. Leyburn
Engineer of Bridges and Structures

STATE OF ILLINOIS
CARLOS A. LAZANA-FARIAS
81-3956
CHICAGO
REGISTERED STRUCTURAL ENGINEER

K. PATEL
DESIGNED
S. KNEIP
CHECKED
K. SCHULT
DRAWN
K. PATEL
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET GENERAL PLAN AND ELEVATION

STRUCTURE NO. 082-0206

STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 26

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	200
	ILLINOIS	PROJECT		

• 82-3HVB-2R-1

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", ADDENDA AND THE SPECIAL PROVISIONS SHALL GOVERN.

CALCULATED WEIGHT OF *ERECTING STRUCTURAL STEEL*:

25,100 LBS. (M183) FABRICATED UNDER SEPARATE CONTRACT. (SEE SPECIAL PROVISIONS FOR FIELD PAINTING REQMTS.)

FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS ¾" ϕ OPEN HOLES 13/16" ϕ UNLESS OTHERWISE NOTED.

THE CONCRETE, FOR BRIDGE FLOORS FINISHED IN ACCORDANCE WITH ARTICLE 503.15 OF THE STANDARD SPECIFICATIONS, SHALL BE PLACED AND COMPACTED PARALLEL TO THE SKEW IN UNIFORM INCREMENTS ALONG CENTER LINE OF BRIDGE. THE FINISHING MACHINE, WHEN REQUIRED, SHALL BE SET PARALLEL TO THE SKEW FOR STRIKING OFF AND SCREEDING THE CONCRETE.

THE ZINC - SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUC. STEEL EXCEPT WHERE OTHERWISE NOTED.

CONTACT SURFACES OF EXISTING STEEL, WHERE NEW STEEL DIAPHRAGM CONNECT, SHALL BE CLEANED BY METHOD I AND TOUCHED UP WITH THE *LEAD AND CHROMATE FREE ALKYD PAINT SYSTEM AFTER CONNECTIONS* ARE MADE. COST IS INCIDENTAL TO ERECTING STRUCTURAL STEEL.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE WIDE FLANGE BEAMS.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.

LAYOUT OF SLOPE WALLS MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AND TO MATCH EXISTING SLOPEWALL AS DIRECTED BY THE ENGINEER.

SHOULDER TRANSITION TO WINGWALL SHALL BE SHAPED WITH BROKEN CONCRETE. COST INCIDENTAL.

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.

BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATION WITHIN A TOLERANCE OF ⅛ IN. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO ⅛" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHERS PLATES OR SHIMS.

THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE IN A PERMANENT LOCATION AT PIER NO. 2 AND NORTH ABUTMENT AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

THE ENTIRE EXISTING CONCRETE DECK INCLUDING THE CURBS AND RAILS ARE TO BE REMOVED IN THREE STAGES.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS., AND ¾"ϕ×12" HOOKED BOLTS.

TRAFFIC CONTROL ON THE RAMP "G" & WESTBOUND C-D IS TO BE PART OF THE ROADWAY CONTRACT BUT IT SHALL NOT EXEMPT THE BRIDGE CONTRACTOR FROM PROVIDING ADDITIONAL TRAFFIC CONTROL AND PROTECTION THAT MAY BE REQUIRED FOR THE SAFETY OF THE PUBLIC.

✦ INDICATES HIGH STRENGTH BOLT, SHOP OR FIELD INSTALLED UNLESS OTHERWISE NOTED.

SEE PROPOSAL FOR BORING DATA.

FOR MAINTENANCE AND CONSTRUCTION SIGN SUPPORT DETAILS AND LOCATION, SEE SHEET 292 OF 320.

INDEX OF DRAWINGS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
CONCRETE REMOVAL	CU. YDS.	—	22.0	22.0
REMOVAL OF EXISTING CONCRETE DECK	EACH	1	—	1
STRUCTURE EXCAVATION	CU. YDS.	—	19	19
FLOOR DRAINS	EACH	3	—	3
* PROTECTIVE COAT	SQ. YDS.	196	—	196
CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	443.9	—	443.9
CLASS X CONCRETE	CU. YDS.	—	27.9	27.9
FURNISHING AND ERECTING STRUCTURAL STEEL	LUMP SUM	1	—	1
ERECTING STRUCTURAL STEEL	LBS.	675	—	675
REINFORCEMENT BARS	LBS.	—	4130	4130
REINFORCEMENT BARS, EPOXY COATED	LBS.	121,610	—	121,610
FURNISHING CONCRETE PILES	LIN. FT.	—	155	155
DRIVING CONCRETE PILES	LIN. FT.	—	155	155
TEST PILE CONCRETE	EACH	—	2	2
NAME PLATE	EACH	1	—	1
DRAINAGE SCUPPERS	EACH	6	—	6
NEOPRENE EXPANSION JOINT (2")	LIN. FT.	245	—	245
EPOXY MORTAR REPAIR	CU. FT.	—	2.7	2.7
STUD SHEAR CONNECTORS	EACH	7,209	—	7,209
EXPANSION BOLTS ¾"ϕ × 12"	EACH	—	57	57

FOR TEMPORARY CONCRETE BARRIER PAY ITEM SEE ROADWAY PLANS.

** Quantity does not include bridge deck surface.*

K. PATEL	DESIGNED
S. KNEIP	CHECKED
P. NELSON	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

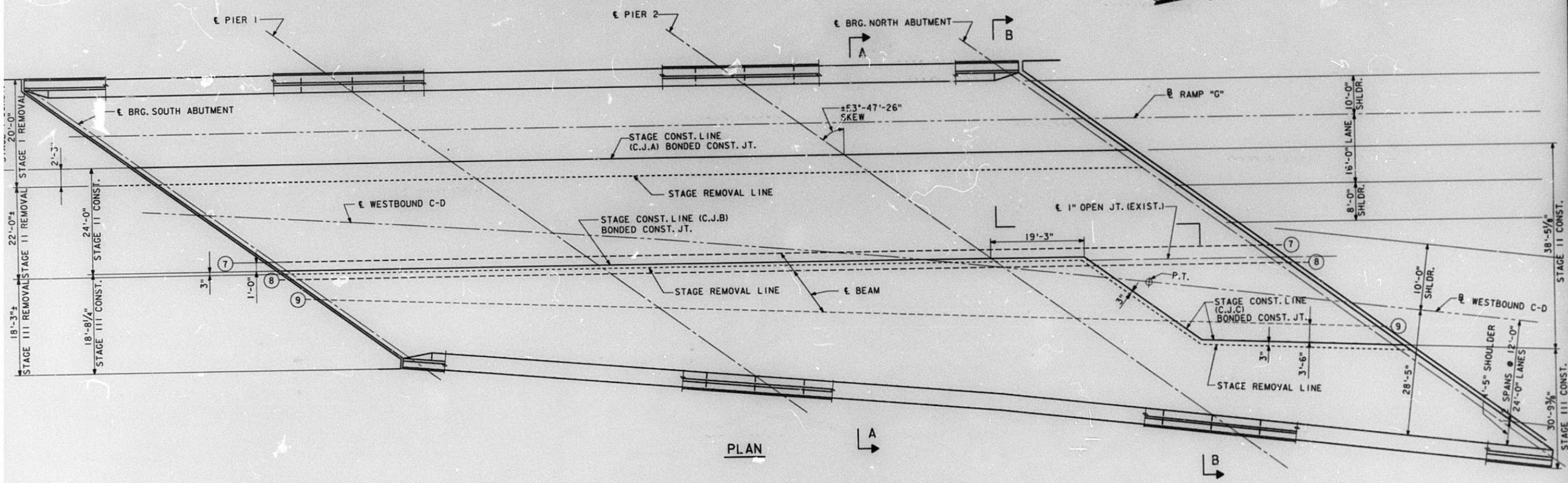
REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
GENERAL NOTES, ESTIMATED QUANTITIES AND INDEX OF DRAWINGS
STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

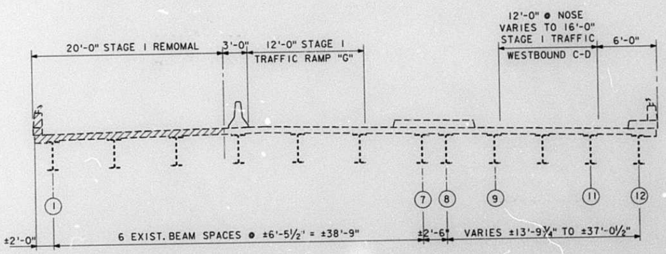
SHEET NO. 2 OF 26

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

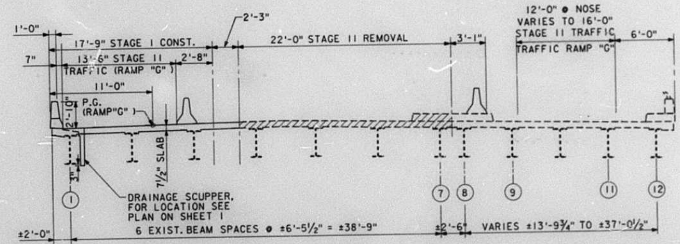
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	201
		ILLINOIS	PROJECT	

*82-3HVB-2R-1





CROSS SECTION
(LOOKING NORTH)
STAGE I



CROSS SECTION A-A
(LOOKING NORTH)
STAGE II

NOTES
1. WORK THIS SHEET WITH SHEET 4.
2. FOR FLOOR FINISH, SEE GENERAL NOTES.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
P. NELSON	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
STAGE CONSTRUCTION DETAILS

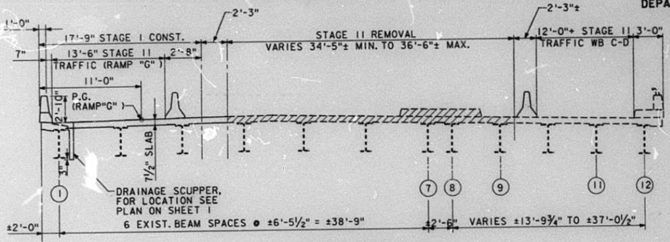
STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 3 OF 26

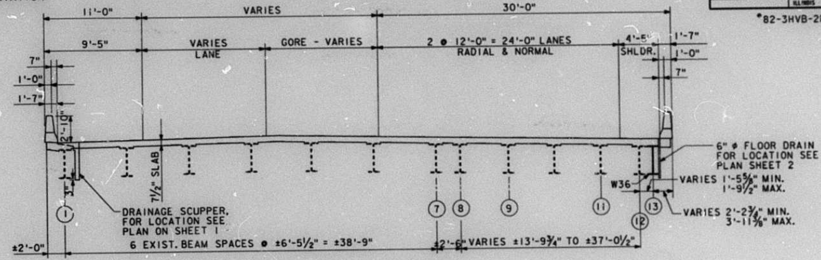
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	202
		ILLINOIS	PROJECT	

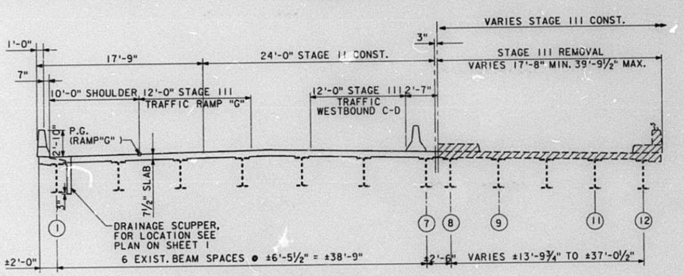
*82-3HVB-2R-1



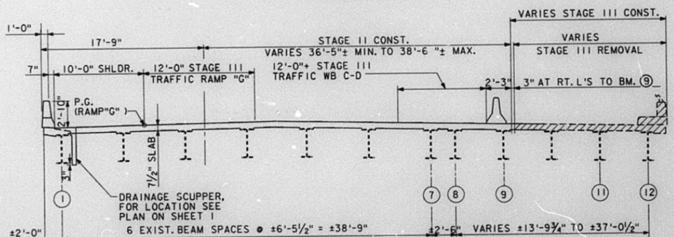
CROSS SECTION B-B
(LOOKING NORTH)
STAGE II



CROSS SECTION
(LOOKING NORTH)
(COMPLETED STRUCTURE)



CROSS SECTION A-A
(LOOKING NORTH)
STAGE III



CROSS SECTION B-B
(LOOKING NORTH)
STAGE III

NOTE
FOR STAGING PLAN, SEE SHEET 3.

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
STAGE CONSTRUCTION DETAILS

STRUCTURE NO 082-0206
STA.11+32.81 TO STA.13+53.94 (FAI-70) ST. CLAIR CO.

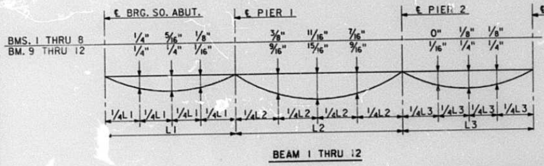
K. PATEL	DESIGNED
S. KNEIP	CHECKED
P. NELSON	DRAWN
K. PATEL	CHECKED

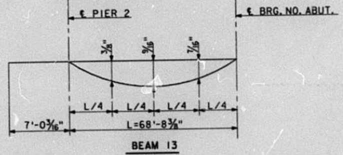
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	203
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

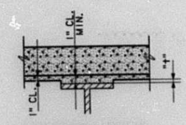




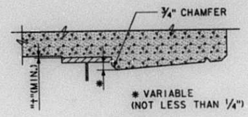
DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE DECK SLAB ONLY)

NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS AS SHOWN IN TABLES.

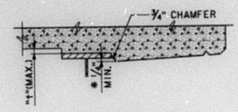
	L1	L2	L3
BMS. 1 THRU 8	4 SPA. @ 17'-3"=69'-0"	4 SPA. @ 22'-4½"=89'-6"	4 SPA. @ 14'-9¾"=59'-3"
BM. 9	71'-6 7/16"	4 SPA @ 23'-2⅜"=92'-9½"	61'-5⅛"
BM. 10	74'-1 7/16"	96'-1⅝"	4 SPA. @ 15'-10 15/16"=63'-7¾"
BM. 11	76'-8⅞"	99'-6 7/16"	4 SPA. @ 16'-5 11/16"=65'-10¾"
BM. 12	79'-4 11/16"	4 SPA. @ 25'-8 15/16"=102-11¾"	68'-2⅛"



INTERIOR BEAMS



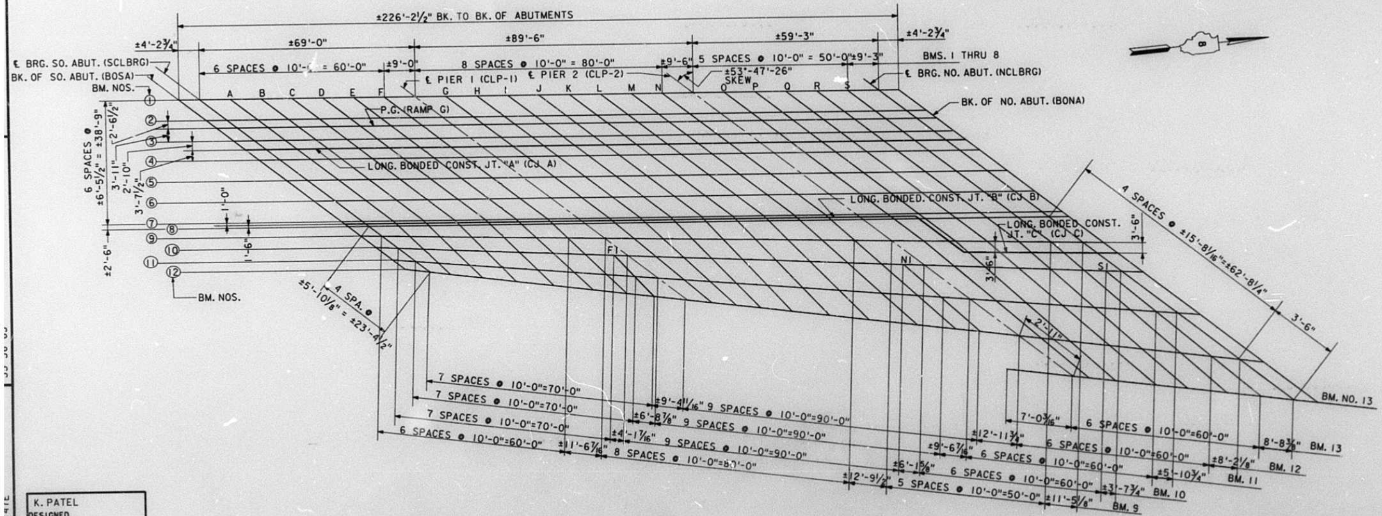
AT MINIMUM FILLET



AT MAXIMUM FILLET

EXTERIOR BEAMS

NOTE: TO DETERMINE "t" AFTER ALL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN BELOW. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION" SHOWN BELOW, MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHT "t" ABOVE TOP FLANGES OF BEAMS.



PLAN

K. PATEL	DESIGNED
S. KNEIP	CHECKED
P. NELSON	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
TOP OF SLAB ELEVATIONS

STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	204
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BM-1	BOSA	11 + 17.980	9.000	435.083	435.083
	SCLBRG	11 + 22.211	9.000	435.010	435.010
	A	11 + 32.211	9.000	434.837	434.849
	B	11 + 42.211	9.000	434.664	434.685
	C	11 + 52.211	9.000	434.491	434.515
	D	11 + 62.211	9.000	434.318	434.339
	E	11 + 72.211	9.000	434.145	434.157
	F	11 + 82.211	9.000	433.972	433.977
	CLP-1	11 + 91.211	9.000	433.816	433.816
	G	12 + 01.211	9.000	433.643	433.657
	H	12 + 11.211	9.000	433.470	433.498
	I	12 + 21.211	9.000	433.297	433.337
	J	12 + 31.211	9.000	433.124	433.176
	K	12 + 41.211	9.000	432.951	433.003
	L	12 + 51.211	9.000	432.778	432.821
	M	12 + 61.211	9.000	432.605	432.637
	N	12 + 71.211	9.000	432.432	432.447
	CLP-2	12 + 80.711	9.000	432.268	432.268
	C	12 + 90.711	9.000	432.095	432.095
	P	13 + 00.711	9.000	431.920	431.924
	Q	13 + 10.711	9.000	431.734	431.745
	R	13 + 20.711	9.000	431.536	431.546
	S	13 + 30.711	9.000	431.325	431.332
	NCLBRG	13 + 39.961	9.000	431.119	431.119
	BONA	13 + 44.154	9.028	431.021	431.021
BM-2	BOSA	11 + 26.798	2.542	434.065	434.065
	SCLBRG	11 + 31.029	2.542	434.992	434.992
	A	11 + 41.029	2.542	434.819	434.831
	B	11 + 51.029	2.542	434.646	434.667
	C	11 + 61.029	2.542	434.473	434.497
	D	11 + 71.029	2.542	434.300	434.321
	E	11 + 81.029	2.542	434.127	434.139
	F	11 + 91.029	2.542	433.954	433.959
	CLP-1	12 + 00.029	2.542	433.798	433.798
	G	12 + 10.029	2.542	433.625	433.639
	H	12 + 20.029	2.542	433.452	433.480
	I	12 + 30.029	2.542	433.279	433.319
	J	12 + 40.029	2.542	433.106	433.158
	K	12 + 50.029	2.542	432.933	432.985
	L	12 + 60.029	2.542	432.760	432.803
	M	12 + 70.029	2.542	432.587	432.619
	N	12 + 80.029	2.542	432.414	432.429
	CLP-2	12 + 89.529	2.542	432.250	432.250
	O	12 + 99.529	2.542	432.076	432.076
	P	13 + 09.529	2.542	431.891	431.895
	Q	13 + 19.529	2.542	431.695	431.705
	R	13 + 29.529	2.542	431.485	431.496
	S	13 + 39.529	2.542	431.263	431.270
	NCLBRG	13 + 48.779	2.542	431.046	431.046
	BONA	13 + 53.011	2.542	430.944	430.944
PG G	BOSA	11 + 30.269	0.000	435.058	435.058
	SCLBRG	11 + 34.500	0.000	434.985	434.985
	A	11 + 44.500	0.000	434.812	434.824
	B	11 + 54.500	0.000	434.639	434.660
	C	11 + 64.500	0.000	434.466	434.490
	D	11 + 74.500	0.000	434.293	434.314
	E	11 + 84.500	0.000	434.120	434.132
	F	11 + 94.500	0.000	433.947	433.952
	CLP-1	12 + 03.500	0.000	433.791	433.791
	G	12 + 13.500	0.000	433.618	433.632
	H	12 + 23.500	0.000	433.445	433.473
	I	12 + 33.500	0.000	433.272	433.312
	J	12 + 43.500	0.000	433.099	433.151
	K	12 + 53.500	0.000	432.926	432.978
	L	12 + 63.500	0.000	432.753	432.796
	M	12 + 73.500	0.000	432.580	432.612
	N	12 + 83.500	0.000	432.407	432.422
	CLP-2	12 + 93.000	0.000	432.242	432.242
	C	13 + 03.000	0.000	432.066	432.066
	P	13 + 13.000	0.000	431.877	431.881
	Q	13 + 23.000	0.000	431.676	431.687
	R	13 + 33.000	0.000	431.462	431.473
	S	13 + 43.000	0.000	431.236	431.243
	NCLBRG	13 + 52.250	0.000	431.015	431.015
	BONA	13 + 56.481	0.000	430.911	430.911

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BM-3	BOSA	11 + 35.617	-3.917	435.026	435.026
	SCLBRG	11 + 39.848	-3.917	434.953	434.953
	A	11 + 49.848	-3.917	434.780	434.792
	B	11 + 59.848	-3.917	434.607	434.628
	C	11 + 69.848	-3.917	434.434	434.458
	D	11 + 79.848	-3.917	434.261	434.282
	E	11 + 89.848	-3.917	434.088	434.100
	F	11 + 99.848	-3.917	433.915	433.920
	CLP-1	12 + 08.848	-3.917	433.759	433.759
	G	12 + 18.848	-3.917	433.586	433.600
	H	12 + 28.848	-3.917	433.413	433.441
	I	12 + 38.848	-3.917	433.240	433.280
	J	12 + 48.848	-3.917	433.067	433.119
	K	12 + 58.848	-3.917	432.894	432.947
	L	12 + 68.848	-3.917	432.721	432.764
	M	12 + 78.848	-3.917	432.548	432.580
	N	12 + 88.848	-3.917	432.375	432.391
	CLP-2	12 + 98.348	-3.917	432.210	432.210
	O	13 + 08.348	-3.917	432.028	432.028
	P	13 + 18.348	-3.917	431.832	431.836
	Q	13 + 28.348	-3.917	431.624	431.635
	R	13 + 38.348	-3.917	431.414	431.424
	S	13 + 48.348	-3.917	431.177	431.183
	NCLBRG	13 + 57.598	-3.917	430.944	430.944
	BONA	13 + 61.846	-3.929	430.836	430.836
CJ A	BOSA	11 + 39.486	-6.750	435.004	435.004
	SCLBRG	11 + 43.717	-6.750	434.931	434.931
	A	11 + 53.717	-6.750	434.758	434.770
	B	11 + 63.717	-6.750	434.585	434.607
	C	11 + 73.717	-6.750	434.412	434.437
	D	11 + 83.717	-6.750	434.239	434.260
	E	11 + 93.717	-6.750	434.066	434.078
	F	12 + 03.717	-6.750	433.893	433.898
	CLP-1	12 + 12.717	-6.750	433.737	433.737
	G	12 + 22.717	-6.750	433.564	433.578
	H	12 + 32.717	-6.750	433.391	433.419
	I	12 + 42.717	-6.750	433.218	433.258
	J	12 + 52.717	-6.750	433.045	433.097
	K	12 + 62.717	-6.750	432.872	432.925
	L	12 + 72.717	-6.750	432.699	432.742
	M	12 + 82.717	-6.750	432.526	432.558
	N	12 + 92.717	-6.750	432.353	432.369
	CLP-2	13 + 02.217	-6.750	432.186	432.186
	O	13 + 12.217	-6.750	431.999	431.999
	P	13 + 22.217	-6.750	431.798	431.802
	Q	13 + 32.217	-6.750	431.585	431.596
	R	13 + 42.217	-6.750	431.360	431.371
	S	13 + 52.217	-6.750	431.122	431.129
	NCLBRG	13 + 61.467	-6.750	430.891	430.891
	BONA	13 + 65.698	-6.750	430.781	430.781
BM-4	BOSA	11 + 44.435	-10.375	434.975	434.975
	SCLBRG	11 + 48.667	-10.375	434.902	434.902
	A	11 + 58.667	-10.375	434.729	434.741
	B	11 + 68.667	-10.375	434.556	434.577
	C	11 + 78.667	-10.375	434.383	434.407
	D	11 + 88.667	-10.375	434.210	434.231
	E	11 + 98.667	-10.375	434.037	434.049
	F	12 + 08.667	-10.375	433.864	433.869
	CLP-1	12 + 17.667	-10.375	433.708	433.708
	G	12 + 27.667	-10.375	433.535	433.549
	H	12 + 37.667	-10.375	433.362	433.390
	I	12 + 47.667	-10.375	433.189	433.229
	J	12 + 57.667	-10.375	433.016	433.068
	K	12 + 67.667	-10.375	432.843	432.896
	L	12 + 77.667	-10.375	432.670	432.713
	M	12 + 87.667	-10.375	432.497	432.529
	N	12 + 97.667	-10.375	432.324	432.339
	CLP-2	13 + 07.167	-10.375	432.151	432.151
	O	13 + 17.167	-10.375	431.957	431.957
	P	13 + 27.167	-10.375	431.751	431.755
	Q	13 + 37.167	-10.375	431.532	431.542
	R	13 + 47.167	-10.375	431.300	431.311
	S	13 + 57.167	-10.375	431.056	431.062
	NCLBRG	13 + 66.417	-10.375	430.819	430.819
	BONA	13 + 70.648	-10.375	430.707	430.707

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BM-5	BOSA	91 + 47.360	-0.190	434.892	434.887
	SCLBRG	91 + 51.586	0.039	434.827	434.827
	A	91 + 61.569	0.601	434.679	434.691
	B	91 + 71.548	1.194	434.513	434.534
	C	91 + 81.524	1.818	434.314	434.339
	D	91 + 91.496	2.472	434.166	434.187
	E	92 + 01.464	3.156	433.990	434.002
	F	92 + 11.428	3.872	433.814	433.819
	CLP-1	92 + 20.391	4.541	433.654	433.654
	G	92 + 30.346	5.315	433.476	433.490
	H	92 + 40.297	6.118	433.300	433.328
	I	92 + 50.242	6.952	433.124	433.164
	J	92 + 60.182	7.817	432.949	433.001
	K	92 + 70.116	8.712	432.774	432.827
	L	92 + 80.046	9.637	432.600	432.643
	M	92 + 89.969	10.593	432.427	432.458
	N	92 + 99.886	11.579	432.250	432.266
	CLP-2	93 + 09.302	12.544	432.071	432.071
	O	93 + 19.208	13.589	431.872	431.872
	P	93 + 29.107	14.664	431.661	431.664
	Q	93 + 39.000	15.770	431.438	431.449
	R	93 + 48.885	16.905	431.203	431.213
	S	93 + 58.764	18.071	430.957	430.964
	NCLBRG	93 + 67.895	19.176	430.718	430.718
	BONA	93 + 72.070	19.691	430.606	430.606
BM-6	BOSA	91 + 56.530	-6.156	434.566	434.561
	SCLBRG	91 + 60.762	-5.915	434.516	434.516
	A	91 + 70.762	-5.325	434.395	434.407
	B	91 + 80.758	-4.704	434.265	434.287
	C	91 + 90.750	-4.052	434.129	434.154
	D	92 + 00.739	-3.370	433.985	434.006
	E	92 + 10.722	-2.657	433.835	433.847
	F	92 + 20.702	-1.913	433.677	433.682
	CLP-1	92 + 29.679	-1.218	433.531	433.531
	G	92 + 39.649	-0.416	433.370	433.384
	H	92 + 49.615	0.416	433.197	433.225
	I	92 + 59.575	1.279	432.968	433.009
	J	92 + 69.530	2.172	432.778	432.830
	K	92 + 79.479	3.096	432.591	432.643
	L	92 + 89.422	4.050	432.407	432.450
	M	92 + 99.360	5.034	432.232	432.264
	N	93 + 09.291	6.049	432.067	432.082
	CLP-2	93 + 18.721	7.041	431.911	431.911
	O	93 + 28.640	8.115	431.744	431.744
	P	93 + 38.552	9.219	431.575	431.579
	Q	93 + 48.458	10.353	431.401	431.411
	R	93 + 58.356	11.518	431.220	431.231
	S	93 + 68.248	12.713	431.033	431.039
	NCLBRG	93 + 77.391	13.845	430.869	430.869
	BONA	93 + 81.571	14.371	430.790	430.790

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BM-7	BOSA	91 + 65.734	-12.096	434.250	434.245
	SCLBRG	91 + 69.973	-11.844	434.197	434.197
	A	91 + 79.989	-11.225	434.069	434.081
	B	91 + 90.002	-10.576	433.932	433.954
	C	92 + 00.010	-9.895	433.789	433.814
	D	92 + 10.014	-9.185	433.638	433.659
	E	92 + 20.013	-8.443	433.480	433.492
	F	92 + 30.008	-7.671	433.318	433.324
	CLP-1	92 + 39.000	-6.950	433.173	433.027
	G	92 + 48.985	-6.120	433.013	433.027
	H	92 + 58.965	-5.259	432.854	432.881
	I	92 + 68.940	-4.368	432.695	432.735
	J	92 + 78.910	-3.446	432.538	432.590
	K	92 + 88.873	-2.494	432.382	432.435
	L	92 + 98.831	-1.511	432.228	432.271
	M	93 + 08.783	-0.498	432.086	432.117
	N	93 + 18.728	0.546	431.940	431.956
	CLP-2	93 + 28.170	1.565	431.799	431.799
	O	93 + 38.103	2.668	431.617	431.617
	P	93 + 48.029	3.801	431.488	431.492
	Q	93 + 57.947	4.964	431.363	431.373
	R	93 + 67.859	6.158	431.237	431.248
	S	93 + 77.763	7.382	431.109	431.115
	NCLBRG	93 + 86.918	8.541	431.017	431.017
	BONA	93 + 91.115	9.073	430.970	430.970
CJ B	BOSA	91 + 67.164	-13.015	434.200	434.195
	SCLBRG	91 + 71.405	-12.761	434.147	434.147
	A	91 + 81.423	-12.138	434.017	434.029
	B	91 + 91.438	-11.484	433.880	433.902
	C	92 + 01.449	-10.799	433.736	433.760
	D	92 + 11.456	-10.084	433.584	433.605
	E	92 + 21.458	-9.338	433.425	433.437
	F	92 + 31.455	-8.562	433.263	433.268
	CLP-1	92 + 40.448	-7.837	433.118	433.118
	G	92 + 50.436	-7.002	432.957	432.971
	H	92 + 60.419	-6.137	432.798	432.826
	I	92 + 70.396	-5.241	432.640	432.680
	J	92 + 80.368	-4.315	432.483	432.535
	K	92 + 90.334	-3.358	432.327	432.380
	L	93 + 00.294	-2.371	432.174	432.217
	M	93 + 10.247	-1.353	432.034	432.065
	N	93 + 20.195	-0.305	431.908	431.924
	CLP-2	93 + 29.639	0.718	431.778	431.778
	O	93 + 39.821	1.691	431.617	431.617
BM-8	BOSA	91 + 69.312	-14.393	434.125	434.120
	SCLBRG	91 + 73.554	-14.136	434.072	434.072
	A	91 + 83.576	-13.506	433.940	433.952
	B	91 + 93.595	-12.846	433.801	433.823
	C	92 + 03.610	-12.154	433.655	433.680
	D	92 + 13.620	-11.433	433.502	433.523
	E	92 + 23.626	-10.680	433.341	433.353
	F	92 + 33.626	-9.897	433.179	433.185
	CLP-1	92 + 42.623	-9.166	433.034	433.034
	G	92 + 52.614	-8.325	432.874	432.888
	H	92 + 62.601	-7.453	432.715	432.743
	I	92 + 72.581	-6.550	432.557	432.598
	J	92 + 82.556	-5.617	432.401	432.452
	K	92 + 92.525	-4.654	432.245	432.297
	L	93 + 02.489	-3.660	432.094	432.137
	M	93 + 12.446	-2.636	431.956	431.988
	N	93 + 22.396	-1.581	431.838	431.854
	CLP-2	93 + 31.843	-0.551	431.733	431.733
	O	93 + 41.781	0.563	431.617	431.617
	P	93 + 51.712	1.707	431.500	431.504
	Q	93 + 61.636	2.882	431.397	431.407
	R	93 + 71.552	4.087	431.244	431.287
	S	93 + 81.462	5.322	431.139	431.170
	NCLBRG	93 + 90.621	6.491	431.075	431.091
	BONA	93 + 94.808	7.035	431.041	431.041

NOTE: ELEVATIONS ARE AT TOP OF CONCRETE.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
S. STEGMAN	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
TOP OF SLAB ELEVATIONS

STRUCTURE NO. 082-0206

STA. 11+32.81 TO STA.13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 6 OF 26

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	205
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BM-9	BOSA	91 + 74.2[illegible]	-17.453	433.956	433.951
	SCLBRG	91 + 78.492	-17.298	433.897	433.897
	A	91 + 88.537	-16.910	433.753	433.765
	B	91 + 98.580	-16.492	433.602	433.623
	C	92 + 08.620	-16.042	433.444	433.464
	D	92 + 18.657	-15.562	433.278	433.295
	E	92 + 28.691	-15.050	433.107	433.115
	F	92 + 38.722	-14.509	432.936	432.940
	CLP-1	92 + 50.289	-13.845	432.741	432.741
	G	92 + 60.312	-13.237	432.573	432.593
	H	92 + 70.332	-12.598	432.406	432.466
	I	92 + 80.347	-11.929	432.240	432.296
	J	92 + 90.358	-11.229	432.075	432.145
	K	93 + 00.365	-10.498	431.913	431.986
	L	93 + 10.367	-9.737	431.763	431.823
	M	93 + 20.364	-8.944	431.650	431.696
	N	93 + 30.356	-8.122	431.554	431.580
	CLP-2	93 + 43.130	-7.025	431.444	431.444
	O	93 + 53.110	-6.132	431.367	431.401
	P	93 + 60.295	-5.444	431.318	431.366
	Q	93 + 68.862	-4.638	431.264	431.295
	R	93 + 77.429	-3.831	431.215	431.236
	S	93 + 85.995	-3.025	431.172	431.193
	NCLBRG	94 + 04.317	-1.300	431.099	431.099
	BONA	93 + 96.966	5.705	431.136	431.136
CJ C	P	93 + 65.648	-8.456	431.230	431.278
	Q	93 + 74.215	-7.650	431.189	431.220
	R	93 + 82.782	-6.844	431.153	431.174
	S	93 + 91.349	-6.037	431.124	431.144
	NCLBRG	94 + 09.670	-4.312	431.078	431.078
	BOSA	94 + 08.149	-0.587	431.087	431.087
BM-10	BOSA	91 + 79.194	-20.494	433.784	433.779
	SCLBRG	91 + 83.452	-20.434	433.720	433.720
	A	91 + 93.513	-20.270	433.565	433.576
	B	92 + 03.574	-20.075	433.402	433.423
	C	92 + 13.633	-19.850	433.232	433.253
	D	92 + 23.691	-19.593	433.055	433.073
	E	92 + 33.746	-19.306	432.876	432.886
	F	92 + 43.801	-18.988	432.698	432.702
	F1	92 + 53.853	-18.638	432.521	432.522
	CLP-1	92 + 57.990	-18.486	432.449	432.449
	G	92 + 68.039	-18.093	432.273	432.293
	H	92 + 78.085	-17.670	432.099	432.138
	I	92 + 88.129	-17.216	431.925	431.980
	J	92 + 98.169	-16.731	431.753	431.821
	K	93 + 08.207	-16.215	431.592	431.668
	L	93 + 18.241	-15.668	431.463	431.526
	M	93 + 28.272	-15.091	431.364	431.414
	N	93 + 38.299	-14.483	431.282	431.314
	N1	93 + 48.322	-13.844	431.218	431.230
	CLP-2	93 + 54.474	-13.437	431.187	431.187
	O	93 + 63.384	-12.809	431.154	431.184
	P	93 + 72.277	-12.186	431.135	431.183
	Q	93 + 81.170	-11.563	431.113	431.144
	R	93 + 90.063	-10.941	431.092	431.113
	S	93 + 98.956	-10.318	431.078	431.099
	S1	94 + 07.849	-9.695	431.072	431.085
	NCLBRG	94 + 17.975	-8.985	431.073	431.073
	BONA	94 + 23.083	-8.991	431.079	431.079
BM-11	BOSA	91 + 84.153	-23.544	433.610	433.605
	SCLBRG	91 + 88.415	-23.572	433.542	433.542
	A	91 + 98.488	-23.616	433.376	433.386
	B	92 + 08.561	-23.629	433.202	433.223
	C	92 + 18.634	-23.612	433.021	433.041
	D	92 + 28.707	-23.563	432.834	432.854
	E	92 + 38.780	-23.483	432.648	432.659
	F	92 + 48.851	-23.373	432.463	432.468
	F1	92 + 58.923	-23.231	432.279	432.281
	CLP-1	92 + 65.707	-23.118	432.156	432.156
	G	92 + 75.776	-22.925	431.974	431.992
	H	92 + 85.844	-22.702	431.792	431.830
	I	92 + 95.911	-22.447	431.612	431.665
	J	93 + 05.976	-22.161	431.440	431.506
	K	93 + 16.039	-21.844	431.289	431.367
	L	93 + 26.100	-21.497	431.166	431.231
	M	93 + 36.158	-21.118	431.058	431.111
	N	93 + 46.215	-20.709	430.968	431.004
	N1	93 + 56.268	-20.269	430.893	430.911
	CLP-2	93 + 65.821	-19.807	430.839	430.839
	O	93 + 75.040	-19.368	430.800	430.829
	P	93 + 84.259	-18.929	430.774	430.822
	Q	93 + 93.478	-18.489	430.761	430.792
	R	94 + 02.697	-18.050	430.761	430.782
	S	94 + 11.916	-17.610	430.775	430.796
	S1	94 + 21.136	-17.171	430.802	430.815
	CLBRG	94 + 31.633	-16.671	430.848	430.848
	BONA	94 + 36.747	-16.680	430.862	430.862

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
BM-12	BOSA	91 + 89.124	-26.593	433.463	433.458
	SCLBRG	91 + 93.388	-26.702	433.392	433.392
	A	92 + 03.468	-26.940	433.217	433.228
	B	92 + 13.550	-27.146	433.035	433.056
	C	92 + 23.633	-27.321	432.846	432.867
	D	92 + 33.717	-27.466	432.654	432.675
	E	92 + 43.801	-27.579	432.463	432.476
	F	92 + 53.887	-27.661	432.273	432.278
	F1	92 + 63.972	-27.713	432.083	432.085
	CLP-1	92 + 73.446	-27.733	431.905	431.905
	G	92 + 83.532	-27.725	431.716	431.735
	H	92 + 93.617	-27.685	431.529	431.565
	I	93 + 03.703	-27.615	431.346	431.398
	J	93 + 13.788	-27.514	431.178	431.243
	K	93 + 23.872	-27.382	431.034	431.110
	L	93 + 33.955	-27.219	430.904	430.872
	M	93 + 44.037	-27.024	430.789	430.845
	N	93 + 54.118	-26.799	430.689	430.731
	N1	93 + 60.124	-26.637	430.637	430.668
	CLP-2	93 + 77.150	-26.183	430.517	430.517
	O	93 + 86.695	-25.927	430.468	430.497
	P	93 + 96.241	-25.671	430.431	430.479
	Q	94 + 05.786	-25.415	430.407	430.438
	R	94 + 15.331	-25.159	430.397	430.417
	S	94 + 24.877	-24.903	430.399	430.419
	S1	94 + 34.422	-24.648	430.413	430.427
	NCLBRG	94 + 45.291	-24.356	430.446	430.446
	BONA	94 + 50.389	-24.356	430.462	430.462
BM-13	CLP-2	93 + 79.692	-27.613	430.460	430.460
	O	93 + 89.309	-27.397	430.411	430.438
	P	93 + 98.925	-27.181	430.375	430.426
	Q	94 + 08.542	-26.966	430.352	430.420
	R	94 + 18.158	-26.750	430.342	430.415
	S	94 + 27.775	-26.534	430.345	430.406
	S1	94 + 37.391	-26.318	430.360	430.410
	NCLBRG	94 + 48.342	-26.073	430.3[illegible]4	430.394
	BONA	94 + 53.465	-26.087	430.411	430.411

NOTE: ELEVATIONS ARE AT TOP OF CONCRETE.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
S. STEGMAN	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX

RAMP G OVER 4TH STREET
TOP OF SLAB ELEVATIONS

STRUCTURE NO. 082-0206

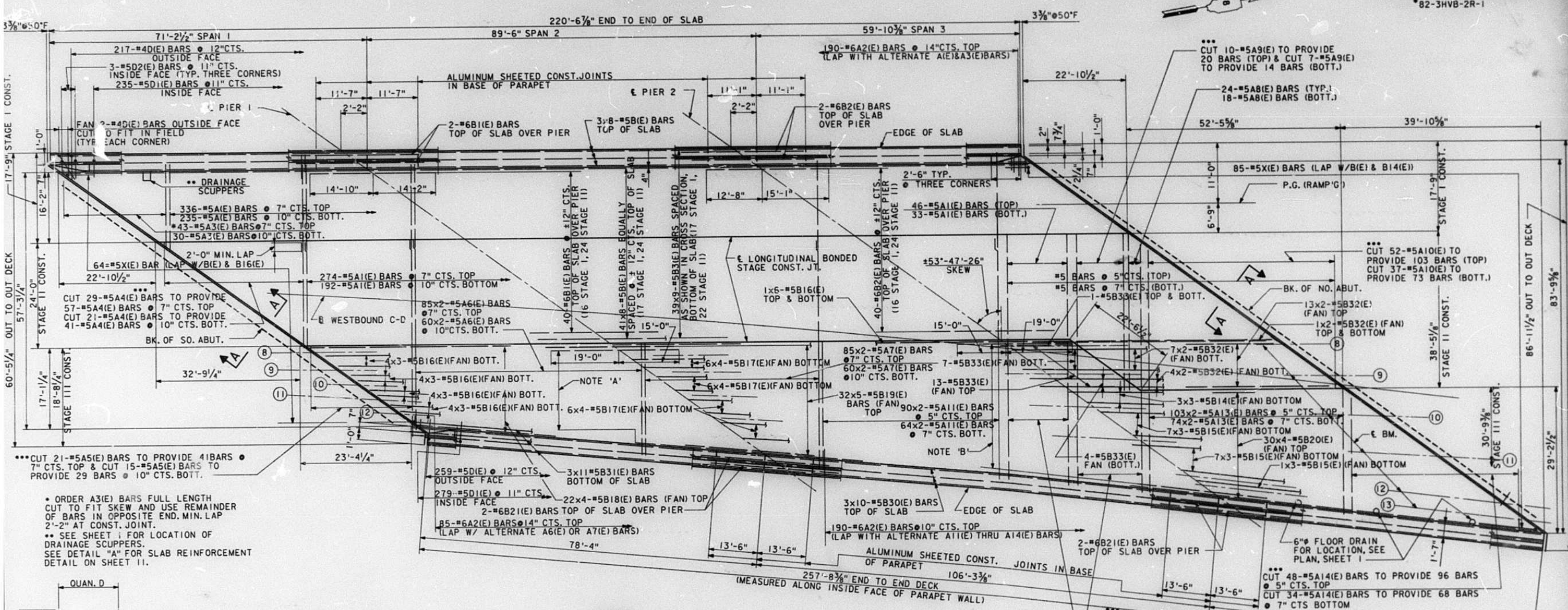
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 7 OF 26

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	206
		ILLINOIS	PROJECT	

•82-3HVB-2R-1



PLAN

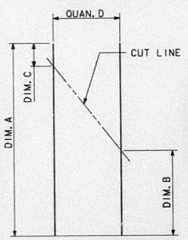
NOTE 'A'- 16-#6 B21(E) BARS TOP OF SLAB OVER PIER EQUALLY SPACES BETWEEN B19(E) BARS.

NOTE 'B'- 22-#6 B21(E) BARS TOP OF SLAB OVER PIER EQUALLY SPACED BETWEEN B20(E) BARS.

• ORDER A3(E) BARS FULL LENGTH CUT TO FIT SKEW AND USE REMAINDER OF BARS IN OPPOSITE END. MIN. LAP 2'-2" AT CONST. JOINT.

•• SEE SHEET 1 FOR LOCATION OF DRAINAGE SCUPPERS.

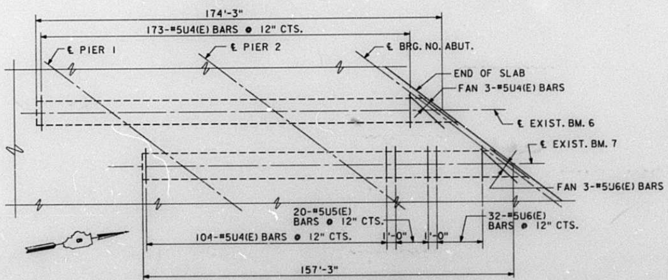
SEE DETAIL "A" FOR SLAB REINFORCEMENT DETAIL ON SHEET 11.



BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A4(E)	23'-10"	11' 11"	0'-0"	50-A4(E)
A5(E)	17'-0"	8'-6"	0'-0"	36-A5(E)
A8(E)	61'-0"	30'-6"	24'-3"	36-A8(E)
A10(E)	38'-2"	19'-1"	0'-0"	110-A10(E)
A12(E)	47'-0"	23'-6"	17'-1"	36-A12(E)
A14(E)	25'-7"	13'-3"	0'-7"	82-A14(E)

••• FIELD CUTTING DIAGRAM

ORDER A4(E), A5(E), A8(E), A10(E), A12(E) & A14(E) BARS FULL LENGTH. CUT IN THE FIELD TO FIT SKEW.



PLAN - SLAB DETAIL AT BMS. 6 & 7

(SHOWING FILLET REINFORCEMENT)

NOTES

SEE SHEET 10 FOR SUPERSTRUCTURE DETAILS & BILL OF MATERIAL.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

BARS INDICATED THUS 20x3-#5 ETC. INDICATES 20 LINES OF BARS WITH 3 LENGTHS PER LINE.

FOR FLOOR FINISH, SEE GENERAL NOTES.

FOR MIN. BAR LAPS, SEE NOTES ON SHEET 10.

FOR SECTION A-A, SEE SHEET 9.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
J. CORLEY	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
SLAB - SPANS 1 THRU 3

STRUCTURE NO. 082-0206

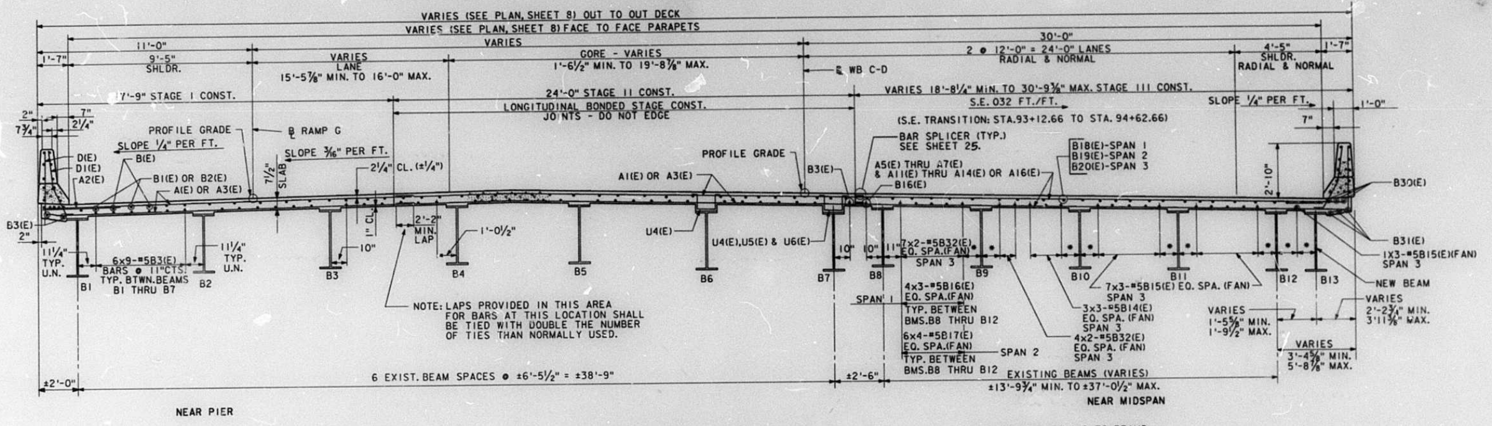
STA.11+32.81 TO STA.13+53.94 (FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	207

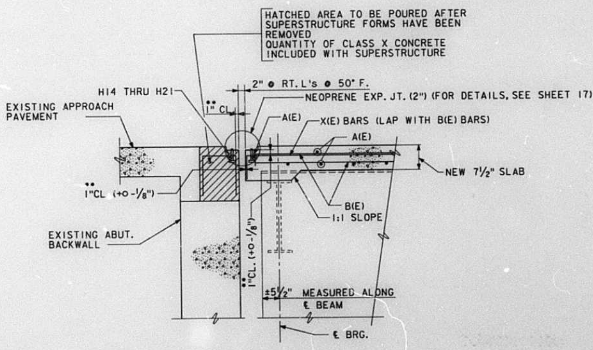
ILLINOIS PROJECT

82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CROSS SECTION (LOOKING NORTH)



SECTION A-A

••PLACE A(E) AND H14 THRU H21 BARS IN BACK OF ANCHOR BOLT AS SHOWN IF REQUIRED TO MAINTAIN 1"CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A(E) AND H14 THRU H21 BARS.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
J. CORLEY	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLEX

RAMP G OVER 4TH STREET
SLAB - CROSS SECTIONS

STRUCTURE NO. 082-0206

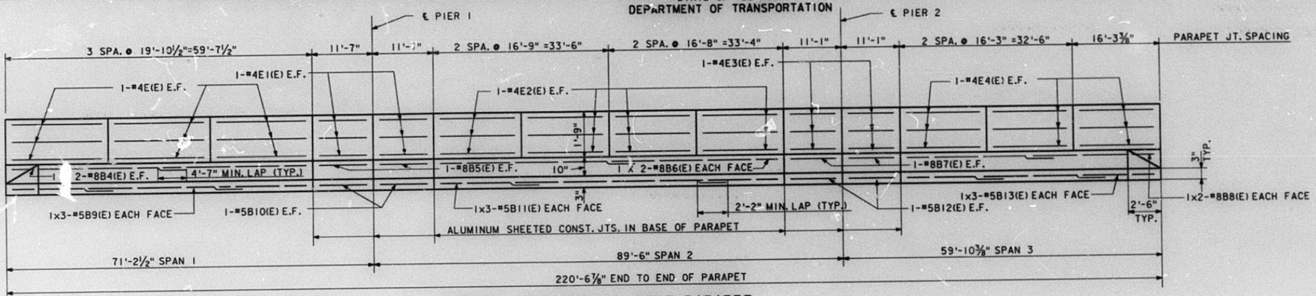
STA.11+32.81 TO STA.13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 9 OF 26

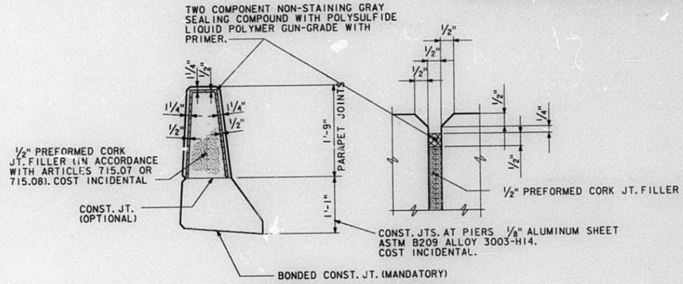
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	208
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

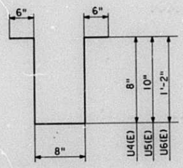


INSIDE ELEVATION OF WEST PARAPET

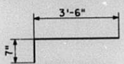


PARAPET JOINT DETAILS

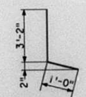
NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.



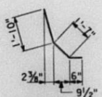
BARS U4(E), U5(E) & U6(E)



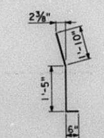
BAR X(E)



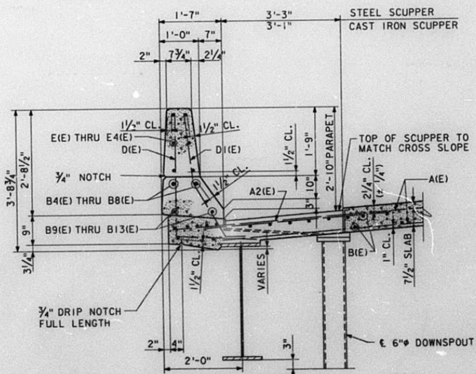
BAR D(E)



BAR D1(E)



BAR D2(E)



SECTION THRU PARAPET

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	571	#5	19'-0"	
A1(E)	545	#5	24'-0"	
A2(E)	465	#6	4'-0"	
A3(E)	73	#5	18'-3"	
A4(E)	50	#5	23'-10"	
A5(E)	36	#5	17'-0"	
A6(E)	290	#5	12'-8"	
A7(E)	290	#5	15'-4"	
A8(E)	42	#5	30'-2"	
A9(E)	17	#5	54'-2"	
A10(E)	89	#5	30'-0"	
A11(E)	308	#5	16'-1"	
A12(E)	38	#5	53'-2"	
A13(E)	354	#5	13'-7"	
A14(E)	82	#5	25'-7"	
A15(E)	48	#5	2'-0"	
A16(E)	158	#5	17'-2"	
B(E)	352	#5	29'-6"	
B1(E)	42	#6	29'-0"	
B2(E)	42	#6	27'-9"	
B3(E)	351	#5	26'-5"	
B4(E)	4	#8	32'-0"	
B5(E)	4	#8	11'-3"	
B6(E)	4	#8	35'-7"	
B7(E)	4	#8	10'-9"	
B8(E)	4	#8	26'-7"	
B9(E)	6	#5	21'-3"	
B10(E)	4	#5	11'-3"	
B11(E)	6	#5	23'-8"	
B12(E)	4	#5	10'-9"	
B13(E)	6	#5	17'-8"	
B14(E)	9	#5	23'-2"	
B15(E)	45	#5	25'-10"	
B16(E)	60	#5	28'-5"	

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
B17(E)	96	#5	28'-9"	
B18(E)	88	#5	21'-10"	
B19(E)	160	#5	23'-5"	
B20(E)	120	#5	19'-11"	
B21(E)	38	#6	34'-0"	
B22(E)	4	#8	34'-7"	
B23(E)	8	#8	13'-2"	
B24(E)	6	#8	29'-5"	
B25(E)	4	#8	32'-0"	
B26(E)	6	#5	23'-0"	
B27(E)	8	#5	13'-2"	
B28(E)	8	#5	21'-5"	
B29(E)	6	#5	21'-3"	
B30(E)	30	#5	27'-9"	
B31(E)	33	#5	25'-5"	
B32(E)	52	#5	23'-4"	
B33(E)	26	#5	21'-6"	
D(E)	484	#4	4'-2"	
D1(E)	514	#5	3'-11"	
D2(E)	9	#5	3'-9"	
E(E)	18	#4	19'-7"	
E1(E)	12	#4	11'-3"	
E2(E)	24	#4	16'-5"	
E3(E)	12	#4	10'-9"	
E4(E)	18	#4	16'-0"	
E5(E)	24	#4	15'-11"	
E6(E)	24	#4	13'-2"	
E7(E)	42	#4	19'-6"	
U4(E)	280	#5	3'-0"	
U5(E)	20	#5	3'-4"	
U6(E)	35	#5	4'-0"	
X(E)	149	#5	4'-1"	
CLASS X CONCRETE SUPERSTRUCTURE			CU.YDS.	443.9
REINFORCEMENT BARS (EPOXY COATED)			LBS.	121,610

NOTES

BARS INDICATED THUS 20x3-#5 ETC. INDICATES 20 LINES OF BARS WITH 3 LENGTHS PER LINE.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

FOR EAST PARAPET, SEE SHEET 11

MIN. BAR LAP: FOR #5 BARS = 2'-2"
#8 BARS = 4'-7"

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
WEST PARAPET

STRUCTURE NO. 082-0206

STA.11+32.81 TO STA.13+53.94 (FAI-70) ST. CLAIR CO.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
J. CORLEY	DRAWN
K. PATEL	CHECKED

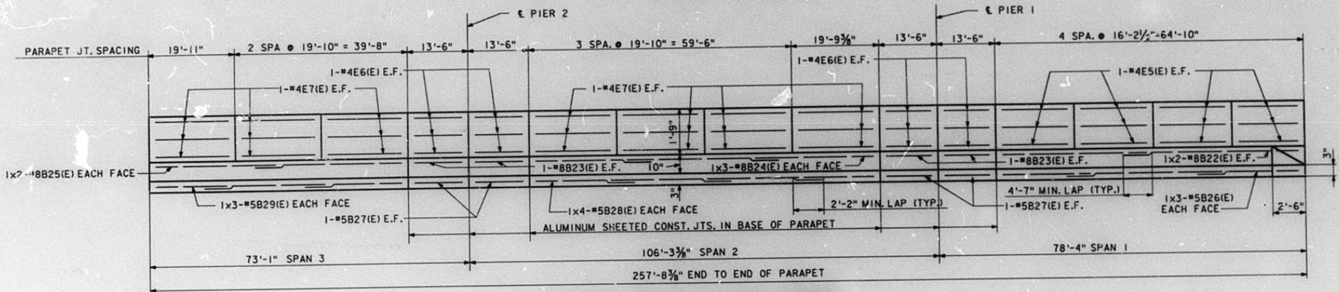
875675 PRF: DET158E

35 56 57 58 63

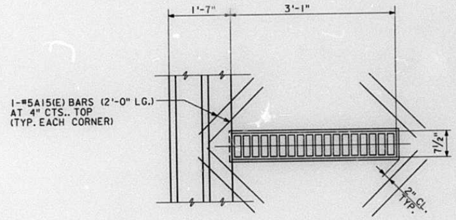
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	209
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

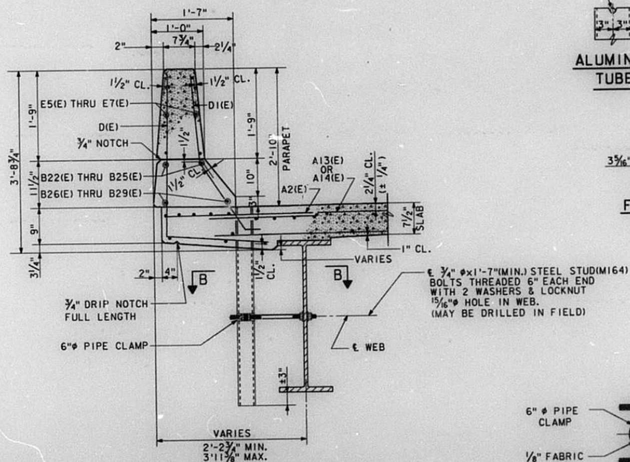
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



INSIDE ELEVATION OF EAST PARAPET

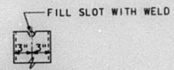


DETAIL "A"

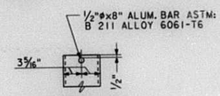


SECTION THRU EAST PARAPET
(LOOKING SOUTH)
(Showing Floor Drain)

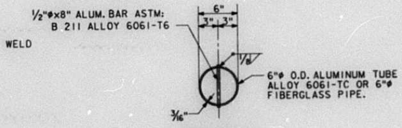
NOTES: THE EXTERIOR SURFACE OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE PAINT SYSTEM SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING. FIBERGLASS PIPE SHALL CONFORM TO ASTM: D2996, WITH SHORT TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM. THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.



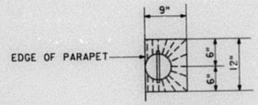
ALUMINUM TUBE



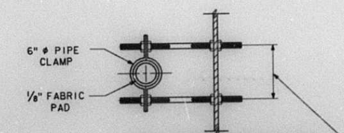
FIBERGLASS PIPE



TOP PLAN
(SHOWING ALUMINUM TUBE)



TOP PLAN



SECTION B-B

NOTES

1. SEE SHEET 10 FOR WEST PARAPET DETAILS & BILL OF MATERIALS
2. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
3. BARS INDICATED THUS 20x3-#5 ETC. INDICATES 20 LINES OF BARS WITH 3 LENGTHS PER LINE.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
FLOOR DRAINS	EACH	3

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
EAST PARAPET
STRUCTURE NO. 082-0206
STA.11+32.81 TO STA.13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 11 OF 26

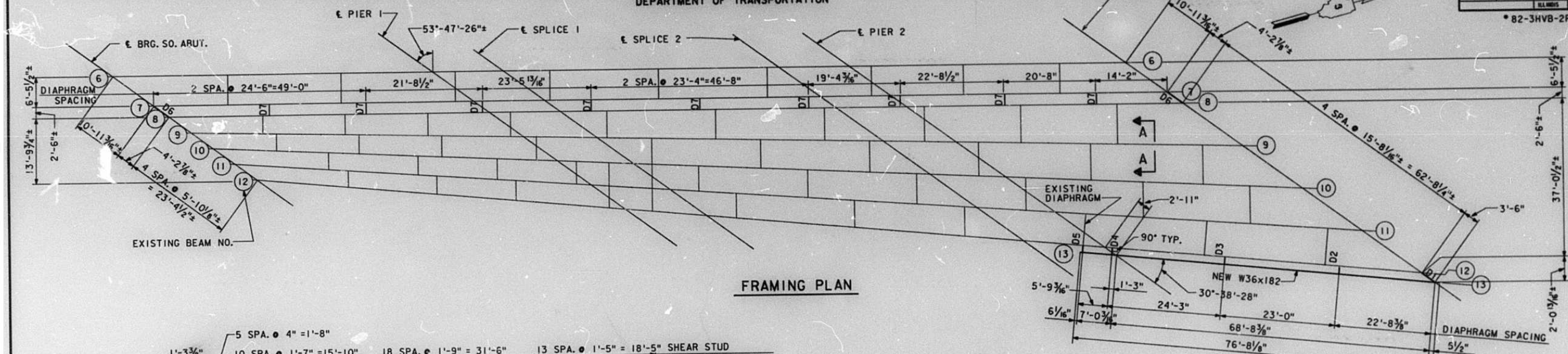
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

K. PATEL	DESIGNED
S. KNEIP	CHECKED
J. CORLEY	DRAWN
K. PATEL	CHECKED

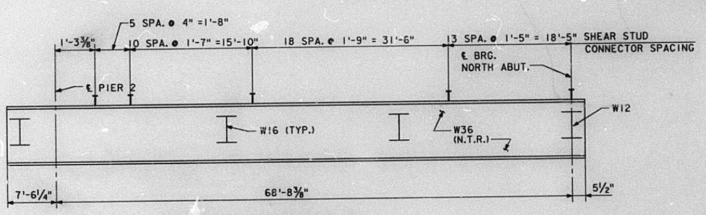
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	210
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

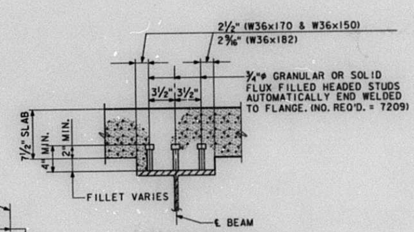


FRAMING PLAN

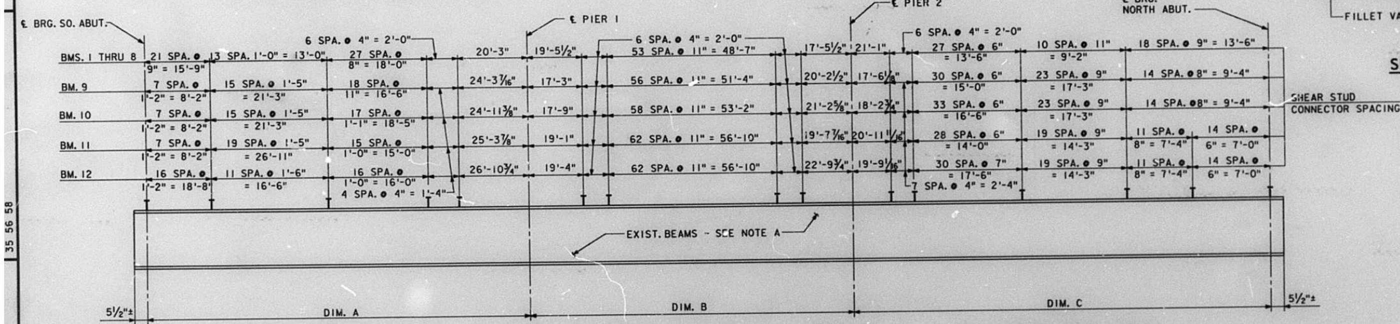


ELEVATION (BM. NO.13)

N.T.R. = NOTCH TOUGHNESS REQUIREMENT



SECTION A-A



ELEVATION (EXIST. BMS. 1 THRU 12)

	DIM. A	DIM. B	DIM. C
BMS. 1 THRU 8	69'-0"±	89'-6"±	59'-3"±
BM. 9	71'-6 7/16"±	92'-9 1/2"±	61'-5 1/8"±
BM. 10	74'-1 3/8"±	96'-1 1/8"±	63'-7 3/4"±
BM. 11	76'-8 7/8"±	99'-6 7/16"±	65'-10 11/16"±
BM. 12	79'-4 3/4"±	102'-11 3/4"±	68'-2 1/16"±

NOTE A: BEAMS 1 THRU 8 - W36x170
BEAMS 9 THRU 12 FROM SO. ABUT. TO SPLICE #1 - W36x150
BEAMS 9 THRU 12 FROM SPLICE #1 TO NO. ABUT. - W36x182

NOTES

SEE SHEET 14 FOR BEARING DETAILS.

NOTCH TOUGHNESS REQUIREMENTS ARE REQUIRED FOR WIDE FLANGE BEAM (W36 X 182).

SEE GENERAL NOTES FOR DIMENSIONS RELATED TO EXISTING STRUCTURES.

FURNISHING OF STRUCTURAL STEEL IS NOT PART OF THIS CONTRACT UNLESS OTHERWISE NOTED.

FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL, FURNISHING AND INSTALLATION OF SHEAR STUDS ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
J. CORLEY	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX

RAMP G OVER 4TH STREET
FRAMING PLAN AND DETAILS

STRUCTURE NO. 082-0206

STA.11+32.81 TO STA.13+53.94 (FAI-70) ST. CLAIR CO

SHEET NO. 12 OF 26

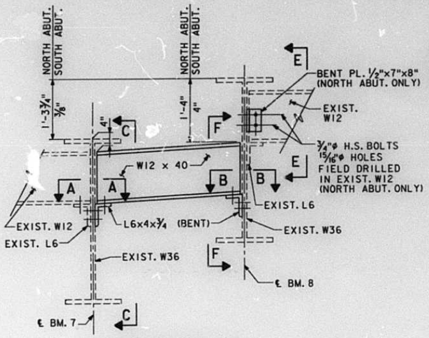
8TS570 | PRF: DET50E

35 56 58

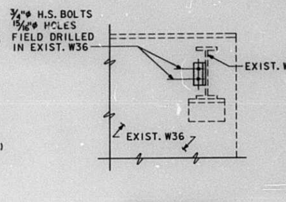
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	211
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

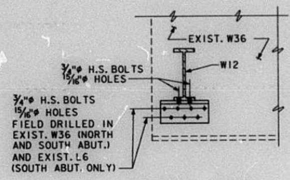
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



END DIAPHRAGM D6
(2 REQUIRED)

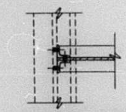


SECTION E-E
(NORTH ABUT. ONLY)

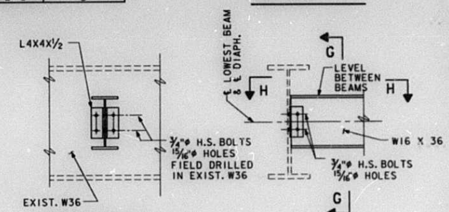


SECTION F-F

LENGTH OF DIAPHRAGMS (CENTER TO CENTER OF BEAMS)		
MARK	LENGTH	NO. REQUIRED
D1	3'-6"	1
D2	1'-8⅜"	1
D3	1'-7 3/16"	1
D4	1'-5⅞"	1
D5	1'-5⅝"	1
D6	±4'-2⅞"	2
D7	±2'-6"	9



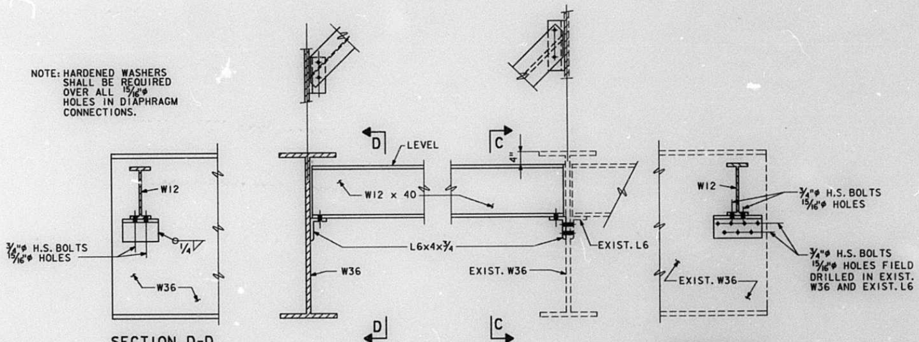
SECTION H-H



SECTION G-G

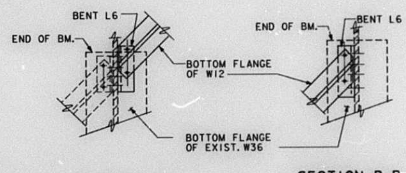
NEW INTERMEDIATE DIAPHRAGM
D2 THRU D5 & D7
(13 REQUIRED)

NOTE: HARDENED WASHERS SHALL BE REQUIRED OVER ALL 15/16"φ HOLES IN DIAPHRAGM CONNECTIONS.



END DIAPHRAGM D1
(1 REQUIRED)

SECTION C-C



SECTION A-A

SECTION B-B
(NORTH ABUT. ONLY)

NOTES

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.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
E. WELZ	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
DIAPHRAGM DETAILS

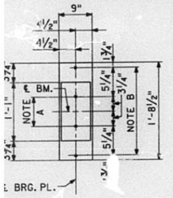
STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 13 OF 26

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	212
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

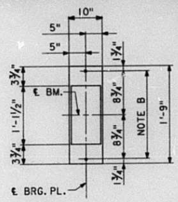
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN - BOTTOM PLATE
AT ABUTMENT

NOTE A

1¼" ϕ PINTLES - 1⅞" LONG IN BOTTOM ℘ - THREAD OR PRESS FIT



PLAN - BOTTOM PLATE
AT PIER 2

NOTE B

1½" ϕ HOLES FOR 1" ϕ ANCHOR BOLTS.
⅝"×2½"×2½" PL. WASHERS
UNDER NUT.

NOTES ON SETTING OF ANCHOR
BOLTS AT EXP. BRGS.

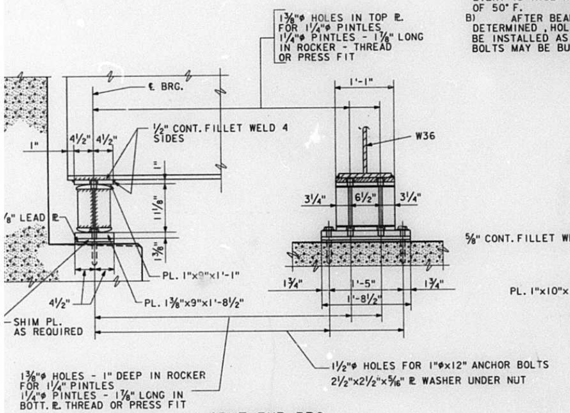
A) D• (SIDE OF BRG. AWAY FROM FIXED BRG.)
D• = ⅛" PER EACH 100' OF EXPANSION FOR EVERY 15° FALL BELOW THE NORMAL TEMP. OF 50° F.
D•• (SIDE OF BRG. TOWARD FIXED BRG.)
D•• = ⅛" PER EACH 100' OF EXPANSION FOR EVERY 15° RISE ABOVE THE NORMAL TEMP. OF 50° F.
B) AFTER BEAMS HAVE BEEN ERECTED AND DIMENSIONS D• OR D•• DETERMINED, HOLES SHALL BE DRILLED AND ANCHOR BOLTS SHALL BE INSTALLED AS SHOWN ON SHEET 23. ALL FIXED ANCHOR BOLTS MAY BE BUILT INTO THE MASONRY.

INTERIOR BEAM REACTION TABLE	SO. ABUT.	PIER 1	PIER 2	NO. ABUT.
BEAMS NO.2 THRU 6				
R D (K)	26.0	93.6	86.8	20.8
R L (K)	35.7	49.5	47.7	34.6
IMP. (K)	9.2	8.8	8.7	9.4
R TOTAL (K)	70.9	151.9	143.2	64.8
BEAM NO. 11				
R D (K)	18.8	89.7	110.2	30.7
R L (K)	19.3	43.7	61.3	50.7
IMP. (K)	4.8	7.3	10.6	13.3
R TOTAL (K)	42.9	140.7	182.1	94.7
BEAM NO. 13				
R D (K)	———	———	30.7	27.6
R L (K)	———	———	23.4	20.7
IMP. (K)	———	———	5.8	5.4
R TOTAL (K)	———	———	59.9	53.7

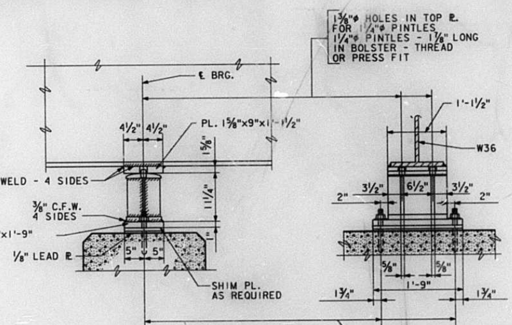
NOTE: FURNISHING OF BEARING ASSEMBLIES IS NOT PART OF THIS CONTRACT. INSTALLATION AND SETTING OF BEARING ASSEMBLIES IS PART OF THIS CONTRACT, SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

INTERIOR BEAM MOMENT TABLE	0.4 SP.1	PIER 1	0.5 SP. 2	PIER 2	0.6 SP. 3
BEAMS NO.2 THRU 6					
IS (IN⁴)	10470	14642	10470	14166	10470
IC (IN⁴)	24199	———	24199	———	24199
SS (IN³)	579	785	579	762	579
SC (IN³)	796	———	796	———	796
D (K/')	0.80	1.08	0.80	1.08	0.80
M D ('K)	238	682	290	595	153
fs-non-comp (KSI)	5.0	10.5	6.0	9.4	3.2
S D (K/')	0.24	———	0.24	———	0.24
MSD ('K)	84	———	115	———	54
M L ('K)	481	346	546	321	393
MIMP ('K)	124	85	127	81	107
TOTAL ('K)	689	431	788	402	554
fs-comp (KSI)	10.4	6.6	11.9	6.4	8.4
fs TOTAL (KSI)	15.4	17.1	17.9	15.8	11.6
VR (K)	49.5	———		———	49.7
BEAM 11					
IS (IN⁴)	9012	15500	11281	16460	11281
IC (IN⁴)	19485	———	25635	———	26628
SS (IN³)	502	824	621	873	621
SC (IN³)	680	———	850	———	860
D (K/')	0.57	0.95	0.81	1.24	1.01
M D ('K)	182	727	374	840	255
fs-non-comp (KSI)	4.4	10.6	7.2	11.6	5.0
S D (K/')	0.18	———	0.24	———	0.29
MSD ('K)	71	———	143	———	87
M L ('K)	361	345	633	464	598
MIMP ('K)	90	81	141	112	157
TOTAL ('K)	522	426	917	576	842
fs-comp (KSI)	9.3	6.2	13.0	8.0	11.8
fs TOTAL (KSI)	13.7	16.8	20.2	19.6	16.8
VR (K)	33.5	———		———	66.5
BEAM 13				PIER 2	0.5 SPAN
IS (IN⁴)	———	———	———	11300	11300
IC (IN⁴)	———	———	———	———	19278
SS (IN³)	———	———	———	623	623
SC (IN³)	———	———	———	———	774
D (K/')	———	———	———	0.65	0.63
M D ('K)	———	———	———	21	364
fs-non-comp (KSI)	———	———	———	0.5	7.0
S D (K/')	———	———	———	———	0.15
MSD ('K)	———	———	———	———	85
M L ('K)	———	———	———	95	319
MIMP ('K)	———	———	———	29	82
TOTAL ('K)	———	———	———	124	486
fs-comp (KSI)	———	———	———	2.4	7.6
fs TOTAL (KSI)	———	———	———	2.9	14.6
VR (K)	———	———	———	———	36.2

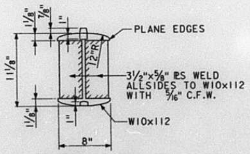
I_S AND S_S ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING fs TOTAL.
I_C AND S_C ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING fs TOTAL.
VR IS THE MAXIMUM L + IMPACT SHEAR RANGE IN SPAN.



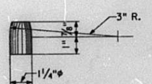
ABUT. EXP. BRG.
(FOR BM. 13 AT NO. ABUT. - 1 REQUIRED)



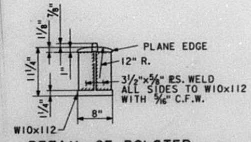
FIXED BRG. (PIER 2)
(FOR BM. 13 - 1 REQUIRED)



DETAIL OF ROCKER
AT EXPANSION BEARING



PINTLE DETAIL



DETAIL OF BOLSTER
AT FIXED BRG.

PATEL
DESIGNED
KNEIP
CHECKED
CORLEY
DRAWN
PATEL
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

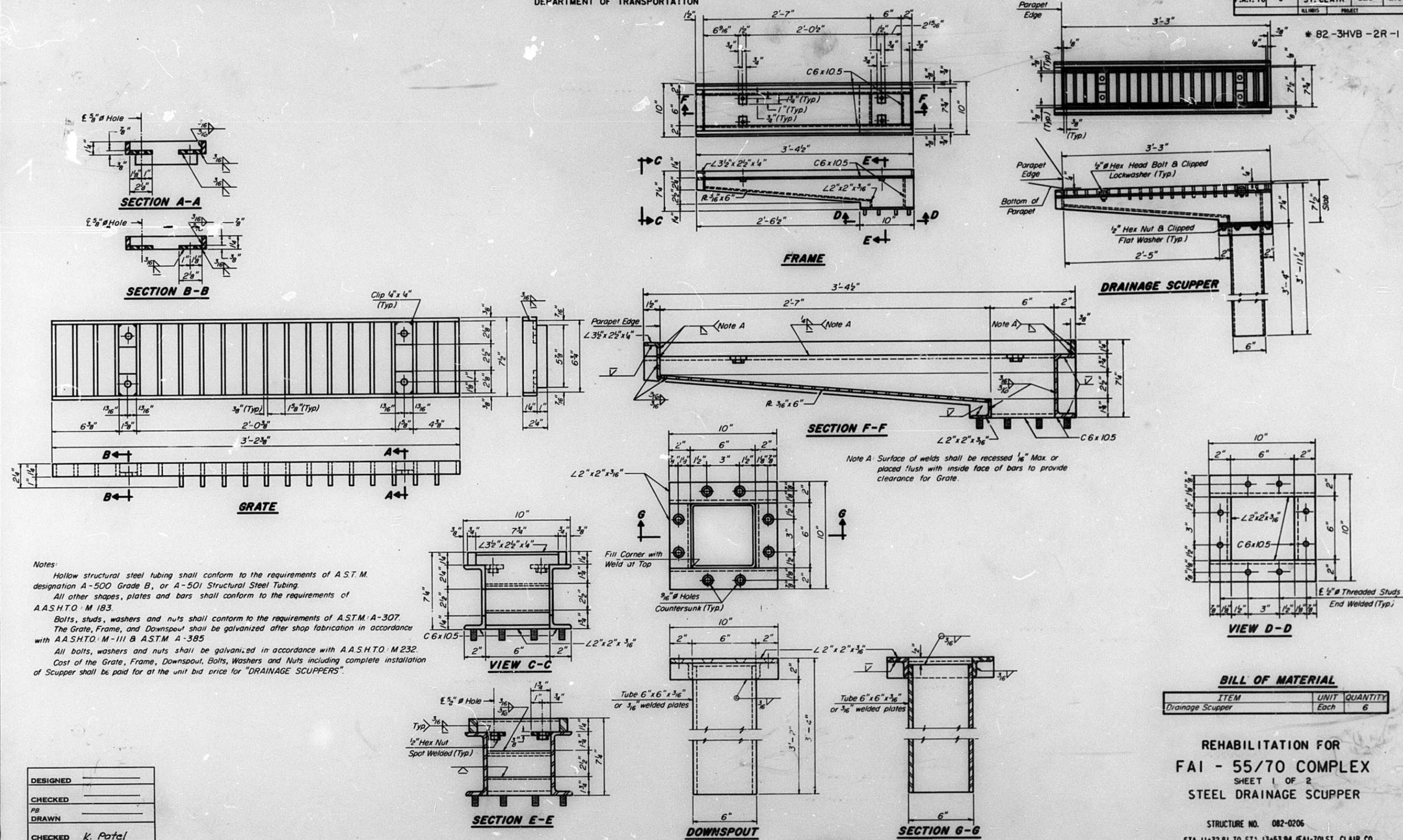
REV. 8/26/88
REV. 8/3/87

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
STEEL DETAILS
STRUCTURE NO. 082-0206
STA.11+32.81 TO STA.13+53.94 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	213
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1



Notes:

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B, or A-501 Structural Steel Tubing.

All other shapes, plates and bars shall conform to the requirements of A.A.S.H.T.O. M 183.

Bolts, studs, washers and nuts shall conform to the requirements of A.S.T.M. A-307.

The Grate, Frame, and Downspout shall be galvanized after shop fabrication in accordance with A.A.S.H.T.O. M-111 & A.S.T.M. A-385.

All bolts, washers and nuts shall be galvanized in accordance with A.A.S.H.T.O. M 232.

Cost of the Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper shall be paid for at the unit bid price for "DRAINAGE SCUPPERS".

DESIGNED	
CHECKED	
DRAWN	PB
CHECKED	K. Patel

7/14/87

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper	Each	6

REHABILITATION FOR
FAI - 55/70 COMPLEX
SHEET 1 OF 2
STEEL DRAINAGE SCUPPER

STRUCTURE NO. 082-0206

STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

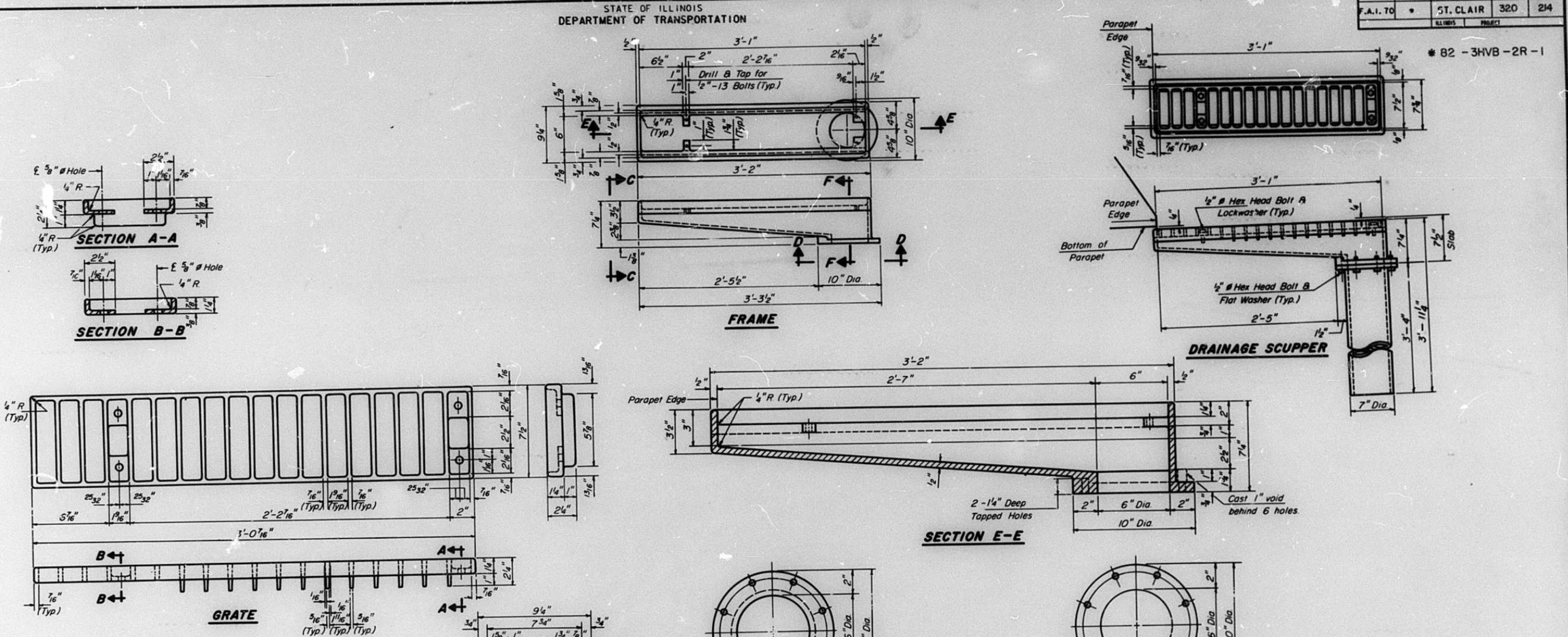
SHEET NO. 15 OF 26

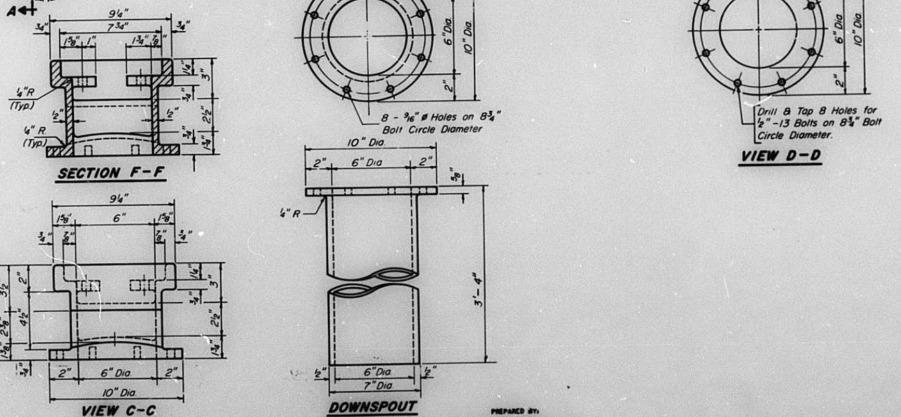
St Clair 82-3HVB-2R-1 shts. 213 thru 320

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	214

* 82 - 3HVB - 2R - 1





Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M-105, Class 30.

Bolts and washers shall conform to the requirements of A.S.T.M. A-307.

All bolts and washers shall be galvanized in accordance with A.A.S.H.T.O. M-232.

As an alternate bolts and washers may be stainless steel conforming to the requirements of A.S.T.M. A-193, Type 304.

Cost of the Grate, Frame, Downspout, bolts and washers including complete installation of Scupper shall be paid for at the unit bid price for "DRAINAGE SCUPPERS".

The Contractor may use at his option steel drainage scuppers or cast iron drainage scuppers.

DESIGNED	
CHECKED	
PB DRAWN	
CHECKED	K. Patel

DS-4 12-1-83 (W.T. to inside of exterior stringer flange shall not be > 3'-11")

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
SHEET 2 OF 2
ALTERNATE-CAST IRON
DRAINAGE SCUPPER

STRUCTURE NO. 082-0206

STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 16 OF 26

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	215
		ILLINOIS	PROJECT	

✱ 82-3HVB-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
2"	2"	$1\frac{1}{2}$" Min.	No. & So. Abuts.
~~$2\frac{1}{2}$"~~	~~$2\frac{1}{2}$"~~	~~$1\frac{3}{4}$" Min.~~	
~~4"~~	~~3"~~	~~$2\frac{1}{2}$" Min.~~	

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.

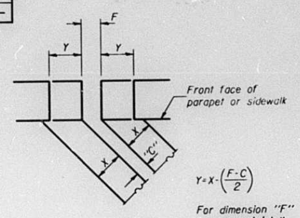
(4) Install anchor blocks as indicated.

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

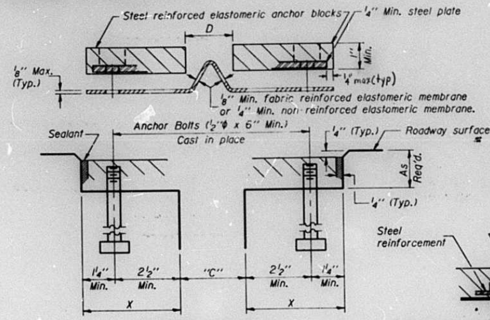
SKEW LIMITATIONS

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

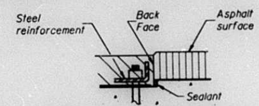
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of $1\frac{1}{2}$" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



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.

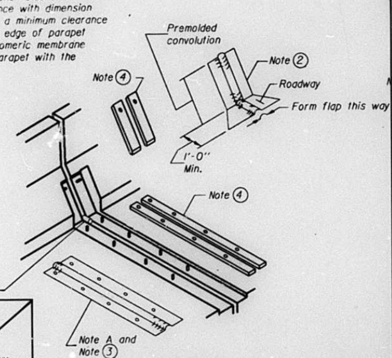
The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

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.

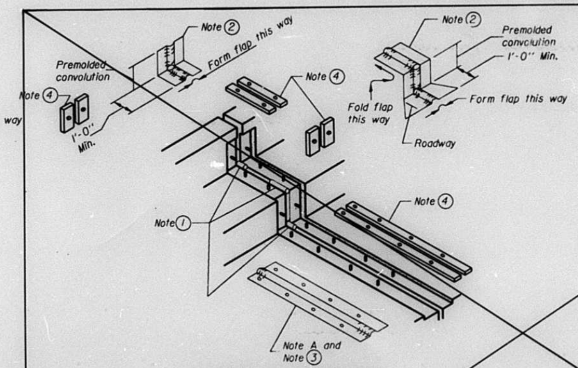
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

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.

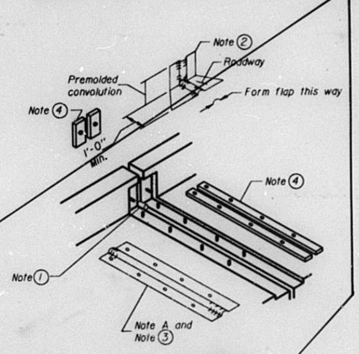
~~Anchor bolts, washers and nuts, to be plated against corrosion in accordance with the special provisions, shall be zinc-coated by the mechanical plating method conforming to ASTM B695, class 50. Zinc-coated nuts shall be tapped oversize in accordance with the requirements of AASHTO M291 and shall meet the supplementary requirements S1.1 thru S1.2.1 of the same specifications for lubricant and testing.~~



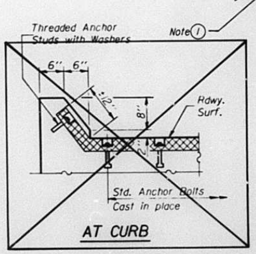
AT PARAPET



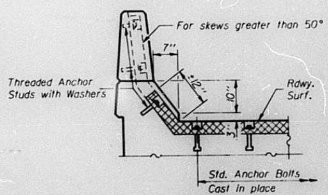
AT SIDEWALK OR MEDIAN



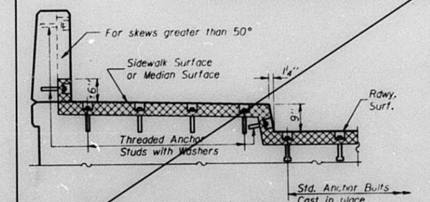
AT WALL



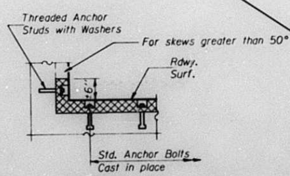
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN TYPICAL END TREATMENTS



AT WALL

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

DESIGNED	
CHECKED	
DRAWN	
CHECKED	K. Patel

EJ-CS 12-1-83

114187

REHABILITATION FOR
FAI - 55/70 COMPLEX
CONTINUOUS SEAL TYPE
NEOPRENE EXPANSION JOINTS
FOR 2", $2\frac{1}{2}$" AND 4" MOVEMENT

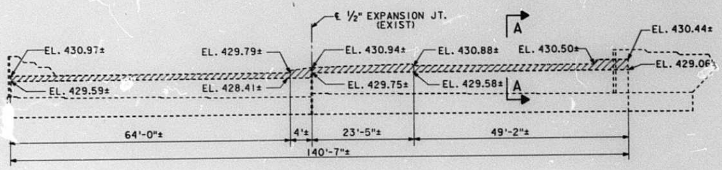
STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 17 OF 26

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	216
		ILLINOIS	PROJECT	

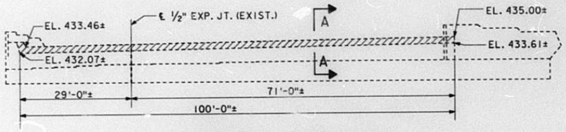
•82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



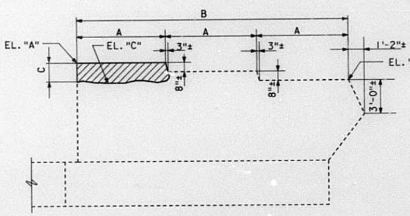
ELEVATION - (NORTH ABUT.)

(FOR WINGWALL REMOVAL, SEE THIS SHEET.)



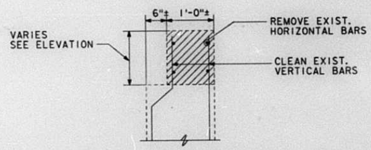
ELEVATION - (SOUTH ABUT.)

(FOR WINGWALL REMOVAL, SEE THIS SHEET.)

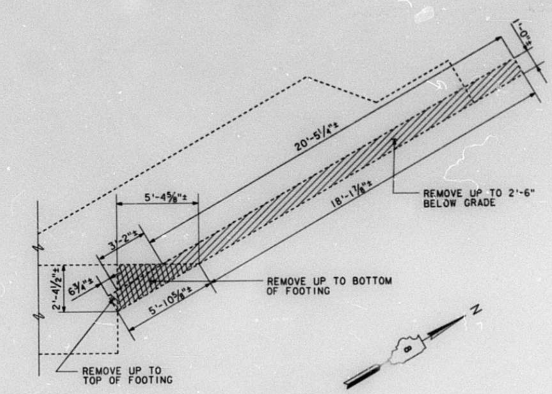


ELEVATION

WINGWALLS "A", "B" & "C"-DEMOLITION

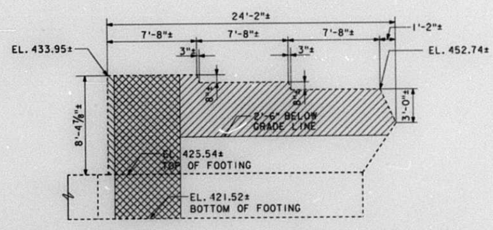


SECTION A-A



PLAN

WINGWALL "D"-DEMOLITION



ELEVATION

WINGWALL "D"-DEMOLITION

DESCRIPTION	EL. "A"	EL. "B"	A	B	EL. "C"	C
W.W. "A"	±436.85	±435.70	3'-8"±	12'-2"±	±436.03	9 7/8"±
W.W. "B"	±438.46	±437.57	8'-8"±	27'-2"±	±437.75	8 1/2"±
W.W. "C"	±434.53	±432.94	3'-8"±	12'-2"±	±433.69	10 1/8"±

K. PATEL	DESIGNED
S. KNEIP	CHECKED
E. WELZ	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR

FAI - 55/70 COMPLEX

RAMP G OVER 4TH STREET
CONCRETE REMOVAL

STRUCTURE NO. 082-0206

STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

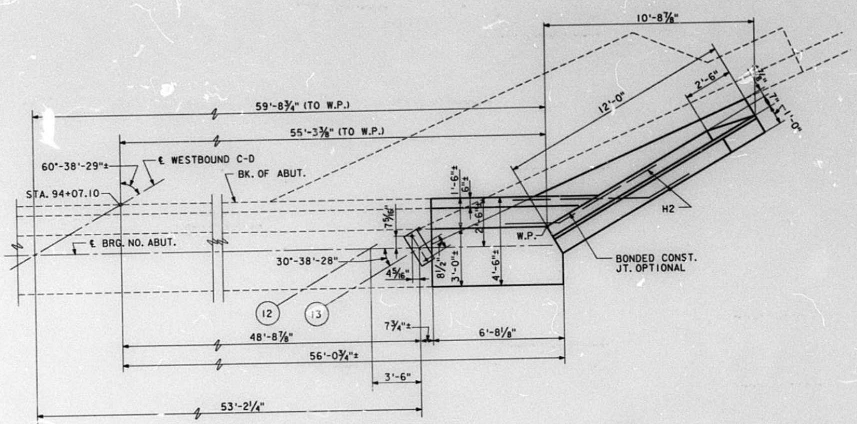
SHEET NO. 18 OF 26

87S677 PRF: DET160E 35 56 63

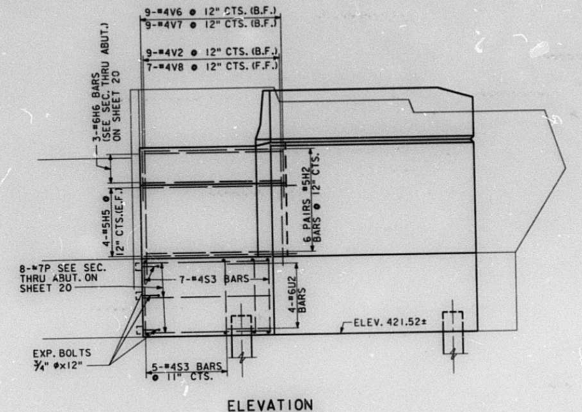
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	217

*82-3HVB-2R-1

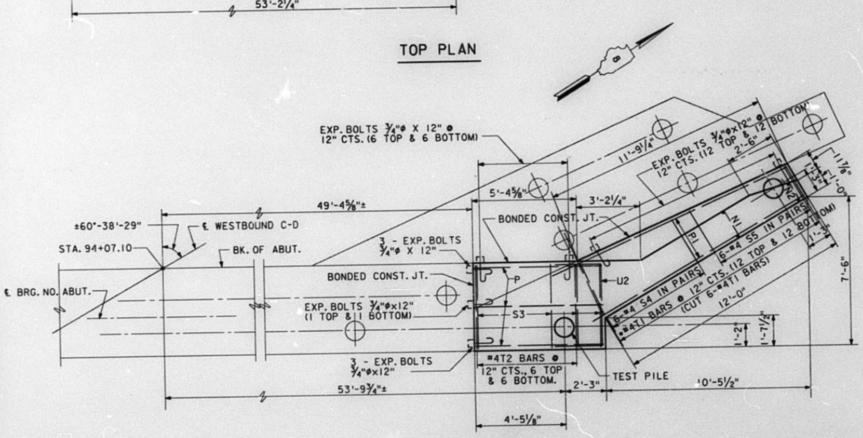
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



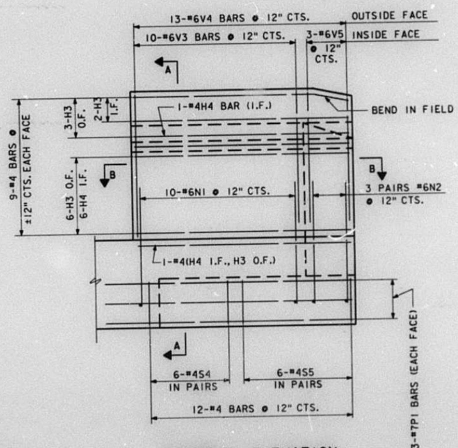
TOP PLAN



ELEVATION
(LOOKING WEST)



PLAN - PILE CAP

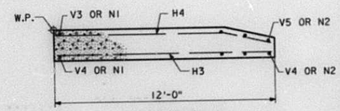


WINGWALL ELEVATION
(REINFORCEMENT)

PILE DATA

TYPE:	CONCRETE PILE
CAPACITY:	35 TONS
ESTIMATED LENGTH:	32 FT.
NO. REQUIRED:	1 **
TEST PILES:	1

** DOES NOT INCLUDE TEST PILE



SECTION B-B

* FIELD CUTTING DIAGRAM - SEE SHEET 20

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
NORTH ABUTMENT - MODIFICATIONS

STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
D. FRIERDICH	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

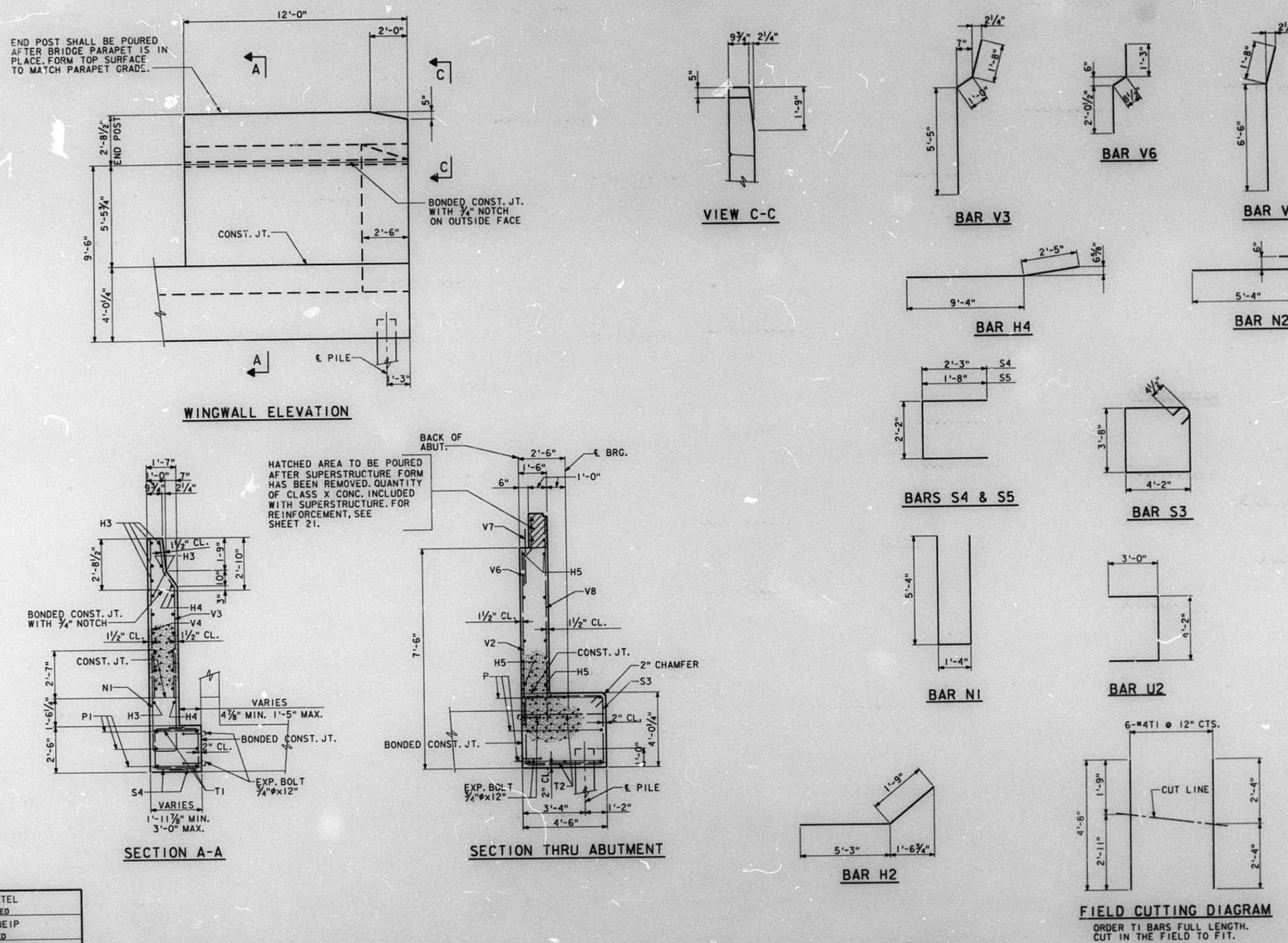
875678 PRF: DET161E

35 56 57 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	218
		ILLINOIS	PROJECT	

82-3HVB-2R-1



BILL OF MATERIAL

NORTH ABUTMENT				
BAR	NO.	SIZE	LENGTH	SHAPE
H2	12	#5	7'-0"	
H3	12	#4	11'-8"	
H4	8	#4	11'-9"	
H5	8	#5	8'-4"	
N1	10	#6	12'-0"	
N2	6	#6	6'-0"	
P	8	#7	6'-4"	
P1	6	#7	13'-6"	
S3	7	#4	16'-5"	
S4	12	#4	6'-8"	
S5	12	#4	5'-6"	
T1	12	#4	4'-8"	
T2	12	#4	4'-3"	
U2	4	#6	10'-2"	
V2	9	#4	5'-2"	
V3	10	#6	8'-1"	
V4	13	#6	8'-0"	
V5	3	#6	8'-2"	
V6	9	#4	4'-0"	
V7	9	#5	3'-0"	
V8	7	#4	6'-5"	
CLASS X CONCRETE			CU. YDS.	17.4
REINFORCEMENT BARS			LBS.	1,550
EXPANSION BOLTS 3/4"φx12"			EACH	44
FURNISHING CONCRETE PILES			LIN. FT.	32
DRIVING CONC. PILES			LIN. FT.	32
TEST PILES CONCRETE			EACH	1
Structure Excavation			*Cu. Yd.*	9

NOTES

WORK THIS SHEET WITH SHEET 19.
ALL ELEVATIONS TO BE FIELD VERIFIED.

K. PATEL	DESIGNED
S. KNEIP	CHECKED
S. KAEMMERER	DRAWN
K. PATEL	CHECKED

PRF: DET162E
875679

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
NORTH ABUTMENT - MODIFICATIONS

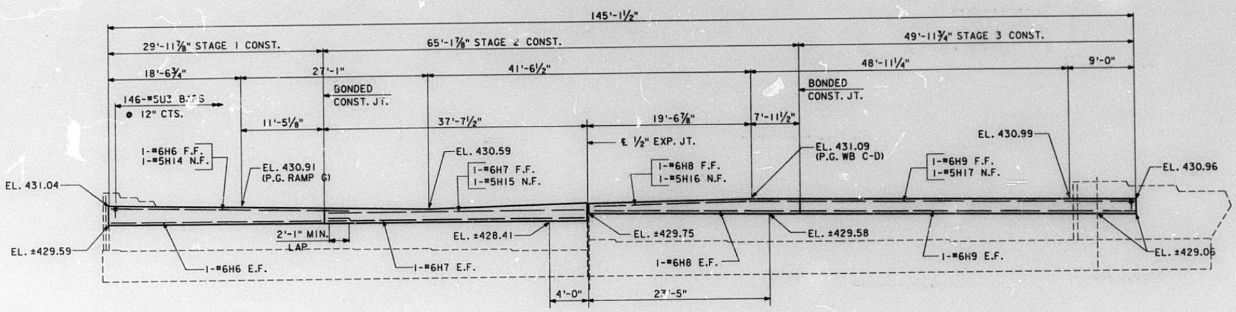
STRUCTURE NO. 082-0206

STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

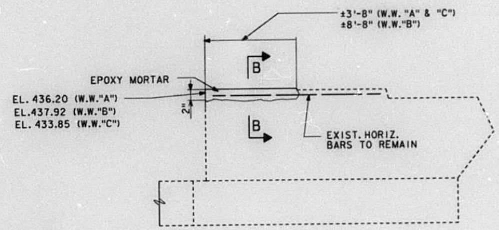
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	219
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

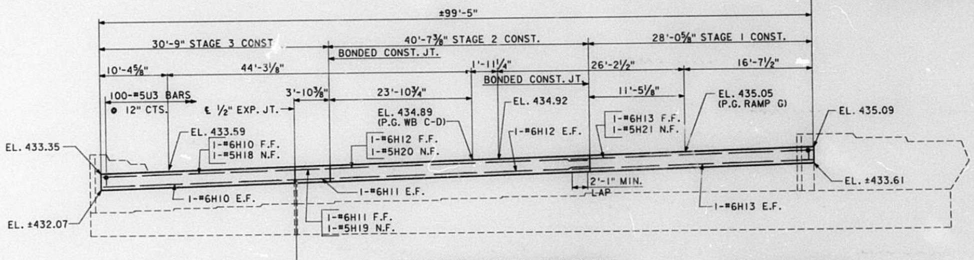


ELEVATION-NORTH ABUTMENT
(LOOKING NORTH)

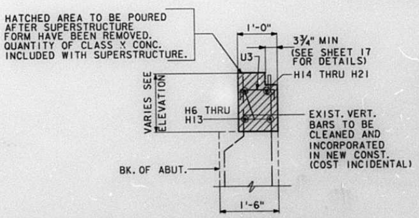


ELEVATION
WINGWALLS "A","B" & "C"
MODIFICATIONS

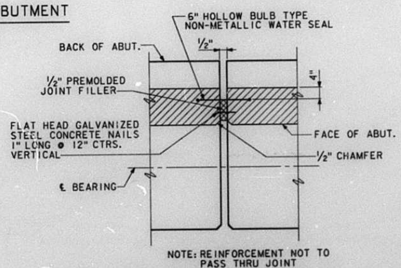
NOTE: FOR CONCRETE REMOVAL, SEE SHEET 18.



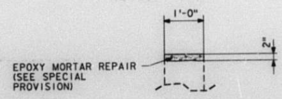
ELEVATION-SOUTH ABUTMENT
(LOOKING SOUTH)



SECTION THRU ABUTMENT BACKWALL



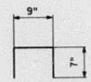
PLAN OF EXPANSION JOINT DETAIL
(COST INCIDENTAL TO CLASS X CONCRETE)



SECTION B-B

BILL OF MATERIAL

NORTH AND SOUTH ABUTMENTS				
BAR	NO.	SIZE	LENGTH	SHAPE
H6	3	#6	31'-11"	——
H7	3	#6	37'-4"	——
H8	3	#6	27'-5"	——
H9	3	#6	49'-10"	——
H10	3	#6	26'-7"	——
H11	3	#6	3'-8"	——
H12	3	#6	40'-6"	——
H13	3	#6	30'-0"	——
H14	1	#5	31'-11"	——
H15	1	#5	37'-4"	——
H16	1	#5	27'-5"	——
H17	1	#5	49'-10"	——
H18	1	#5	26'-7"	——
H19	1	#5	3'-8"	——
H20	1	#5	40'-6"	——
H21	1	#5	30'-0"	——
U3	246	#5	1'-11"	⊓
REINFORCEMENT BARS			LBS.	1,870



BAR U3

K. PATEL	DESIGNED
S. KNEIP	CHECKED
D. RIEHL	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
NORTH AND SOUTH ABUTMENT MODIFICATIONS

STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

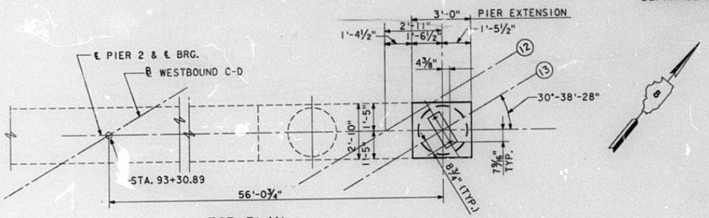
SHEET NO. 21 OF 26

87S680 PRF: DET163E

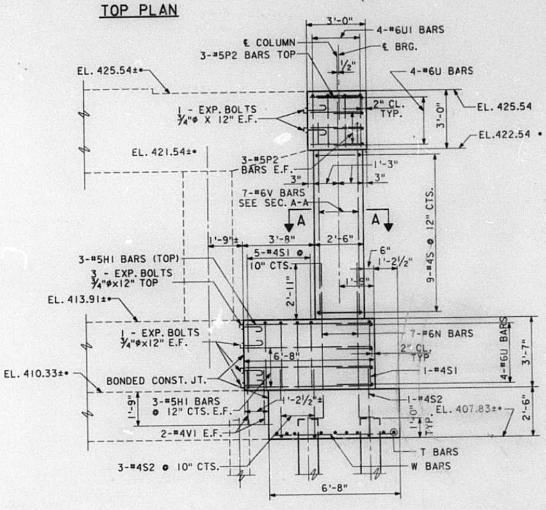
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	220

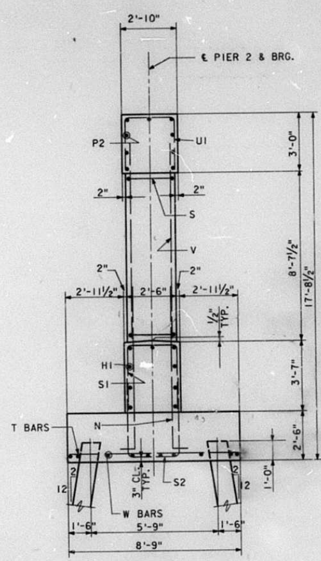
*82-3HVB-2R-1



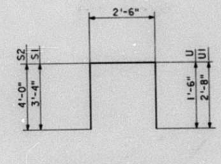
TOP PLAN



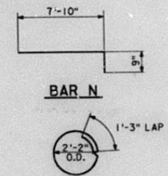
ELEVATION



END VIEW



BARS U,U1,S1&S2



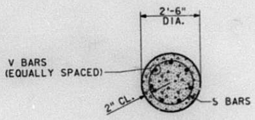
BAR N

BAR S

BILL OF MATERIAL

PIER NO. 2				
BAR	NO.	SIZE	LENGTH	SHAPE
			*	
H1	9	#5	6'-4"	
N	7	#6	8'-7"	
P2	9	#5	2'-8"	
S	9	#4	8'-1"	
S1	6	#4	9'-2"	
S2	4	#4	10'-6"	
T	9	#6	8'-3"	
U	8	#6	5'-6"	
U1	4	#6	7'-10"	
V	7	#6	10'-9"	
V1	4	#4	3'-6"	
W	10	#5	6'-4"	

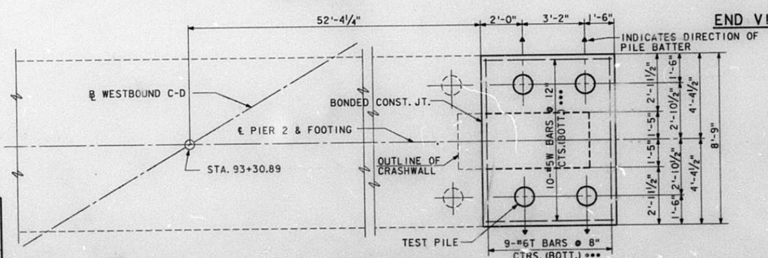
CLASS X CONCRETE	CU. YDS.	10.5
REINFORCEMENT BARS	LBS.	710
EXPANSION BOLTS ¾"φx12"	EACH	13
FURNISHING CONCRETE PILES	LIN. FT.	123
DRIVING CONCRETE PILES	LIN. FT.	123
TEST PILE CONCRETE	EACH	1
Structure Excavation	Cu. Yds.	10



SECTION A-A

NOTES

SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.
ALL EDGES SHALL HAVE ¾" CHAMFER EXCEPT FOOTING.
FOR ANCHOR BOLTS & BEARING ASSEMBLIES, SEE SHEET 14.
*DIMENSIONS BASED ON ELEVATION OF EXISTING FOOTING TAKEN FROM ORIGINAL BRIDGE PLANS.



FOOTING PLAN

*** SPACE TO MISS PILES

PILE DATA

TYPE:	CONCRETE PILES
CAPACITY:	40 TONS
ESTIMATED LENGTH:	41 FT.
NO REQUIRED:	3 **
TEST PILES:	1

** DOES NOT INCLUDE TEST PILE

K. PATEL	DESIGNED
S. KNEIP	CHECKED
J. CORLEY	DRAWN
K. PATEL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
RAMP G OVER 4TH STREET
PIER NO. 2

STRUCTURE NO. 082-0206
STA.11+32.81 TO STA.13+53.94 (FAI-70) ST. CLAIR CO.

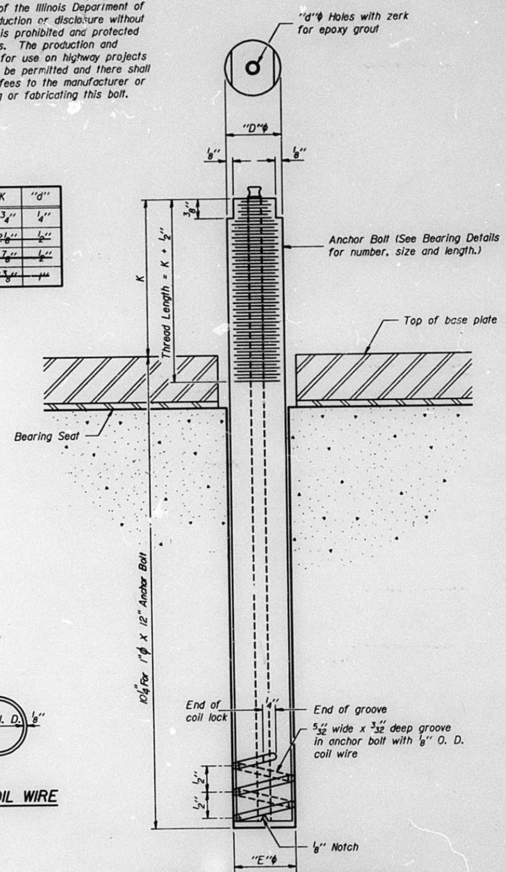
SHEET NO. 22 OF 26

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	221
		ILLINOIS	PROJECT	

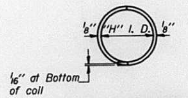
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

• 82-3HVB-2R-1

D	E	H	K	"d"
1"	1 1/8"	13/16"	1 3/4"	1/4"
~~1 1/2"~~	~~1 5/8"~~	~~1 5/16"~~	~~2 1/8"~~	~~1/2"~~
~~2"~~	~~2 1/8"~~	~~1 13/16"~~	~~2 7/8"~~	~~1/2"~~
~~2 1/2"~~	~~2 5/8"~~	~~2 5/16"~~	~~3 3/8"~~	~~1"~~



ILLINOIS COIL-LOCK ANCHOR BOLT



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 hexagonal nuts and cut washers.

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 comforming 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 and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
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.

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 nuts 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	
CHECKED	K. Patel

ABB-1 12-1-83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ANCHOR BOLT DETAILS FOR BEARING

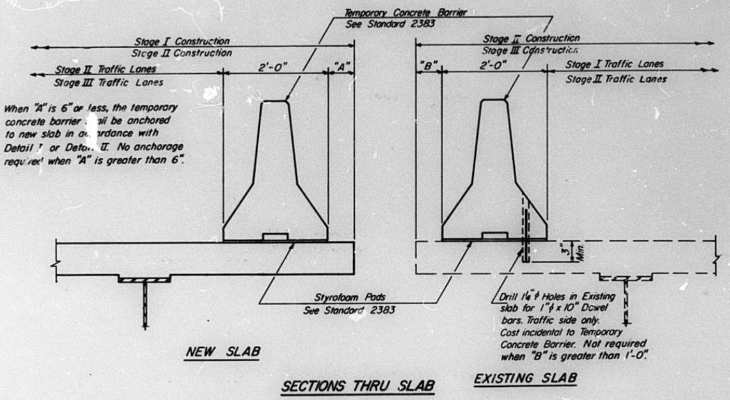
STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 23 OF 26

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	222
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1



When "A" is 6" or less, the temporary concrete barrier shall be anchored to new slab in accordance with Detail I or Detail II. No anchorage required when "A" is greater than 6".

SECTIONS THRU SLAB

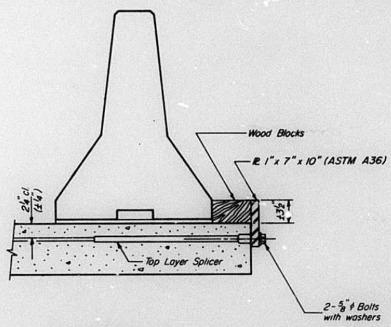
NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x 10" steel PL to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each 10'-0" barrier panel.

Detail II - With Extended Reinforcement Bars
Connect one (1) 1" x 7" x 10" steel PL to the concrete slab with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each 10'-0" barrier panel.

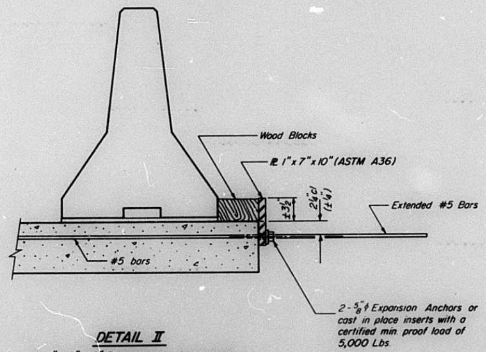
Cost of anchorage is incidental to Temporary Concrete Barrier.

For "Temporary Concrete Barrier" pay item, see Roadway Plans.



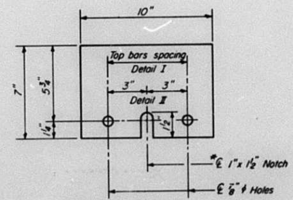
DETAIL I

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



PL 1" x 7" x 10"

* Required only with Detail II

DESIGNED	
CHECKED	
DRAWN	
CHECKED	K. Patel

R-27 6-15-83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

STRUCTURE NO. 082-0206

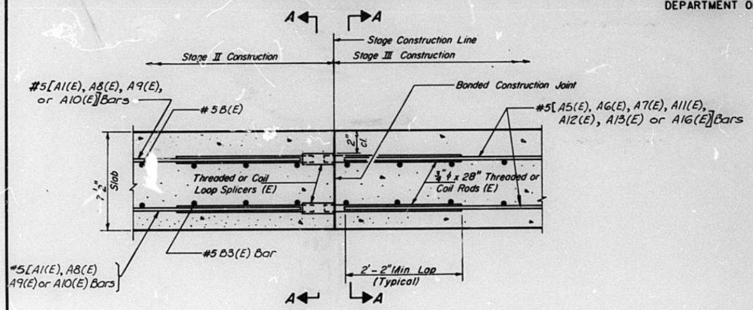
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.

SHEET NO. 24 OF 26

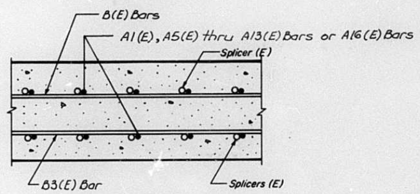
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	223
		ILLINOIS PROJECT		

#82 - 3HVB - 2R - 1



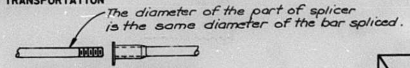
SECTION THRU SLAB



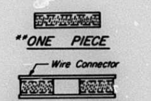
SECTION A-A

SPLICER DETAILS
(No. Req'd. 846)

Cost incidental to reinforcement bars (Epoxy Coated).

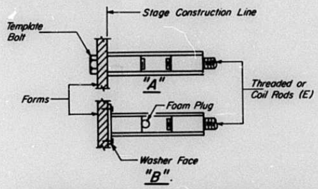


Rolled Thread Dowel Bar



SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set splicer by means of a template bolt.
"B" : Set splicer by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length and have effective tensile stress area equal or greater than that of the lapped reinforcement bars.

All reinforcement bars shall be lapped and tied to the splicer rods.

Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.

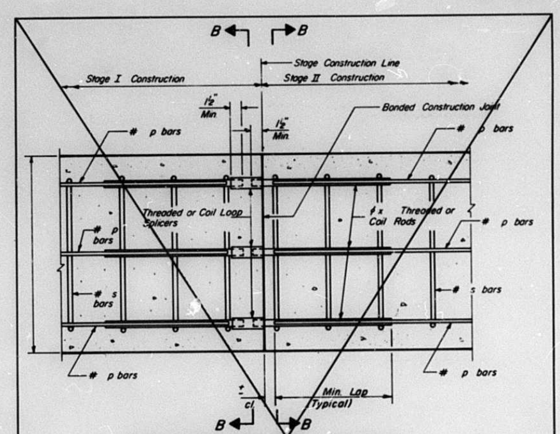
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

1. Minimum Capacity (Tension in kips) $= 1.25 \times f_y \times A_t$
2. Minimum *Pull-out Strength (Tension in kips) $= 1.25 \times fs_{allow} \times A_t$

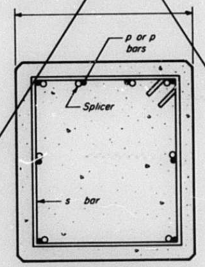
Where f_y = Yield strength of lapped reinforcement bars in k.s.i.
fs_{allow} = Allowable tensile stress in lapped reinforcement bars in k.s.i. (Service Load)
A_t = Tensile stress area of lapped reinforcement bars.
* 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

In Slabs	#5 bar lap with 3/4"ϕ Splicer (Coupler) x 2'-4" Splicer Rods	Minimum Capacity = 23.0 kips-tension Minimum Pull-out Strength = 9.2 kips-tension
In Substructures	~~#7 bar lap with 1"ϕ Splicer (Coupler) x 3'-5" Splicer Rods~~	~~Minimum Capacity = 45.1 kips-tension~~ ~~Minimum Pull-out Strength = 18.0 kips-tension~~
	~~#8 bar lap with 1 1/4"ϕ Splicer (Coupler) x 4'-6" Splicer Rods~~	~~Minimum Capacity = 58.9 kips-tension~~ ~~Minimum Pull-out Strength = 23.6 kips-tension~~



~~SECTION THRU ABUTMENTS AND PIERS~~
~~No epoxy coating required.~~



~~SECTION B-B~~

~~SPLICER DETAILS~~
~~(No. Req'd.)~~

~~Cost incidental to reinforcement bars.~~

DESIGNED	
CHECKED	
DRAWN	
CHECKED	K. Patel

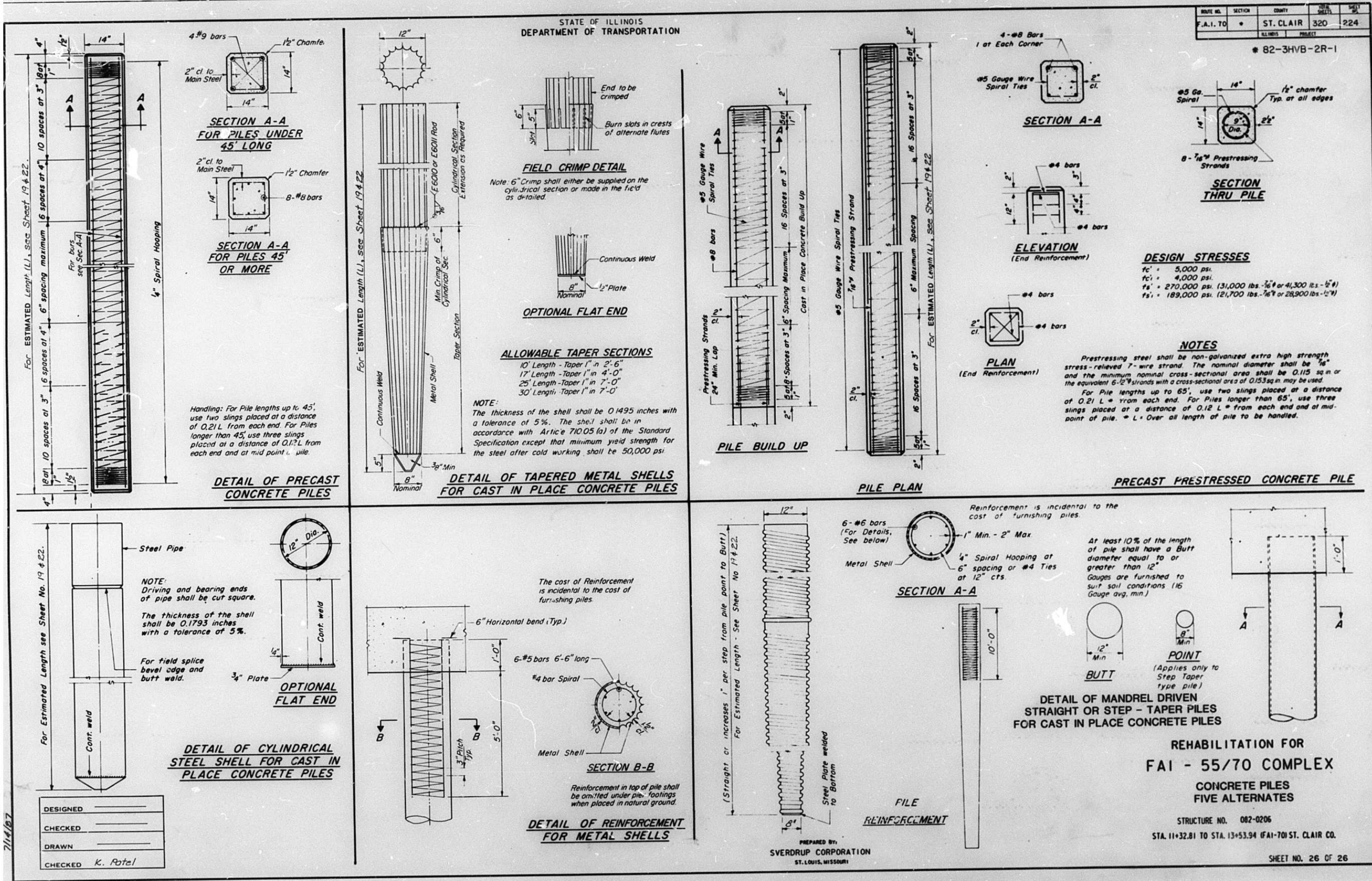
7/14/87

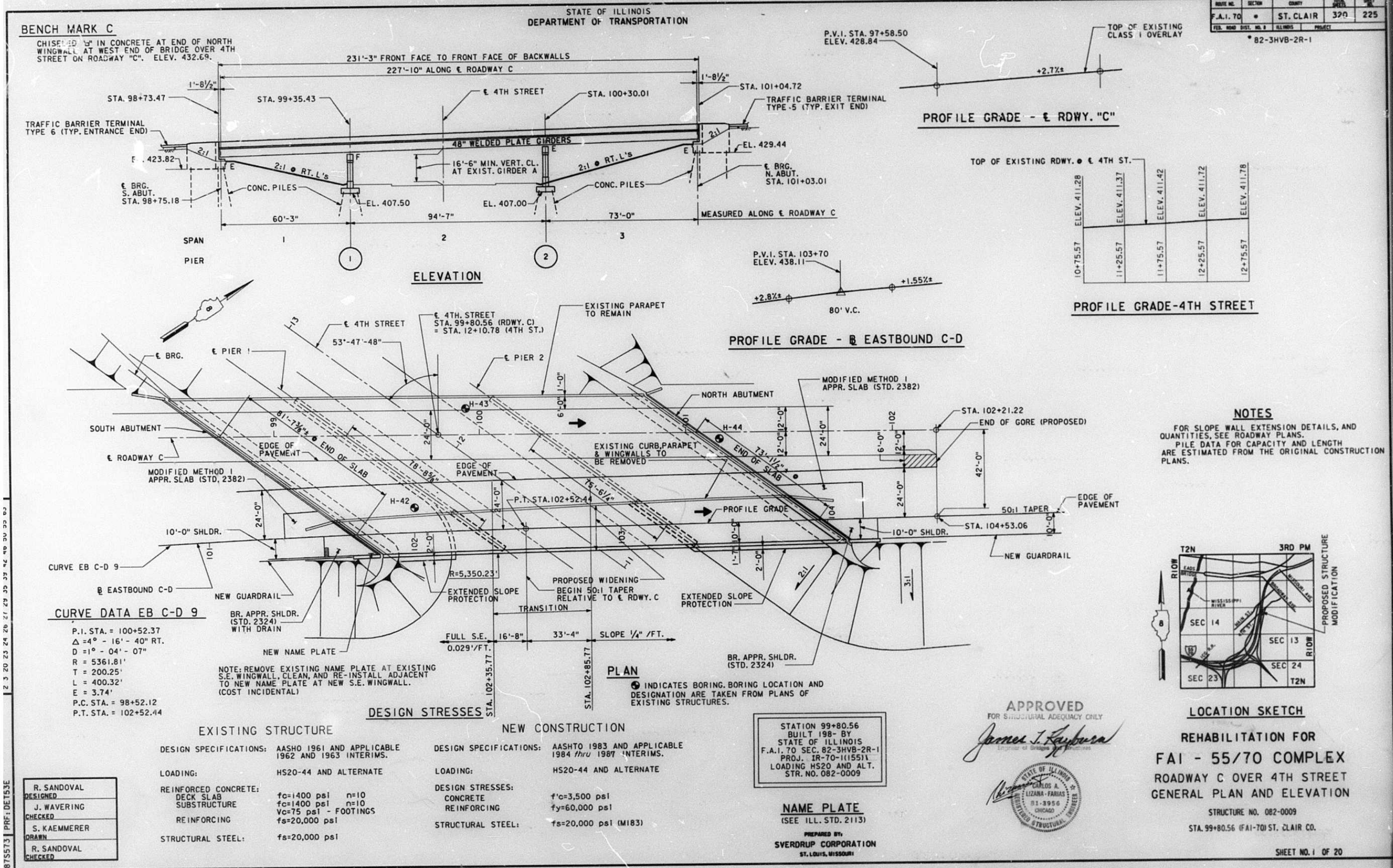
ESD-1 12-31-84

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION

STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 224
82-3HVB-2R-1
SECTION A-A FOR PILES UNDER 45' LONG
4-#9 bars
1½" Chamfer
2" cl. to Main Steel
SECTION A-A FOR PILES 45' OR MORE
8-#8 bars
For ESTIMATED Length (L), see Sheet 19 & 22.
¼" Spiral Hooping
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 PRECAST CONCRETE PILES
FIELD CRIMP DETAIL
End to be crimped
Burn slots in crests of alternate flutes
Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.
OPTIONAL FLAT END
Continuous Weld
½" Plate
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 shell 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
E6010 or E6011 Rod
Cylindrical Section Extension as Required
Min. Crimp of Cylindrical Sec.
Taper Section
Metal Shell
Continuous Weld
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES
#5 Gauge Wire Spiral Ties
#8 bars
Prestressing Strands 24" Min. Lap
16 Spaces at 3"
6" Spacing Maximum
Cast in Place Concrete Build Up
PILE BUILD UP
#5 Gauge Wire Spiral Ties
7/16" Prestressing Strand
6" Maximum Spacing
For ESTIMATED Length (L), see Sheet 19 & 22
PILE PLAN
4-#8 Bars 1 at Each Corner
#5 Gauge Wire Spiral Ties
SECTION A-A
ELEVATION (End Reinforcement)
#4 bars
PLAN (End Reinforcement)
#5 Ga. Spiral
½" chamfer Typ. at all edges
8-7/16" Prestressing Strands
SECTION THRU PILE
DESIGN STRESSES
f'c = 5,000 psi.
f'ci = 4,000 psi.
f's = 270,000 psi. (31,000 lbs.-7/16" or 41,300 lbs.-½")
f's = 189,000 psi. (21,700 lbs.-7/16" or 28,900 lbs.-½")
NOTES
Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.115 sq. in. or the equivalent 6-½" 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
Steel Pipe
For Estimated Length see Sheet No. 19 & 22.
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.
Cont. weld
¾" Plate
OPTIONAL FLAT END
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES
The cost of Reinforcement is incidental to the cost of furnishing piles.
6" Horizontal bend (Typ.)
6-#5 bars 6'-6" long
#4 bar Spiral
Metal Shell
SECTION B-B
Reinforcement in top of pile shall be omitted under pile footings when placed in natural ground.
DETAIL OF REINFORCEMENT FOR METAL SHELLS
(Straight or increases 1" per step from pile point to Butt)
For Estimated Length - See Sheet No 19 & 22.
Steel Plate welded to Bottom
Reinforcement is incidental to the cost of furnishing piles.
6-#6 bars (For Details, See below)
1" Min. - 2" Max.
¼" Spiral Hooping at 6" spacing or #4 Ties at 12" cts.
Metal Shell
SECTION A-A
PILE REINFORCEMENT
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
DESIGNED
CHECKED
DRAWN
CHECKED K. Patel
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI
REHABILITATION FOR
FAI - 55/70 COMPLEX
CONCRETE PILES
FIVE ALTERNATES
STRUCTURE NO. 082-0206
STA. 11+32.81 TO STA. 13+53.94 (FAI-70) ST. CLAIR CO.
SHEET NO. 26 OF 26


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 ST. CLAIR 320 225
82-3HVB-2R-1
BENCH MARK C
CHISELED "B" IN CONCRETE AT END OF NORTH WINGWALL AT WEST END OF BRIDGE OVER 4TH STREET ON ROADWAY "C". ELEV. 432.69.
231'-3" FRONT FACE TO FRONT FACE OF BACKWALLS
227'-10" ALONG ℄ ROADWAY C
1'-8½"
STA. 98+73.47
STA. 99+35.43
℄ 4TH STREET
STA. 100+30.01
STA. 101+04.72
TRAFFIC BARRIER TERMINAL TYPE 5 (TYP. EXIT END)
TRAFFIC BARRIER TERMINAL TYPE 6 (TYP. ENTRANCE END)
48" WELDED PLATE GIRDERS
EL. 423.82
EL. 429.44
16'-6" MIN. VERT. CL. AT EXIST. GIRDER A
2:1 ● RT. L's
℄ BRG. S. ABUT. STA. 98+75.18
℄ BRG. N. ABUT. STA. 101+03.01
CONC. PILES
EL. 407.50
EL. 407.00
60'-3"
94'-7"
73'-0"
MEASURED ALONG ℄ ROADWAY C
SPAN 1 2 3
PIER 1 2
ELEVATION
P.V.I. STA. 97+58.50
ELEV. 428.84
TOP OF EXISTING CLASS I OVERLAY
+2.7%±
PROFILE GRADE - ℄ RDWY. "C"
TOP OF EXISTING RDWY. ● ℄ 4TH ST.
ELEV. 411.28 ELEV. 411.37 ELEV. 411.42 ELEV. 411.72 ELEV. 411.78
10+75.57 11+25.57 11+75.57 12+25.57 12+75.57
PROFILE GRADE-4TH STREET
P.V.I. STA. 103+70
ELEV. 438.11
+2.8%±
+1.55%±
80' V.C.
PROFILE GRADE - ℄ EASTBOUND C-D
℄ 4TH STREET
53°-47'-48"
℄ 4TH STREET STA. 99+80.56 (RDWY. C) = STA. 12+10.78 (4TH ST.)
EXISTING PARAPET TO REMAIN
℄ BRG.
℄ PIER 1
℄ PIER 2
H-43
H-44
H-42
NORTH ABUTMENT
MODIFIED METHOD I APPR. SLAB (STD. 2382)
SOUTH ABUTMENT
℄ ROADWAY C
EDGE OF PAVEMENT
END OF SLAB
81'-7⅞"
78'-8⅝"
75'-6¼"
73'-1½"
EXISTING CURB, PARAPET & WINGWALLS TO BE REMOVED
STA. 102+21.22
END OF GORE (PROPOSED)
24'-0"
12'-0"
6'-0"
42'-0"
P.T. STA. 102+52.44
PROFILE GRADE
50:1 TAPER
EDGE OF PAVEMENT
STA. 104+53.06
10'-0" SHLDR.
NEW GUARDRAIL
CURVE EB C-D 9
℄ EASTBOUND C-D
R=5,350.23'
PROPOSED WIDENING
BEGIN 50:1 TAPER RELATIVE TO ℄ RDWY. C
EXTENDED SLOPE PROTECTION
BR. APPR. SHLDR. (STD. 2324) WITH DRAIN
TRANSITION
FULL S.E. 0.029'/FT.
16'-8"
33'-4"
SLOPE ¼" /FT.
NEW NAME PLATE
STA. 102+35.77
STA. 102+85.77
BR. APPR. SHLDR. (STD. 2324)
2:1
3:1
CURVE DATA EB C-D 9
P.I. STA. = 100+52.37
Δ = 4° - 16' - 40" RT.
D = 1° - 04' - 07"
R = 5361.81'
T = 200.25'
L = 400.32'
E = 3.74'
P.C. STA. = 98+52.12
P.T. STA. = 102+52.44
NOTE: REMOVE EXISTING NAME PLATE AT EXISTING S.E. WINGWALL, CLEAN, AND RE-INSTALL ADJACENT TO NEW NAME PLATE AT NEW S.E. WINGWALL. (COST INCIDENTAL)
PLAN
INDICATES BORING. BORING LOCATION AND DESIGNATION ARE TAKEN FROM PLANS OF EXISTING STRUCTURES.
NOTES
FOR SLOPE WALL EXTENSION DETAILS, AND QUANTITIES, SEE ROADWAY PLANS.
PILE DATA FOR CAPACITY AND LENGTH ARE ESTIMATED FROM THE ORIGINAL CONSTRUCTION PLANS.
T2N
3RD PM
R10W
SEC 14
SEC 13
SEC 24
SEC 23
PROPOSED STRUCTURE MODIFICATION
LOCATION SKETCH
DESIGN STRESSES
EXISTING STRUCTURE
DESIGN SPECIFICATIONS: AASHO 1961 AND APPLICABLE 1962 AND 1963 INTERIMS.
LOADING: HS20-44 AND ALTERNATE
REINFORCED CONCRETE:
DECK SLAB fc=1400 psi n=10
SUBSTRUCTURE fc=1400 psi n=10
Vc=75 psi - FOOTINGS
REINFORCING fs=20,000 psi
STRUCTURAL STEEL: fs=20,000 psi
NEW CONSTRUCTION
DESIGN SPECIFICATIONS: AASHTO 1983 AND APPLICABLE 1984 thru 1987 INTERIMS.
LOADING: HS20-44 AND ALTERNATE
DESIGN STRESSES:
CONCRETE f'c=3,500 psi
REINFORCING fy=60,000 psi
STRUCTURAL STEEL: fs=20,000 psi (M183)
STATION 99+80.56
BUILT 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. 082-0009
NAME PLATE
(SEE ILL. STD. 2113)
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. Kayburn
STATE OF ILLINOIS
CARLOS A. LIZANA-FARIAS
81-3956
CHICAGO
REGISTERED STRUCTURAL ENGINEER
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
GENERAL PLAN AND ELEVATION
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.
SHEET NO. 1 OF 20
R. SANDOVAL
DESIGNED
J. WAVERING
CHECKED
S. KAEMMERER
DRAWN
R. SANDOVAL
CHECKED
875573 PRF: DET53E

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	226
		ILLINOIS	PROJECT	

• 82-3HVB-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:*

(SEE SPECIAL PROVISIONS FOR FIELD PAINTING REQMTS..)
131,440 LBS. (M183) FABRICATED UNDER SEPARATE CONTRACT

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 TYPE II AND EACH FIXED BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.

FOR TYPE I BEARINGS, TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE TOP BEARING PLATE SHALL BE PROVIDED.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING CROSS FRAMES AND DIAPHRAGM 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 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 ONE CONCRETE TEST PILE IN A PERMANENT LOCATION, AS SHOWN ON PLANS, AT PIERS 1 AND 2 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE 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.

THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE TENSION FLANGES, WEBS, AND ALL SPLICE MATERIAL OF THE STEEL GIRDER.

FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 7/8"φ, OPEN HOLES 15/16"φ UNLESS OTHERWISE NOTED.

For Maintenance and Construction Sign Support Details and Location, see Sheet 292 of 320.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS., AND 3/4" φ X 12" HOOKED BOLTS.

THE CONCRETE FOR BRIDGE FLOORS FINISHED IN ACCORDANCE WITH ARTICLE 503.15 OF THE STANDARD SPECIFICATIONS, SHALL BE PLACED AND COMPACTED PARALLEL TO THE SKEW IN UNIFORM INCREMENTS ALONG CENTER LINE OF BRIDGE. THE FINISHING MACHINE, WHEN REQUIRED, SHALL BE SET PARALLEL TO THE SKEW FOR STRIKING OFF AND SCREEDING THE CONCRETE.

SEE PROPOSAL FOR BORING DATA.

INDEX OF DRAWINGS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
STRUCTURE EXCAVATION	CU. YDS.	—	223	223
CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	184.0	—	184.0
CLASS X CONCRETE	CU. YDS.	—	180.5	180.5
REINFORCEMENT BARS	LBS.	—	19,530	19,530
REINFORCEMENT BARS, EPOXY COATED	LBS.	50,830	—	50,830
FURNISHING CONCRETE PILES	LIN. FT.	—	1691	1691
DRIVING CONCRETE PILES	LIN. FT.	—	1691	1691
TEST PILE CONCRETE	EACH	—	2	2
NEOPRENE EXPANSION JOINT (2")	LIN. FT.	39	—	39
NEOPRENE EXPANSION JOINT (2 1/2")	LIN. FT.	47	—	47
CONCRETE REMOVAL	CU. YDS.	67.5	12.9	80.4
FURNISHING AND ERECTING STRUCTURAL STEEL	Lbs	3400	—	3400
ERECTING STRUCTURAL STEEL	LUMP SUM	1	—	1
* PROTECTIVE COAT	SQ. YDS.	92	—	92
DRAINAGE SCUPPERS	EACH	4	—	4
EXPANSION BOLTS 3/4"φx12"	EACH	—	38	38
NAME PLATE	EACH	1	—	1
INSTALLING ELASTOMERIC BRG. ASSEMBLY TYPE I	EACH	6		6
INSTALLING ELASTOMERIC BRG. ASSEMBLY TYPE II	EACH	3		3

FOR TEMPORARY CONCRETE BARRIER PAY ITEM SEE ROADWAY PLANS.

* *Quantity does not include bridge deck surface.*

R. SANDOVAL	DESIGNED
J. WAVERING	CHECKED
D. RIEHL	DRAWN
R. SANDOVAL	CHECKED

FILE: ZF3:[110,1]DET54E.DGN | LEVELS PLOTTED | DATE: OCT. 14, 1987
PRF: DET54E | 35, 56, 58, 63
10320 87S574

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

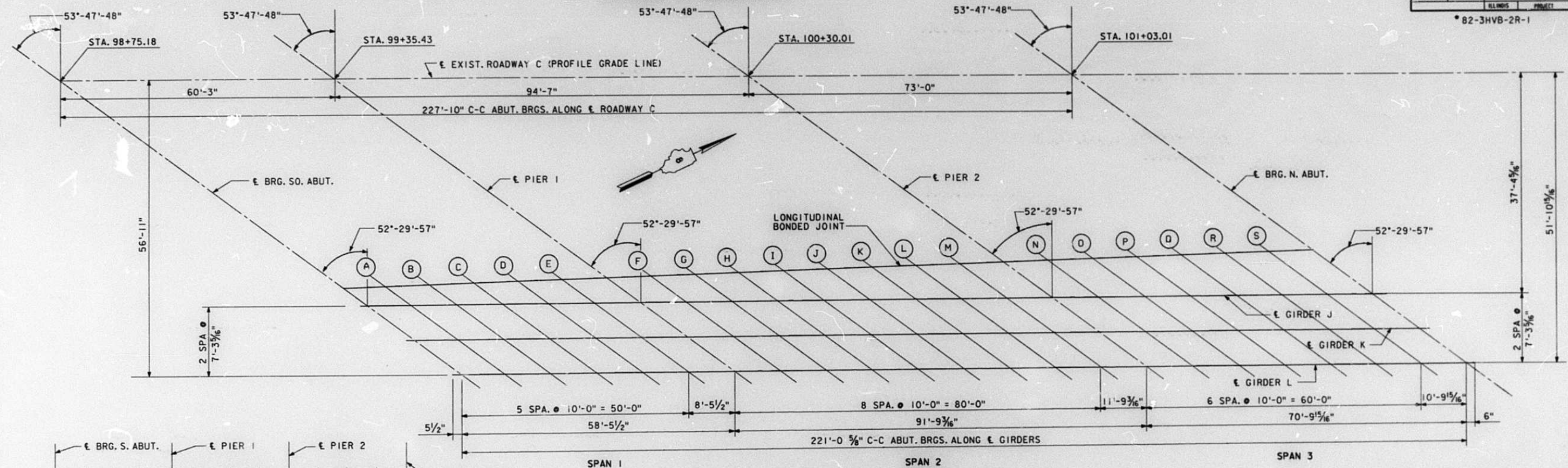
REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
GENERAL NOTES, ESTIMATED QUANTITIES
AND INDEX OF DRAWINGS
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

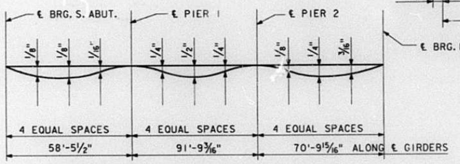
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	227
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

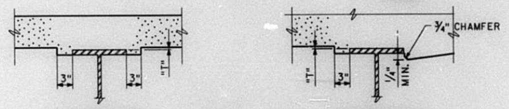


PLAN



DEAD LOAD DEFLECTION DIAGRAM

NOTE: THE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE GRADE ELEVATIONS ADJUSTED FOR DEAD DEFLECTIONS AS SHOWN ON THIS SHEET DEFLECTION DIAGRAM INCLUDES WEIGHT OF CONCRETE ONLY.



INTERIOR BEAMS

EXTERIOR BEAMS

FILLET HEIGHTS

NOTE: TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGE OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN ON THE BEAM PLAN VIEW. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION" SHOWN ON THIS SHEET, MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHT "T" ABOVE THE TOP FLANGES OF THE BEAMS.

GIRDER J

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CL BRG. SO. ABUT.	99+33.055	42.363	432.576	432.576
A	99+43.052	42.137	432.852	432.859
B	99+53.050	41.910	433.129	433.140
C	99+63.047	41.684	433.406	433.416
D	99+73.045	41.458	433.683	433.690
E	99+83.042	41.231	433.961	433.964
CL. PIER 1	99+91.497	41.040	434.197	434.197
F	100+01.494	40.813	434.477	434.486
G	100+11.492	40.587	434.749	434.767
H	100+21.489	40.360	435.019	435.047
I	100+31.486	40.134	435.291	435.327
J	100+41.484	39.907	435.562	435.600
K	100+51.481	39.681	435.833	435.862
L	100+61.479	39.454	436.113	436.133
M	100+71.476	39.228	436.393	436.403
CL. PIER 2	100+83.238	38.962	436.723	436.723
N	100+93.235	38.735	437.004	437.010
O	101+03.233	38.509	437.282	437.293
P	101+13.230	38.282	437.545	437.563
Q	101+23.228	38.056	437.792	437.811
R	101+33.225	37.829	438.024	438.040
S	101+43.223	37.603	438.240	438.025
CL. BRG. NO. ABUT.	101+54.047	37.359	438.457	438.457

GIRDER K

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CL BRG. SO. ABUT.	99+42.996	49.640	432.626	432.626
A	99+52.994	49.414	432.903	432.910
B	99+62.991	49.187	433.180	433.191
C	99+72.989	48.961	433.459	433.469
D	99+82.986	48.734	433.737	433.744
E	99+92.984	48.508	434.016	434.019
CL. PIER 1	100+01.438	48.316	434.253	434.253
F	100+11.435	48.090	434.536	434.545
G	100+21.433	47.863	434.819	434.837
H	100+31.430	47.637	435.103	435.131
I	100+41.428	47.411	435.387	435.423
J	100+51.425	47.184	435.670	435.708
K	100+61.423	46.958	435.951	435.980
L	100+71.420	46.731	436.231	436.251
M	100+81.418	46.505	436.512	436.522
CL. PIER 2	100+93.179	46.238	436.842	436.842
N	100+03.177	46.012	437.120	437.126
O	101+13.174	45.786	437.383	437.394
P	101+23.172	45.559	437.631	437.649
Q	101+33.169	45.333	437.853	437.882
R	101+43.166	45.106	438.080	438.096
S	101+53.164	44.880	438.281	438.291
CL. BRG. NO. ABUT.	101+63.988	44.637	438.481	438.481

GIRDER L

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CL BRG. SO. ABUT.	99+52.937	56.917	432.677	432.677
A	99+62.935	56.690	432.955	432.962
B	99+72.932	56.464	433.233	433.244
C	99+82.930	56.237	433.513	433.523
D	99+92.927	56.011	433.792	433.799
E	100+02.924	55.784	434.072	434.075
CL. PIER 1	100+11.379	55.593	434.322	434.322
F	100+21.376	55.367	434.618	434.627
G	100+31.384	55.140	434.915	434.933
H	100+41.371	54.914	435.210	435.238
I	100+51.369	54.687	435.506	435.542
J	100+61.366	54.461	435.789	435.827
K	100+71.364	54.234	436.069	436.098
L	100+81.361	54.008	436.350	436.370
M	100+91.359	53.781	436.630	436.640
CL. PIER 2	101+03.120	53.515	436.958	436.958
N	101+13.118	53.289	437.222	437.228
O	101+23.115	53.062	437.470	437.481
P	101+33.113	52.836	437.702	437.720
Q	101+43.110	52.609	437.919	437.938
R	101+53.107	52.383	438.120	438.136
S	101+63.105	52.156	438.306	438.316
CL. BRG. NO. ABUT.	101+73.929	51.912	438.489	438.489

LONGITUDINAL BONDED JOINT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
CL BRG. SO. ABUT.	99+24.830	36.35	432.699	432.699
A	99+34.820	35.68	432.983	432.987
B	99+44.790	35.04	433.266	433.272
C	99+54.770	34.42	433.548	433.533
D	99+64.760	33.81	433.830	433.834
E	99+74.740	33.22	434.112	434.114
CL. PIER 1	99+80.370	32.90	434.271	434.271
F	99+90.310	32.34	434.551	434.560
G	100+00.290	31.80	434.832	434.850
H	100+10.280	31.28	435.112	435.136
I	100+20.270	30.77	435.392	435.428
J	100+30.260	30.28	435.672	435.710
K	100+40.240	29.82	435.952	435.981
L	100+50.230	29.36	436.231	436.251
M	100+60.220	28.93	436.509	436.519
CL. PIER 2	100+69.040	28.57	436.755	436.755
N	100+79.030	28.17	437.033	437.036
O	100+89.030	27.79	437.311	437.319
P	100+09.020	27.43	437.588	437.598
Q	101+09.010	27.08	437.865	437.884
R	101+19.010	26.76	438.142	438.158
S	101+29.000	26.45	438.418	438.428
CL. BRG. NO. ABUT.	101+38.760	26.17	438.769	438.769

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

S. WILKIN	DESIGNED
R. SANDOVAL	CHECKED
P. NELSON	DRAWN
J. WAVERING	CHECKED

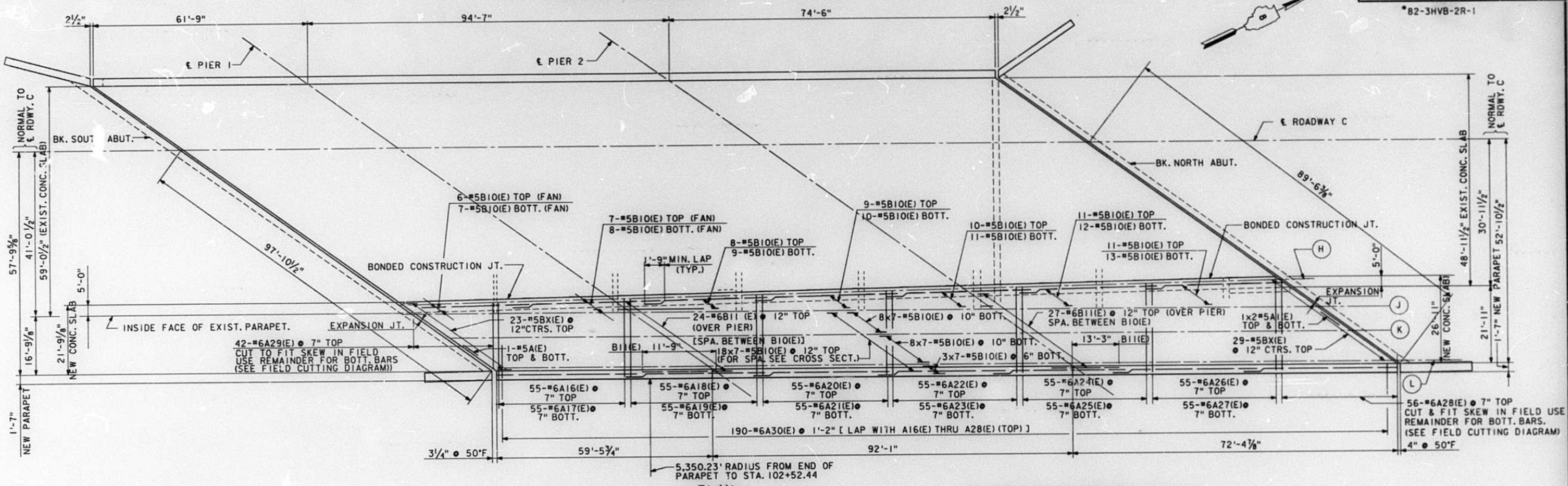
10320 875575 FILE: ZF3:[110,13]DET55E.DGN PRF: DET55E LEVELS PLOTTED 35 56 57 DATE: OCT. 14, 1987

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
TOP OF SLAB ELEVATIONS
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

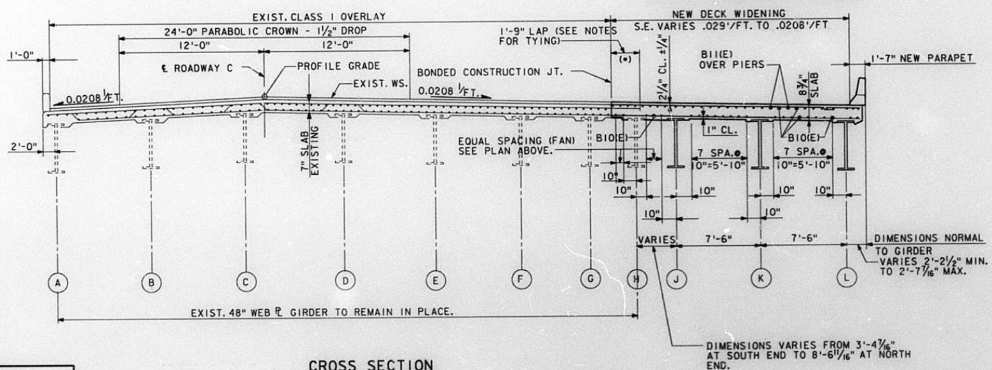
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	228

*82-3HVB-2R-1



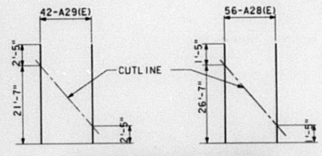
PLAN

(•) BEND BARS DOWN IN FIELD TO LAP WITH
EXISTING TRANSVERSE REINFORCEMENT



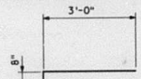
CROSS SECTION

BILL OF MATERIAL				
BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	2	#5	38'-0"	
A1(E)	4	#5	23'-6"	
A15(E)	32	#5	2'-0"	
A16(E)	55	#6	23'-6"	
A17(E)	55	#6	23'-0"	
A18(E)	55	#6	24'-3"	
A19(E)	55	#6	23'-9"	
A20(E)	55	#6	25'-0"	
A21(E)	55	#6	24'-6"	
A22(E)	55	#6	25'-9"	
A23(E)	55	#6	25'-3"	
A24(E)	55	#6	26'-6"	
A25(E)	55	#6	26'-0"	
A26(E)	55	#6	27'-3"	
A27(E)	55	#6	26'-9"	
A28(E)	56	#6	28'-0"	
A29(E)	42	#6	24'-0"	
A30(E)	190	#6	4'-0"	
B10(E)	391	#5	33'-10"	
B11(E)	51	#6	29'-6"	
BX(E)	51	#5	3'-8"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	160.7
REINFORCEMENT BARS (EPOXY COATED)			LBS.	46,420
CONCRETE REMOVAL			CU. YDS.	67.5
PROTECTIVE COAT			SQ. YDS.	92.0



FIELD CUTTING DIAGRAM

NOTE: ORDER A28(E) AND A29(E) BARS FULL LENGTH
CUT IN THE FIELD TO FIT SKEW



BAR BX(E)

NOTES

FOR PARAPET REINFORCEMENT, SEE SHEET 5.
EXISTING TRANSVERSE REINFORCEMENT BARS TO EXTEND INTO NEW DECK WIDENING 1'-9" MINIMUM. LAPS PROVIDED IN THIS AREA FOR BARS AT THIS LOCATION SHALL BE TIED WITH DOUBLE THE NUMBER OF TIES NORMALLY USED.

NOTES:

1. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
2. BARS INDICATED THUS 18x7-#5 ETC. INDICATES 18 LINES OF BARS WITH 7 LENGTHS PER LINE.

R. TAGARAO	DESIGNED
R. SANDOVAL	CHECKED
P.NELSON	DRAWN
J. WAVERING	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
SLAB PLAN AND CROSS SECTION

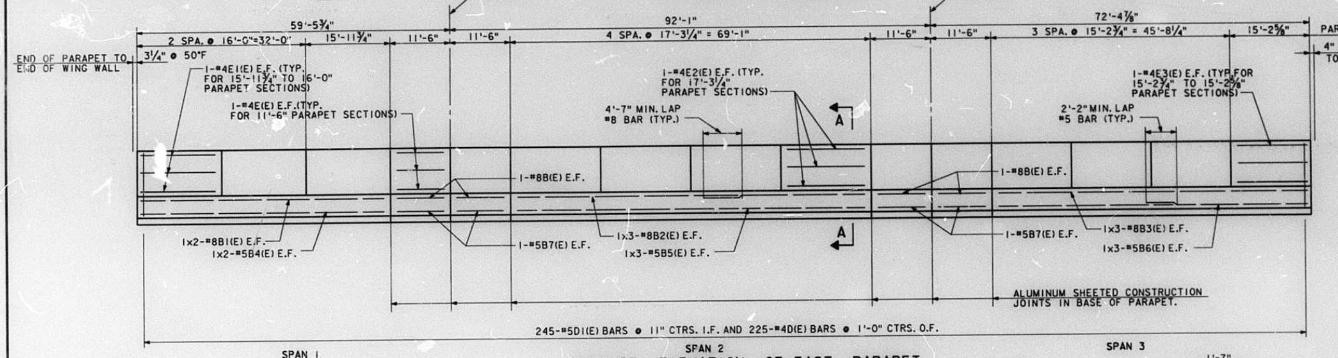
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

SHEET NO. 4 OF 20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	229
		ILLINOIS	PROJECT	

*82-3HVB-2R-1



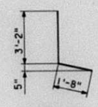
OUTSIDE ELEVATION OF EAST PARAPET

NOTE: DIMENSIONS ARE MEASURED ALONG INSIDE FACE OF PARAPET.
E.F. INDICATES EACH FACE.
I.F. INDICATES INSIDE FACE.
O.F. INDICATES OUTSIDE FACE.

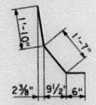
BILL OF MATERIAL

SPANS 1 THRU 3				
BAR	NO.	SIZE	LENGTH	SHAPE
B(E)	8	#8	11'-3"	——
B1(E)	4	#8	26'-6"	——
B2(E)	6	#8	26'-0"	——
B3(E)	6	#8	23'-3"	——
B4(E)	4	#5	25'-4"	——
B5(E)	6	#5	24'-4"	——
B6(E)	6	#5	21'-7"	——
B7(E)	8	#5	11'-3"	——
D1(E)	245	#5	3'-11"	
D(E)	225	#4	4'-10"	
E(E)	24	#4	11'-3"	——
E1(E)	18	#4	15'-9"	——
E2(E)	24	#4	17'-0"	——
E3(E)	24	#4	15'-0"	——
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	23.3
REINFORCEMENT BARS (EPOXY COATED)			LBS.	4410

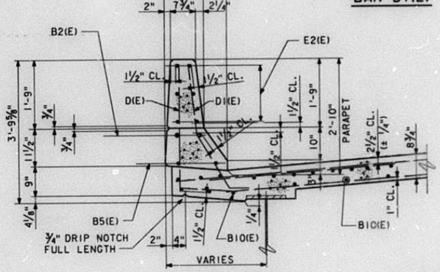
REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.



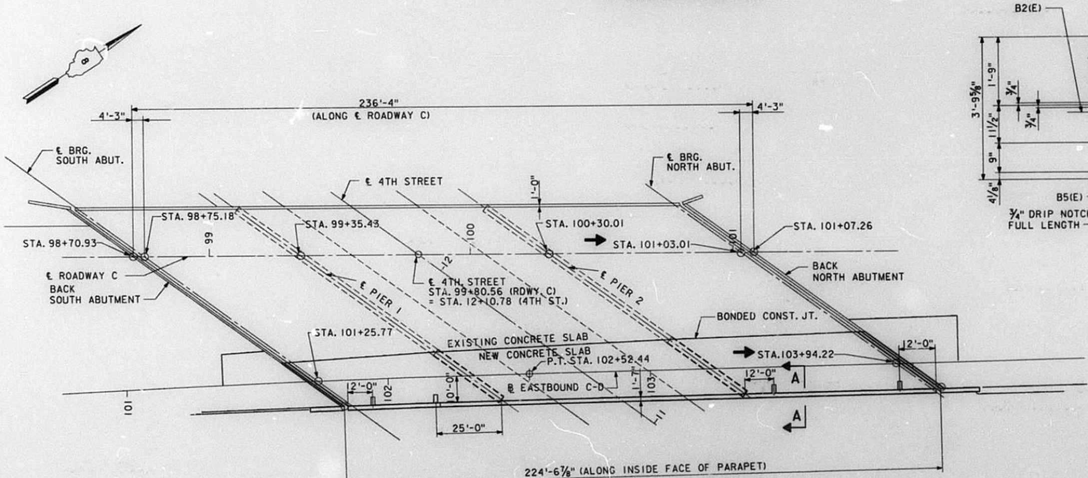
BAR D(E)



BAR D1(E)



SECTION A-A



PLAN

BRIDGE WIDENING, NEW EAST PARAPET PANELS AND NEW SCUPPERS.

NOTES

1. FOR DRAINAGE SCUPPER DETAILS SEE SHEETS 7 & 8.
2. FOR LOCATIONS AND DETAILS OF EXPANSION JOINTS SEE SHEET 9.
3. REINFORCEMENT BARS MARKED 1x3 INDICATES 1 LINE OF BARS WITH 3 LENGTHS PER LINE.

R. TAGARAO	DESIGNED
R. SANDOVAL	CHECKED
J.G. CORLEY	DRAWN
J. WAVERING	CHECKED

10320 FILE: ZF3:[110,1]DET166E.DGN LEVELS PLOTTED 35 56 57 58 63 DATE: OCT. 14, 1987
875683 PRF: DET166E

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

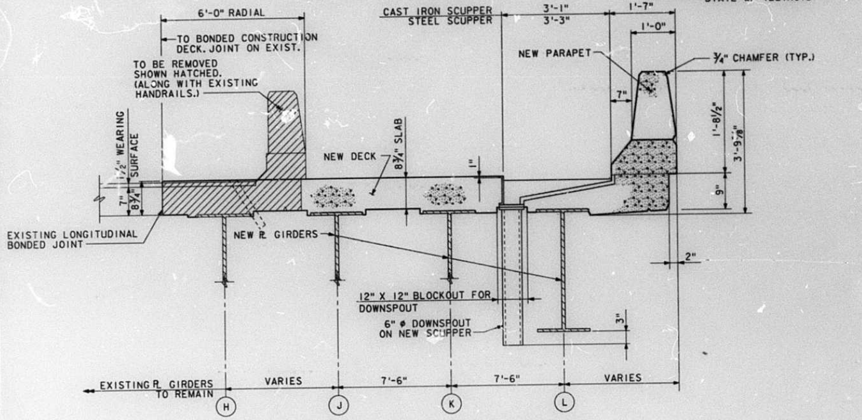
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
EAST PARAPET

STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

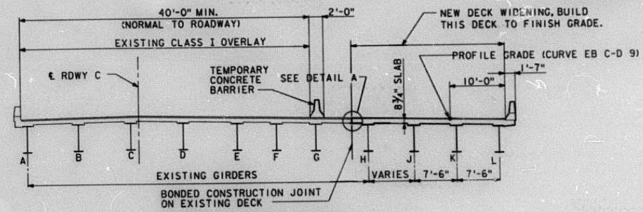
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	230
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

DEPARTMENT OF TRANSPORTATION
STATE OF ILLINOIS



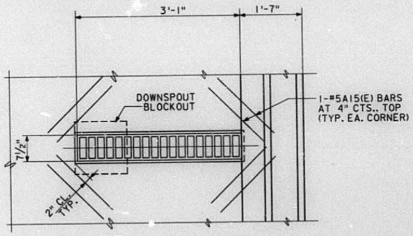
SECTION THRU NEW PARAPET, NEW DECK AND NEW SCUPPER ARRANGEMENT



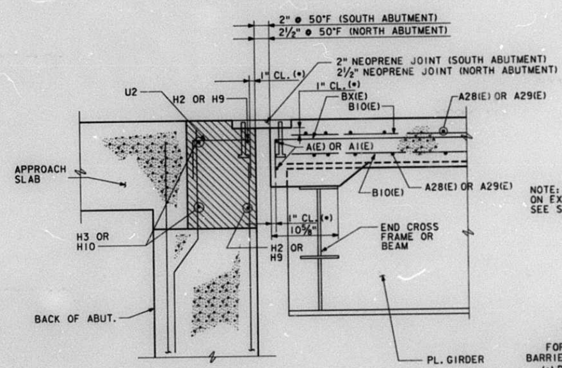
STAGE CONSTRUCTION

STAGE CONSTRUCTION NOTES

1. PLACE TEMPORARY CONCRETE BARRIER AND SHIFT TRAFFIC.
2. REMOVE EXISTING EAST SIDE PARAPET AND SLAB TO ℄ CONSTRUCTION JOINT.
3. WIDEN PIERS AND ABUTMENTS.
4. SET NEW GIRDERS.
5. EXTEND SLAB AND CONSTRUCT NEW PARAPET.
6. REMOVE TEMPORARY CONCRETE BARRIER.



PLAN OF SCUPPER



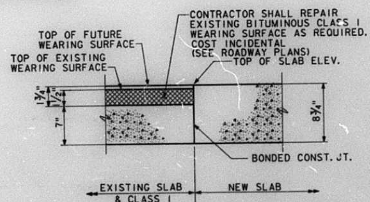
NOTE: FOR BILL OF MATERIAL ON EXP. JT. REBARS SEE SHEET 4.

NOTES:

FOR PAY ITEM " TEMPORARY CONCRETE BARRIER ", SEE ROADWAY PLANS.

(*) PLACE A(E) OR A1(E) AND H2 OR H9 BARS IN BACK OF ANCHOR BOLTS IF REQUIRED TO MAINTAIN 1" CL. (+ 0"-1/8"). ANCHOR BOLTS SHOULD BE TIED TO A(E) OR A1(E) AND H2 OR H9 BARS.

TYPICAL NEOPRENE EXPANSION JOINT INSTALLATION FOR NORTH AND SOUTH ABUTMENT



DETAIL A AT BONDED JOINT

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
J. CORLEY	DRAWN
J. WAVERING	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
MISCELLANEOUS DETAILS

STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

SHEET NO. 6 OF 20

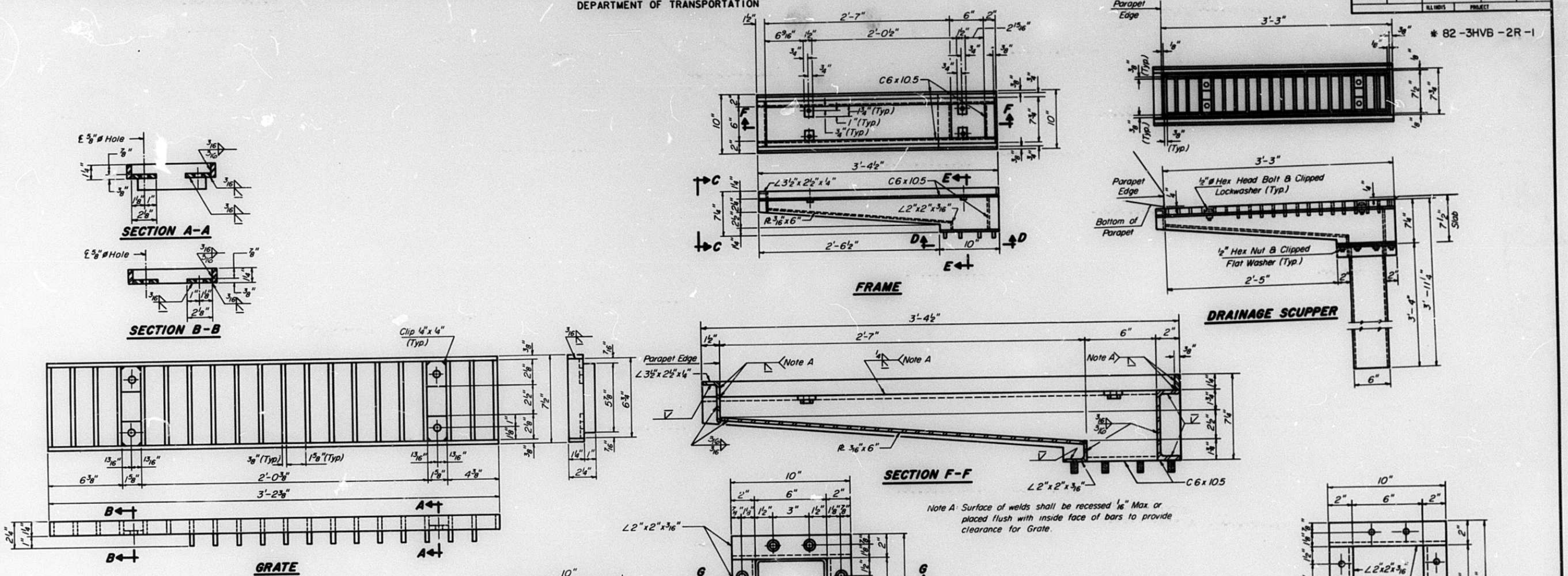
87S684 PRF: DET167E

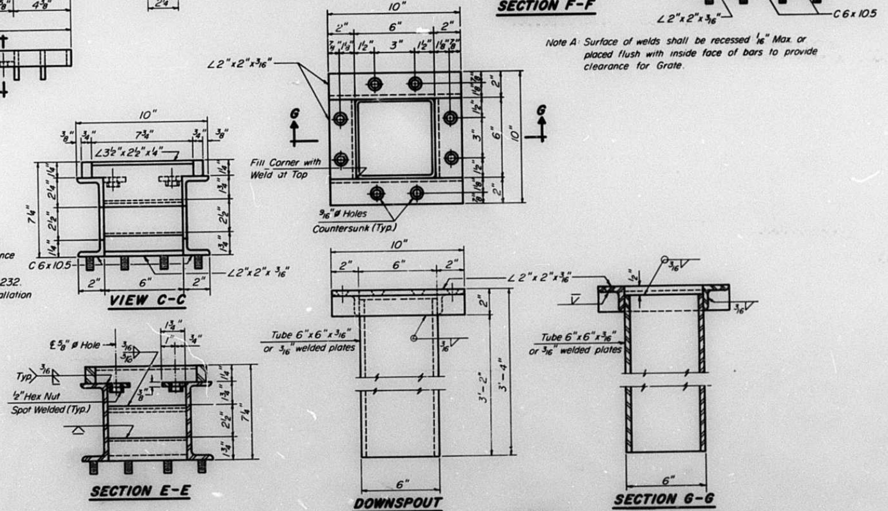
35 56 57 58 63

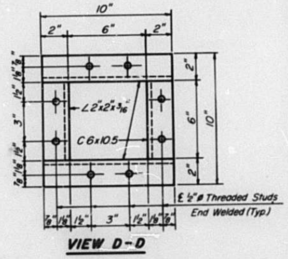
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	231
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1







Notes:

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B, or A-501 Structural Steel Tubing.

All other shapes, plates and bars shall conform to the requirements of A.A.S.H.T.O.: M 183.

Bolts, studs, washers and nuts shall conform to the requirements of A.S.T.M.: A-307.

The Grate, Frame, and Downspout shall be galvanized after shop fabrication in accordance with A.A.S.H.T.O.: M-111 & A.S.T.M. A-385

All bolts, washers and nuts shall be galvanized in accordance with A.A.S.H.T.O.: M 232.

Cost of the Grate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper shall be paid for at the unit bid price for "DRAINAGE SCUPPERS".

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper	1 Each	4

DESIGNED
CHECKED
PB DRAWN
CHECKED R. Sandoval

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

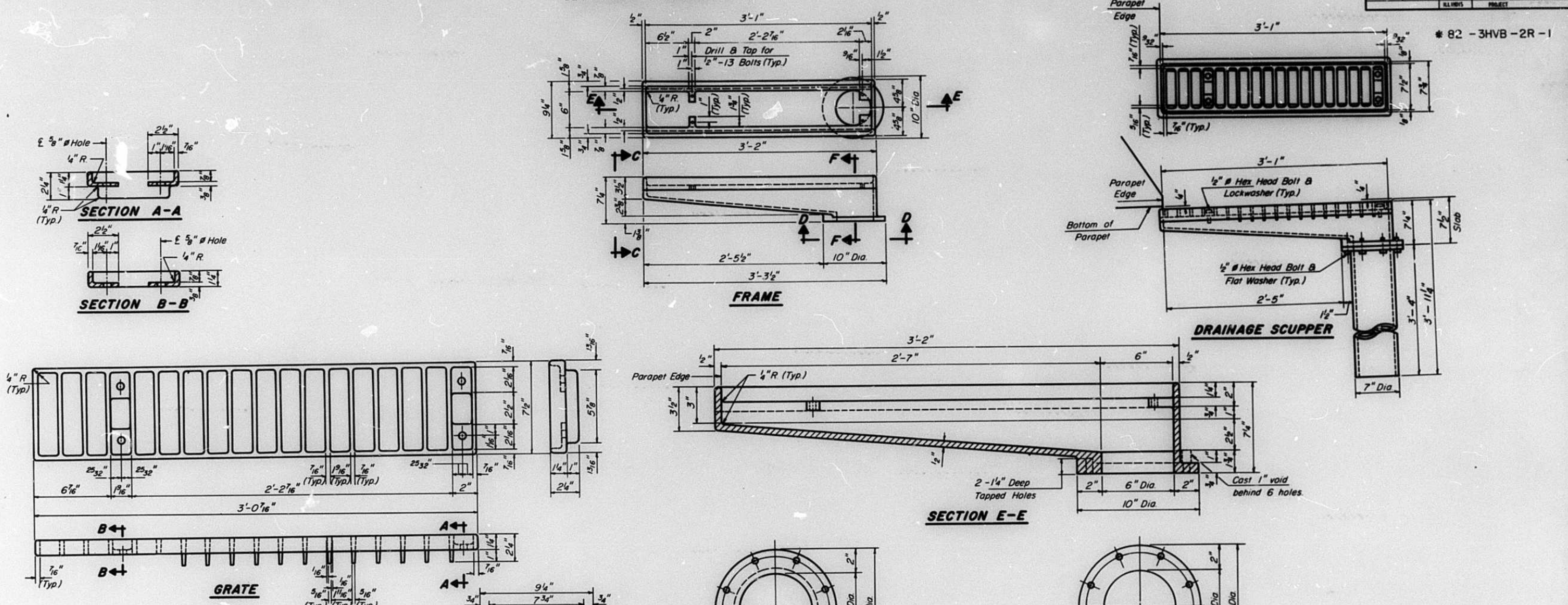
REHABILITATION FOR
FAI - 55/70 COMPLEX
SHEET 1 OF 2
STEEL DRAINAGE SCUPPER

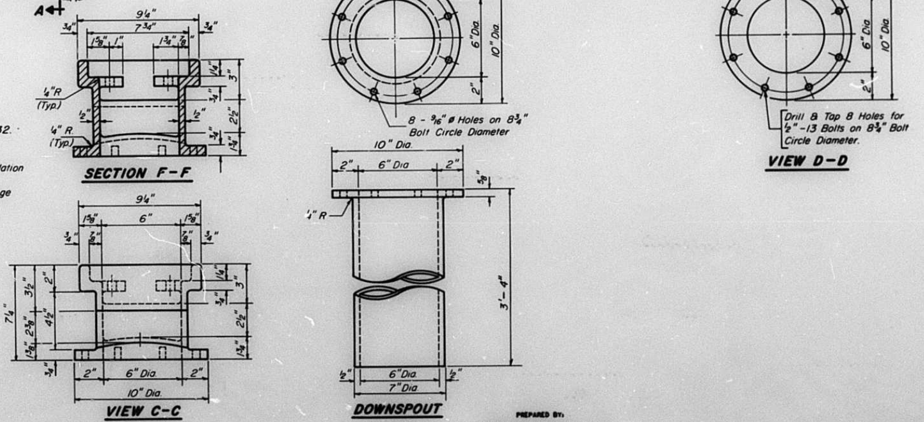
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	232

* 82-3HVB-2R-1





Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M-105, Class 30.

Bolts and washers shall conform to the requirements of A.S.T.M. A-307.

All bolts and washers shall be galvanized in accordance with A.A.S.H.T.O. M-232.

As an alternate bolts and washers may be stainless steel conforming to the requirements of A.S.T.M. A-193, Type 304.

Cost of the Grate, Frame, Downspout, bolts and washers including complete installation of Scupper shall be paid for at the unit bid price for "DRAINAGE SCUPPERS".

The Contractor may use at his option steel drainage scuppers or cast iron drainage scuppers.

DESIGNED	
CHECKED	
PB DRAWN	
CHECKED	A. Sandoval

7/14/87

DS-4 12-1-83 (W.T. to inside of exterior stringer flange shall not be > 3'-11")

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
SHEET 2 OF 2
ALTERNATE-CAST IRON
DRAINAGE SCUPPER

STRUCTURE NO. 082-0009

STA. 99 + 80.56 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	233
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
2"	2"	1½" Min.	So. Abut.
2½"	2½"	1¾" Min.	No. Abut.
~~4"~~	~~3"~~	~~2½" Min.~~	

INSTALLATION NOTES

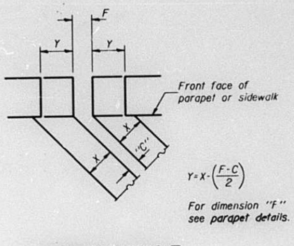
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

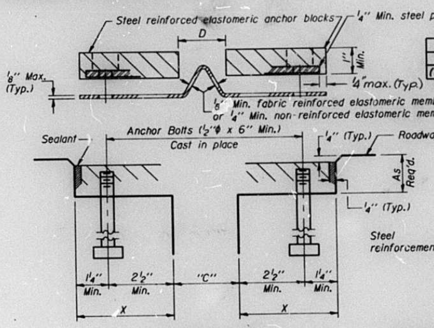
SKEW LIMITATIONS

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 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.



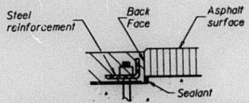
FORMING BLOCKOUT SKETCH



CROSS SECTION

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
(2") Neoprene Exp. Jt.	Lin.Ft.	39
(2½") Neoprene Exp. Jt.	Lin.Ft.	47



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.

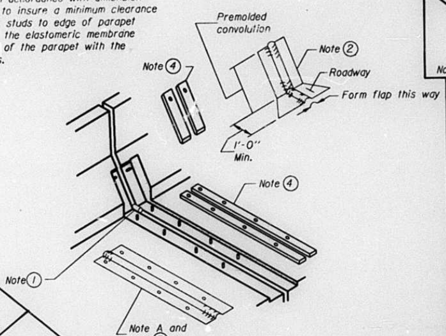
The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

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.

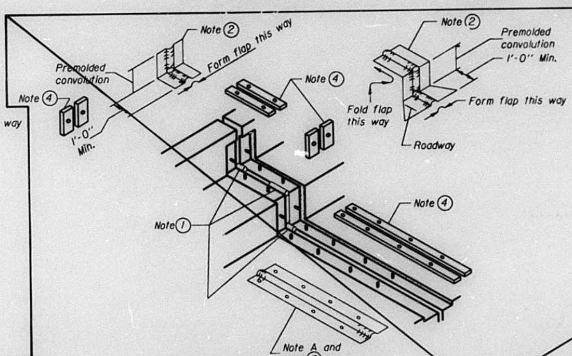
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

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.

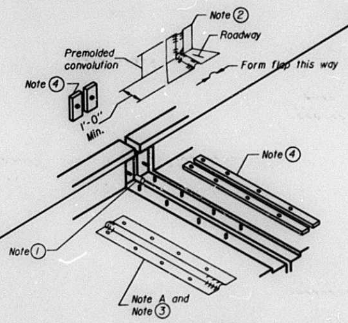
~~Anchor bolts, washers and nuts, to be plated against corrosion in accordance with the special provisions, shall be zinc-coated by the mechanical plating method conforming to ASTM B695, class 50. Zinc-coated nuts shall be tapped oversize in accordance with the requirements of AASHTO M291 and shall meet the supplementary requirements S1.1 thru S1.2.1 of the same specifications for lubricant and testing.~~



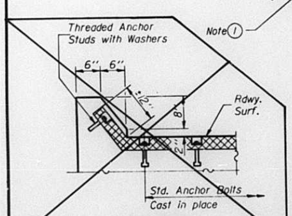
AT PARAPET



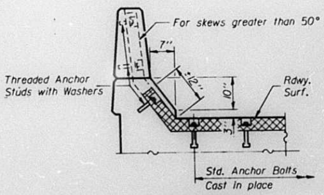
AT SIDEWALK OR MEDIAN



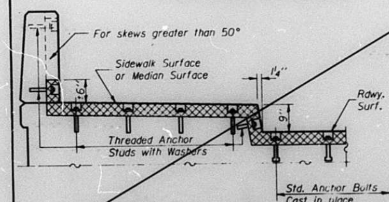
AT WALL

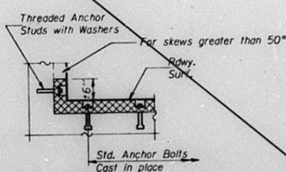


AT CURB



AT PARAPET





AT WALL

AT SIDEWALK OR MEDIAN
TYPICAL END TREATMENTS

DESIGNED	
CHECKED	
DRAWN	
CHECKED	A. Sandoval

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 2" AND 2½" MOVEMENT

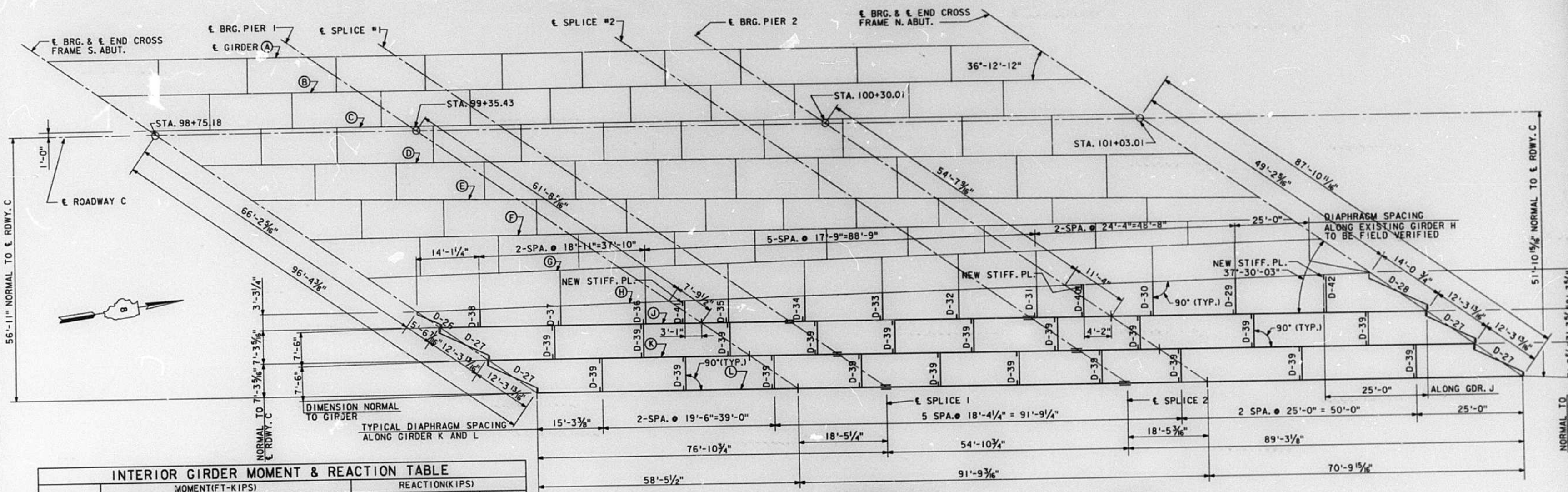
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

SHEET NO. 9 OF 20

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	234

•82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

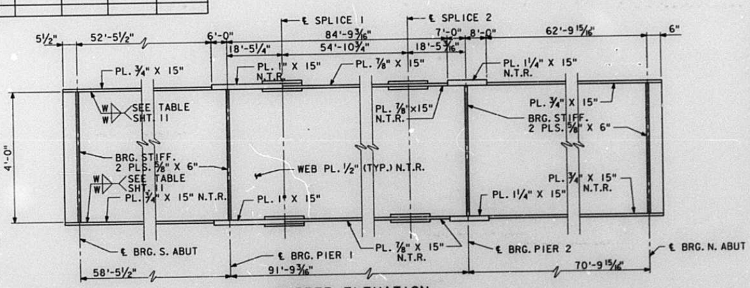


FRAMING PLAN

EXIST. GIRDERS A THRU H
NEW GIRDERS J THRU L

INTERIOR GIRDER MOMENT & REACTION TABLE									
	MOMENT(FT-KIPS)					REACTION(KIPS)			
LOAD	0.4 SP.#1	PIER 1	0.5 SP.#2	PIER 2	0.6 SP.#3	S.ABUT	PIER 1	PIER 2	N.ABUT.
DEAD LOAD	219	715	488	840	393	22.9	101.0	110.9	30.7
LIVE LOAD	458	520	613	602	577	37.6	59.8	63.7	39.6
IMPACT	124	128	139	142	137	10.6	15.4	14.5	9.7
TOTAL	801	1363	1240	1584	1107	71.1	176.2	189.1	80.0
SECTION MODULUS IN^3	726	905	815	1083	726				
FS (KSI)	13.2	18.1	18.3	17.6	18.3				

ELEVATION AT TOP OF GIRDER WEB FOR FABRICATION (DEFLECTION NOT INCLUDED)			
LOC. \ GIRDER	J	K	L
℄ BRG. SO. ABUT	431.70	431.75	431.81
℄ PIER 1	433.26	433.30	433.34
℄ SPLICE 1	433.75	433.79	433.83
℄ SPLICE 2	435.21	435.24	435.27
℄ PIER 2	435.70	435.73	435.76
℄ BRG. NO. ABUT	437.58	437.61	437.62



GIRDER ELEVATION
(TYPICAL FOR GIRDERS J THRU L)

CROSS-FRAME SUMMARY			
MARK	NUMBER	MARK	NUMBER
D26	1	D36	1
D27	4	D37	1
D28	1	D38	1
D29	1	D39	20
D30	1	D40	1
D31	1	D41	1
D32	1		
D33	1		
D34	1		
D35	1		

NOTES:

FOR SPLICE DETAIL SEE SHEET NO. 11.

FOR DETAIL OF END CROSS FRAME AND INTERMEDIATE CROSS FRAME SEE SHEET NO. 11.

FOR DETAIL OF BEARING STIFF. SEE SHEET 11.

FOR ELASTOMERIC BEARING SEE SHEET NO. 12.

N.T.R. INDICATES NOTCH TOUGHNESS REQUIRED BASED ON CHARPY V-NOTCH IMPACT FOR ZONE 2 CRITERIA.

ALL BOLTS SHALL BE 7/8" ⌀ H.S. AASHTO M164 HOLES 15/16" ⌀ UNLESS NOTED.

ALL CONNECTING BOLT HOLES FOR DIAPHRAGMS AND CROSS FRAMES SHALL BE DETAILED WITH 3/16" OVERSIZED HOLES AND SHALL HAVE TWO HARDENED WASHERS PLACED OVER THEM.

CONTACT SURFACE OF JOINT WITH OVERSIZE HOLES SHALL BE FREE OF PAINT OR LACQUER, EXCEPT WHEN THE ZINC-SILICATE PRIMER IS USED.

SEE GENERAL NOTES FOR DIMENSIONS RELATED TO EXISTING STRUCTURES.

• INDICATES HIGH STRENGTH BOLT, SHOP OR FIELD INSTALLED UNLESS OTHERWISE NOTED.

FOR HOLES IN BOTT. FLANGE OR GIRDERS AT BRG. LOCATIONS SEE SHEET 12.

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.

R. TAGARAO	DESIGNED
M. COTTEN	CHECKED
E. WELZ	DRAWN
M. COTTEN	CHECKED

10320 FILE: ZF3:[110,1]DET56R.DGN
87S366 PRF: DET56R
LEVELS PLOTTED 35 56 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88
REV. 8/13/87

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
FRAMING PLAN AND GIRDER ELEVATIONS

STRUCTURE NO. 082-0009

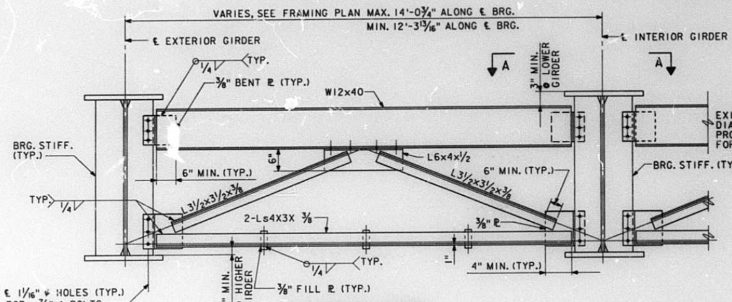
STA. 98+73.47 TO STA. 101+04.72 (FAI-70) ST. CLAIR CO.

SHEET NO. 10 OF 20

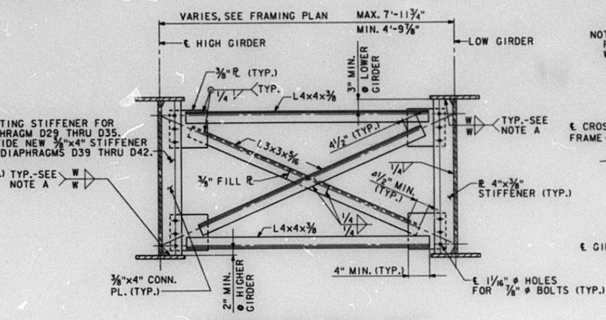
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	235

82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

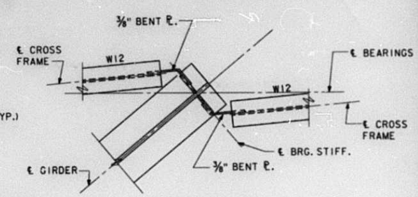


END CROSS FRAME
(AT NORTH & SOUTH ABUT.)
(D27 & D28)

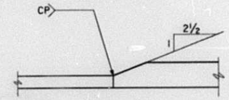


INTERMEDIATE CROSS FRAME
D29 THRU D35, D39, D40, D41 & D42

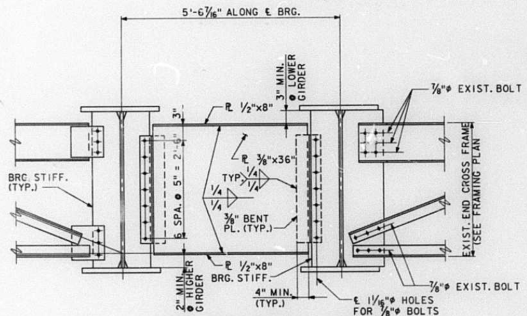
NOTE A: WELD ALL NEW STIFFENERS TO TOP & BOTTOM FLANGES OF NEW GIRDERS AS INDICATED. DO NOT WELD STIFFENERS TO FLANGES OF EXISTING GIRDERS.



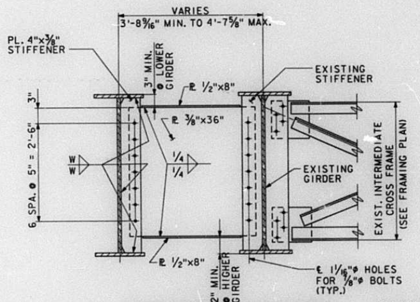
SECTION A-A



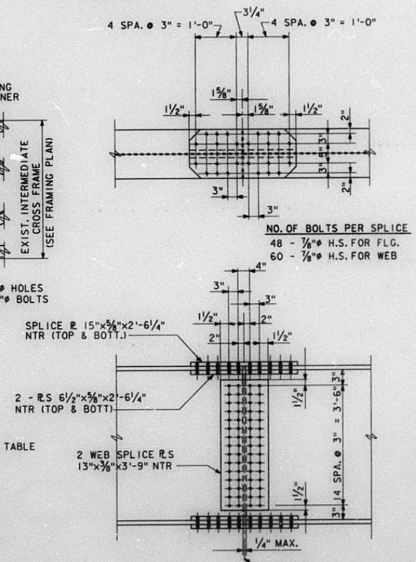
FLANGE SHOP SPLICE DETAIL



END CROSS BEAM - D26
(AT SOUTH ABUT.)



INTERMEDIATE DIAPHRAGM
(D36, D37 & D38)



TYPICAL FIELD SPLICE DETAIL

NOTES:

AT ALL LOCATIONS WHERE NEW DIAPHRAGMS AND INTERMEDIATE CROSS FRAMES CONNECT TO EXISTING GIRDERS THE CONNECTING BOLT HOLES IN THE DIAPHRAGMS AND INTERMEDIATE CROSS FRAMES SHALL HAVE 15/16"x1½" SLOTTED HOLES WITH 5/16" STRUCTURAL PLATE WASHERS PLACED OVER THEM.

BOLTS FOR SLOTTED HOLES SHALL BE FINGER-TIGHTENED PRIOR TO DECK SLAB POUR AND THEN FULLY TIGHTENED AFTER COMPLETION OF THE POUR.

ALL CONNECTION PLATES FOR INTERMEDIATE DIAPHRAGMS OR INTERMEDIATE CROSS FRAMES SHALL BE ⅜"x4" M183.

FURNISHING OF STRUCTURAL STEEL IS NOT PART OF THIS CONTRACT UNLESS OTHERWISE NOTED.

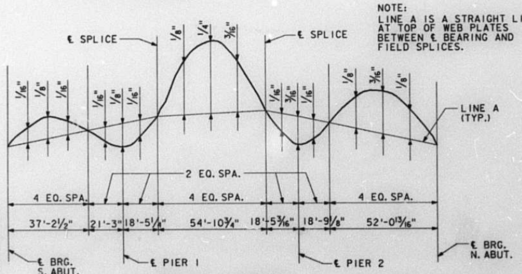
FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

WELD TABLE

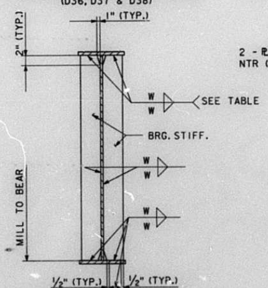
• PL. SIZE	WELD SIZE, W
UP TO ¾"	¼
OVER ¾"	5/16

•PLATE SIZE IS THE THICKNESS OF THE THICKER PART JOINED.

NOTE:
LINE A IS A STRAIGHT LINE AT TOP OF WEB PLATES BETWEEN ℄ BEARING AND FIELD SPLICES.



CAMBER DIAGRAM



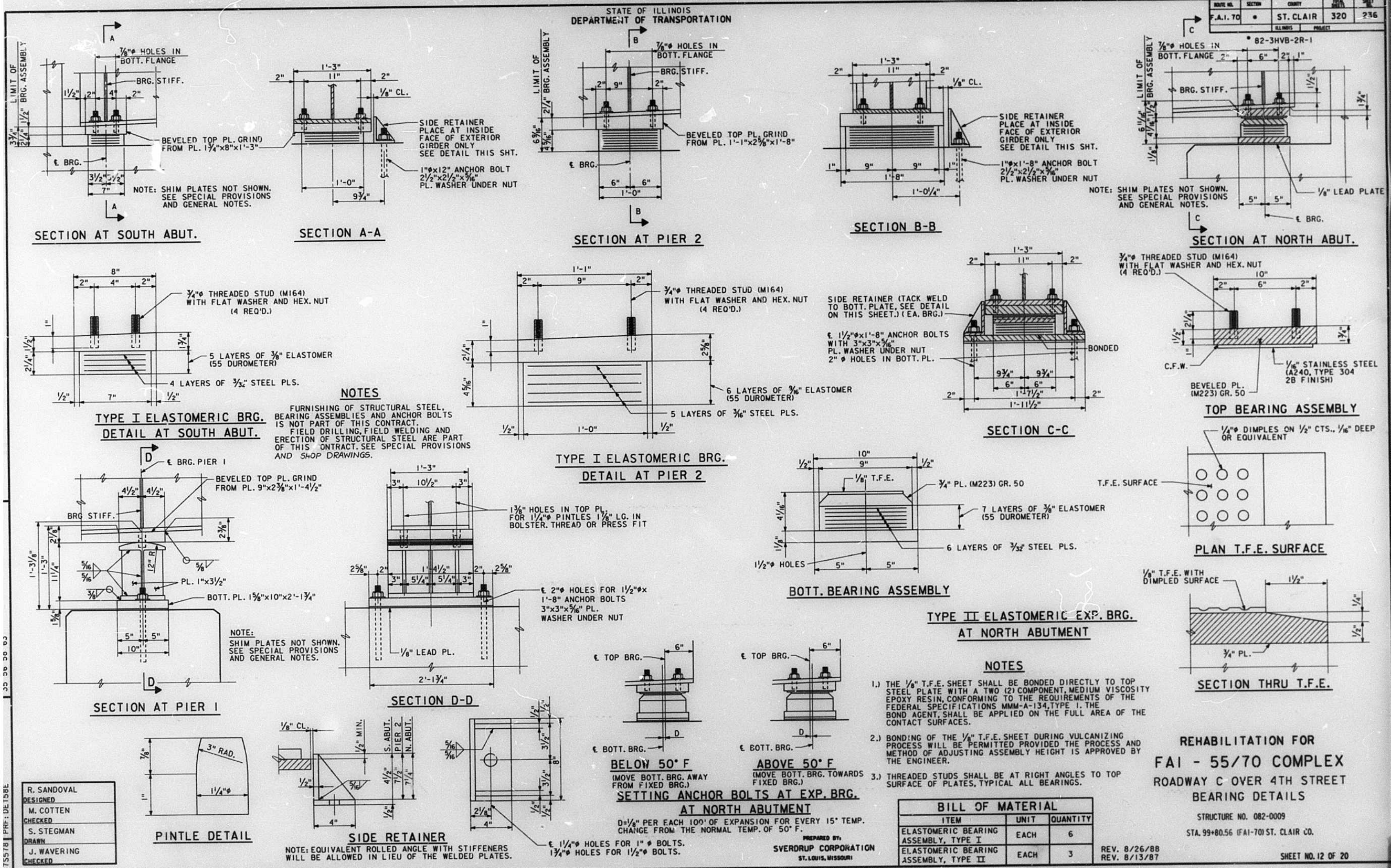
BEARING STIFFENERS

R. TAGARAO	DESIGNED
M. COTTEN	CHECKED
P. NELSON	DRAWN
J. WAVERING	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
STEEL DETAILS

STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.



NOTES

FURNISHING OF STRUCTURAL STEEL, BEARING ASSEMBLIES AND ANCHOR BOLTS IS NOT PART OF THIS CONTRACT.
FIELD DRILLING, FIELD WELDING AND ERECTION OF STRUCTURAL STEEL ARE PART OF THIS CONTRACT. SEE SPECIAL PROVISIONS AND SHOP DRAWINGS.

NOTES

1.) THE 1/8" T.F.E. SHEET SHALL BE BONDED DIRECTLY TO TOP STEEL PLATE WITH A TWO (2) COMPONENT, MEDIUM VISCOSITY EPOXY RESIN, CONFORMING TO THE REQUIREMENTS OF THE FEDERAL SPECIFICATIONS MMM-A-134, TYPE I. THE BOND AGENT, SHALL BE APPLIED ON THE FULL AREA OF THE CONTACT SURFACES.

2.) BONDING OF THE 1/8" T.F.E. SHEET DURING VULCANIZING PROCESS WILL BE PERMITTED PROVIDED THE PROCESS AND METHOD OF ADJUSTING ASSEMBLY HEIGHT IS APPROVED BY THE ENGINEER.

3.) THREADED STUDS SHALL BE AT RIGHT ANGLES TO TOP SURFACE OF PLATES, TYPICAL ALL BEARINGS.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	6
ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	3

REV. 8/26/88
REV. 8/13/87

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
BEARING DETAILS

STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

SHEET NO. 12 OF 20

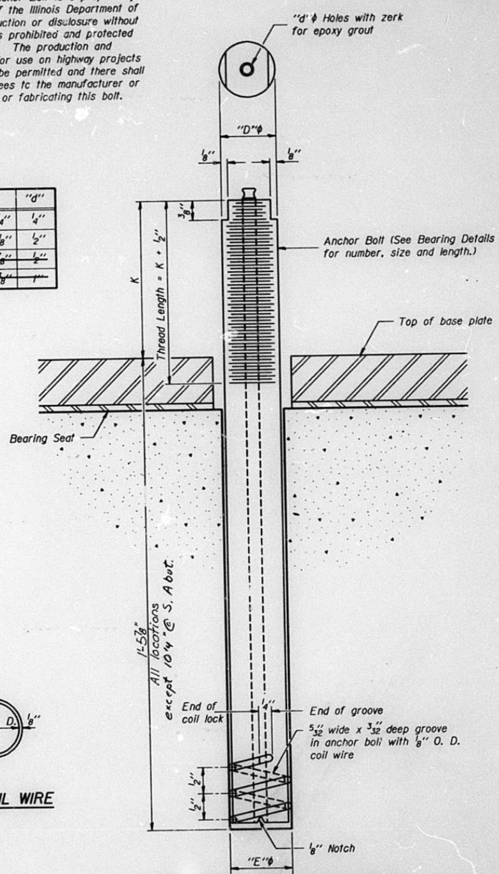
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	237
		ILLINOIS	PROJECT	

✱ 82-3HVB-2R-1

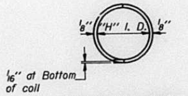
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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"
1"	1⅛"	13/16"	1¾"	¼"
1½"	1⅝"	1 5/16"	2⅛"	½"
~~2"~~	~~2⅛"~~	~~1 13/16"~~	~~2⅞"~~	~~½"~~
~~2½"~~	~~2⅝"~~	~~2 5/16"~~	~~3⅜"~~	~~1"~~



ILLINOIS COIL-LOCK ANCHOR BOLT



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 hexagonal nuts and cut washers.

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 comforming 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 and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
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.

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 nuts 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.

7/14/87

DESIGNED	
CHECKED	
DRAWN	
CHECKED	R. Sandoval

ABB-1 12-1-83

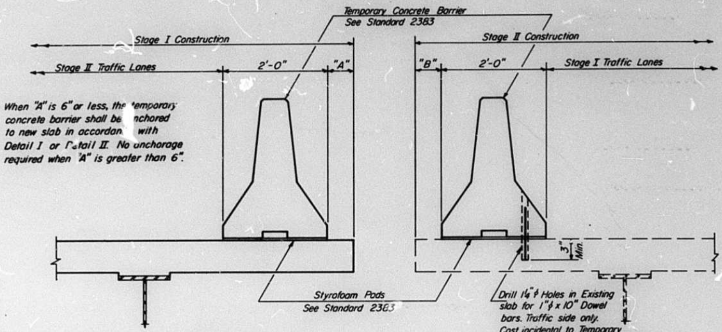
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ANCHOR BOLT DETAILS FOR BEARINGS
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.
SHEET NO. 13 OF 20

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	256
	ILLINOIS	PROJECT		

* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



When "A" is 6" or less, the temporary concrete barrier shall be anchored to new slab in accordance with Detail I or Detail II. No anchorage required when "A" is greater than 6".

Drill 1¼" ϕ Holes in Existing slab for 1" ϕ x 10" Dowel bars. Traffic side only. Cost incidental to Temporary Concrete Barrier. Not required when "B" is greater than 1'-0".

NEW SLAB

SECTIONS THRU SLAB

EXISTING SLAB

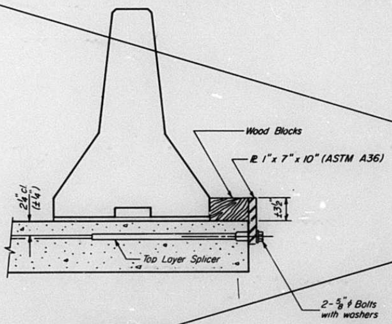
NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x 10" steel PL to the top layer of couplers with 2 - ⅝" ϕ bolts screwed to coupler at approximate ℄ of each 10'-0" barrier panel.

Detail II - With Extended Reinforcement Bars
Connect one (1) 1" x 7" x 10" steel PL to the concrete slab with 2 - ⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each 10'-0" barrier panel.

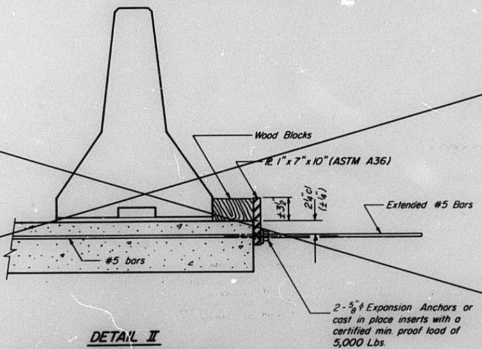
Cost of anchorage is incidental to Temporary Concrete Barrier.

Note:
For location, length and pay item for "Temporary Concrete Barrier", see Roadway Plans.



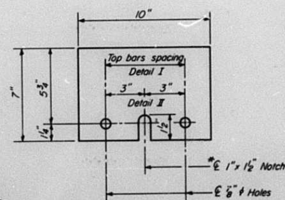
DETAIL I

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



PL 1" x 7" x 10"

* Required only with Detail II

DESIGNED	
CHECKED	
DRAWN	
CHECKED	R. Sandoval

R-27 6-15-83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

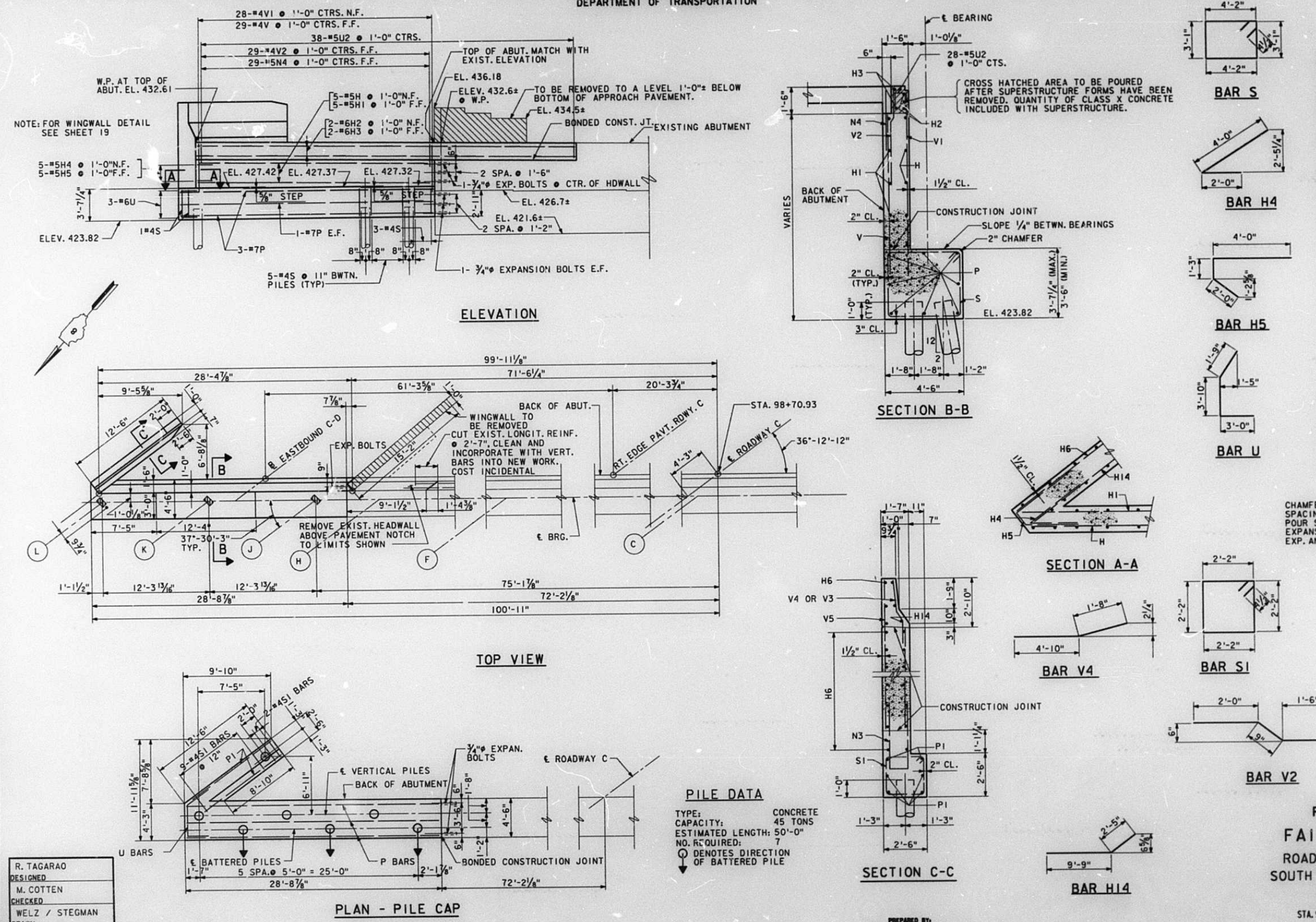
REHABILITATION FOR
FAI - 55/70 COMPLEX
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

STRUCTURE NO. 082-0009

STA. 99+80.56 (FAI-70) ST. CLAIR CO.

SHEET NO. 14 OF 20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PILE DATA

TYPE: CONCRETE
CAPACITY: 45 TONS
ESTIMATED LENGTH: 50'-0"
NO. REQUIRED: 7
DENOTES DIRECTION OF BATTERED PILE

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	239
		ILLINOIS	PROJECT	

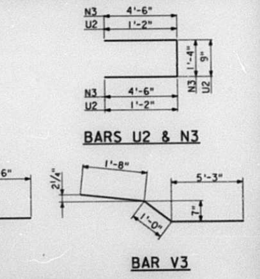
*82-3HVB-2R-1

BILL OF MATERIAL

SOUTH ABUTMENT & WINGWALL				
BAR	NO.	SIZE	LENGTH	SHAPE
H	5	#5	28'-4"	
H1	5	#5	27'-6"	
H2	2	#6	36'-9"	
H3	2	#6	38'-6"	
H4	5	#5	6'-0"	
H5	5	#5	7'-3"	
H6	12	#4	12'-2"	
H14	8	#4	12'-2"	
P	8	#7	28'-6"	
P1	6	#7	12'-2"	
S	30	#4	15'-3"	
S1	11	#4	9'-5"	
U	3	#6	8'-7"	
U2	38	#5	3'-1"	
V	29	#4	5'-0"	
V1	28	#4	6'-4"	
V2	29	#4	4'-3"	
V3	10	#6	7'-11"	
V4	3	#6	6'-6"	
V5	13	#6	7'-10"	
N3	13	#6	10'-4"	
N4	29	#5	3'-0"	
CLASS X CONCRETE			CU. YDS.	34.0
CONCRETE REMOVAL			CU. YDS.	3.7
CONCRETE PILE			LIN. FT.	350
REINFORCEMENT BARS			LBS.	2790
EXP. BOLTS 3/4"φX12"			EA.	9
Structure Excavation			Cu.Yds.	45

NOTES

CHAMFER ALL EXPOSED EDGES STANDARD 3/4 INCH.
SPACING OF PILE MEASURED AT BASE OF FOOTING.
POUR STEPS MONOLITHICALLY WITH ABUTMENT.
EXPANSION BOLTS SHALL CONSIST OF SELF-DRILLING EXP. ANCHORS AND 3/4"φx12" LONG HOOKED BOLTS.



REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
SOUTH ABUTMENT MODIFICATIONS
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

SHEET NO. 15 OF 20

R. TAGARAO	DESIGNED
M. COTTEN	CHECKED
WELZ / STEGMAN	DRAWN
R. SANDOVAL	CHECKED

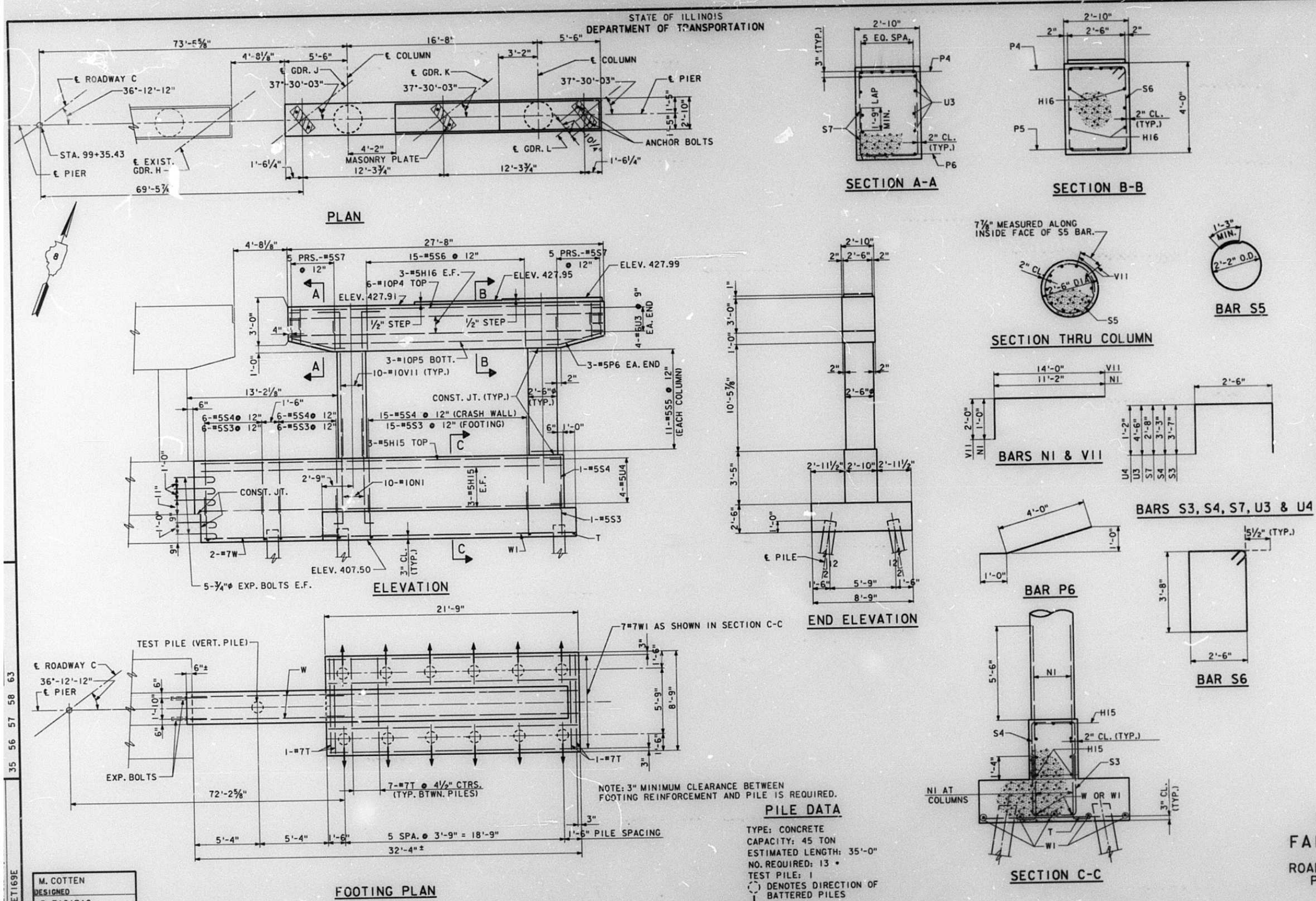
87S685 PRF: DET168E

35 56 57 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	240
		ILLINOIS	PROJECT	

•82-3HVB-2R-1



BILL OF MATERIAL

PIER 1				
BAR	NO.	SIZE	LENGTH	SHAPE
H15	9	#5	31'-4"	
H16	6	#5	27'-4"	
N1	20	#10	12'-2"	
P4	6	#10	27'-4"	
P5	3	#10	20'-6"	
P6	6	#5	5'-0"	
S3	28	#5	9'-8"	
S4	28	#5	9'-0"	
S5	22	#5	8'-1"	
S6	15	#5	13'-3"	
S7	20	#5	7'-10"	
T	39	#7	8'-3"	
U3	8	#6	11'-6"	
U4	4	#5	4'-10"	
V11	20	#10	16'-0"	
W	2	#7	13'-0"	
W1	7	#7	21'-8"	

CLASS X CONCRETE	CU. YDS.	48.3
REINFORCEMENT BARS	LBS.	6330
TEST PILE	EACH	1
CONCRETE PILE	LIN. FT.	420
EXP. BOLTS 3/4"ø X 12"	EA.	10
Structure Excavation	*Cu. Yds.*	53

NOTES

REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.

PILE SPACING MEASURED AT BOTTOM OF FOOTING.

CHAMFER ALL EXPOSED EDGES 3/4" STANDARD.

POUR STEPS MONOLICALLY WITH PIER CAP.

EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION ANCHORS AND 3/4" x 1'-0" LONG HOOK BOLT.

PILE DATA

TYPE: CONCRETE
CAPACITY: 45 TON
ESTIMATED LENGTH: 35'-0"
NO. REQUIRED: 13 •
TEST PILE: 1
DENOTES DIRECTION OF BATTERED PILES

• INCLUDES ONE (1) TEST PILE AT THE LOCATION SHOWN ON THE FOOTING PLAN.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. KAEMMERER	DRAWN
R. SANDOVAL	CHECKED

PRF: DET169E
875686

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
PIER 1 MODIFICATIONS

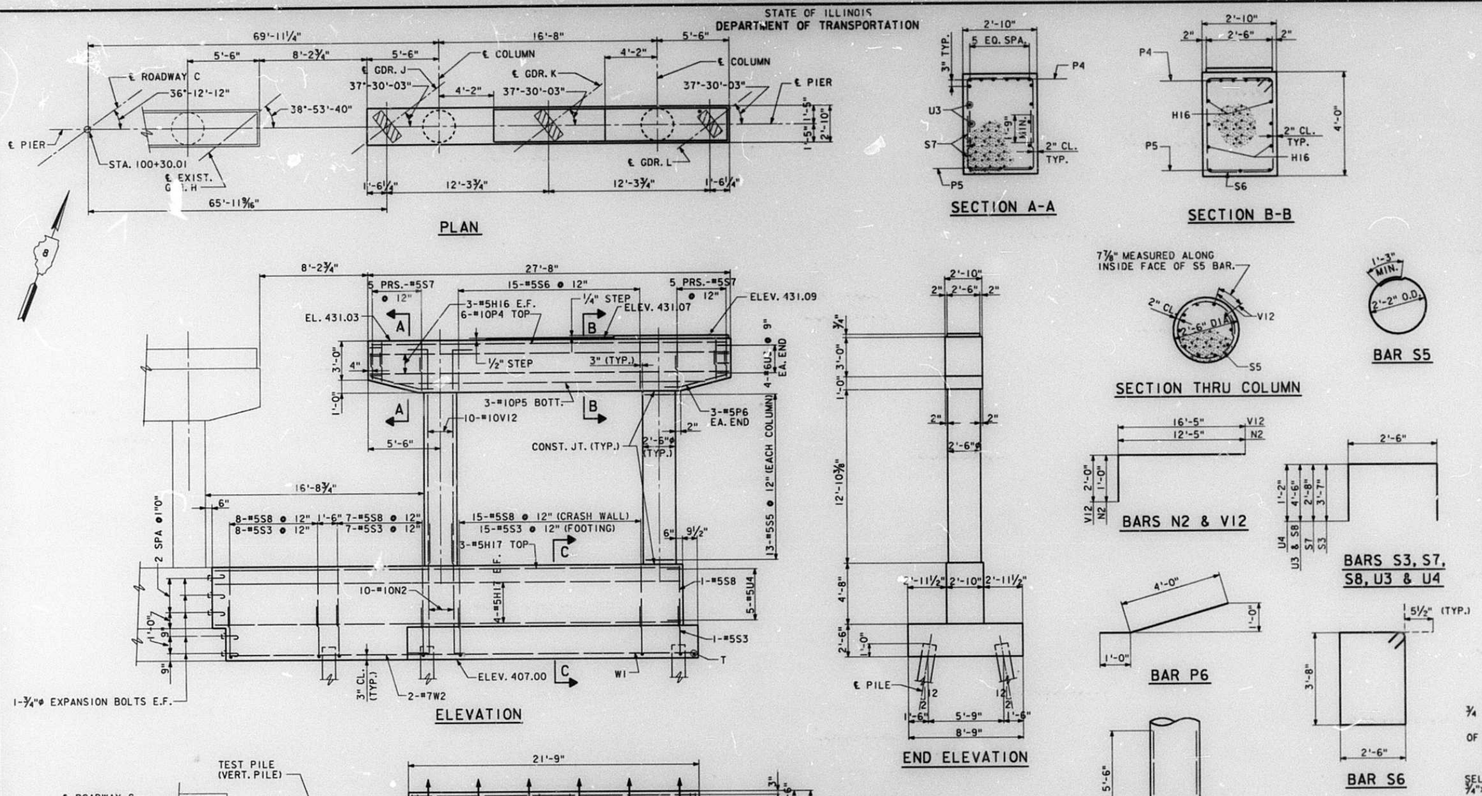
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

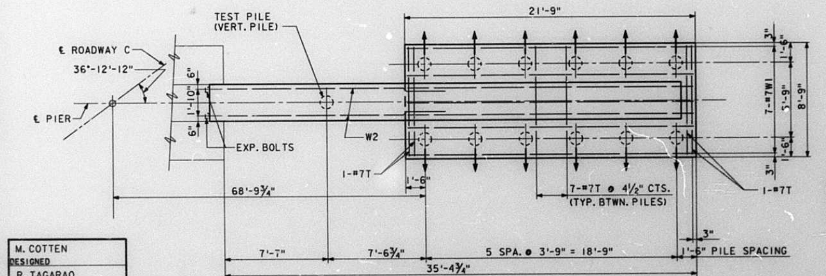
SHEET NO. 16 OF 20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

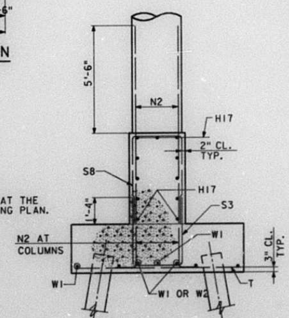
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	241
		ILLINOIS	PROJECT	

•82-3HVB-2R-1





NOTE: MINIMUM 3" CLEARANCE REQUIRED BETWEEN PILE AND FOOTING REINFORCEMENT.



BILL OF MATERIAL

PIER 2				
BAR	NO.	SIZE	LENGTH	SHAPE
H16	6	#5	27'-4"	
H17	11	#5	35'-0"	
N2	20	#10	13'-5"	
P4	6	#10	27'-4"	
P5	3	#10	20'-6"	
P6	6	#5	5'-0"	
S3	31	#5	9'-8"	
S5	26	#5	8'-1"	
S6	15	#5	13'-3"	
S7	20	#5	7'-10"	
S8	31	#5	11'-6"	
T	39	#7	8'-3"	
U3	8	#6	11'-6"	
U4	5	#5	4'-10"	
V12	20	#10	18'-5"	
W1	7	#7	21'-6"	
W2	2	#7	16'-6"	

CLASS X CONCRETE	CU. YDS.	54.9
REINFORCEMENT BARS	LBS.	6790
TEST PILE	EACH	1
CONCRETE PILE	LIN. FT.	516
EXP. BOLTS ¾"φ X 12"	EACH	10
Structure Excavation	*Cu. Yds.*	65

PILE DATA

TYPE: CONCRETE
CAPACITY: 45 TONS
ESTIMATED LENGTH: 43'-0"
NO. REQUIRED: 13 •
TEST PILE: 1
• INCLUDES ONE (1) TEST PILE AT THE LOCATION SHOWN ON THE FOOTING PLAN.
DENOTES DIRECTION OF BATTERED PILES.

NOTES

CHAMFER ALL EXPOSED EDGES STANDARD ¾ INCH.

SPACING OF PILES MEASURED AT BASE OF FOOTING.

POUR STEPS MONOLITHICALLY WITH PIER CAP.

EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION ANCHORS AND ¾"x1'-0" LONG HOOK BOLTS.

M. COTTEN	DESIGNED
R. TAGARAO	CHECKED
S. KAEMMERER	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
PIER 2 MODIFICATIONS

STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

SHEET NO. 17 OF 20

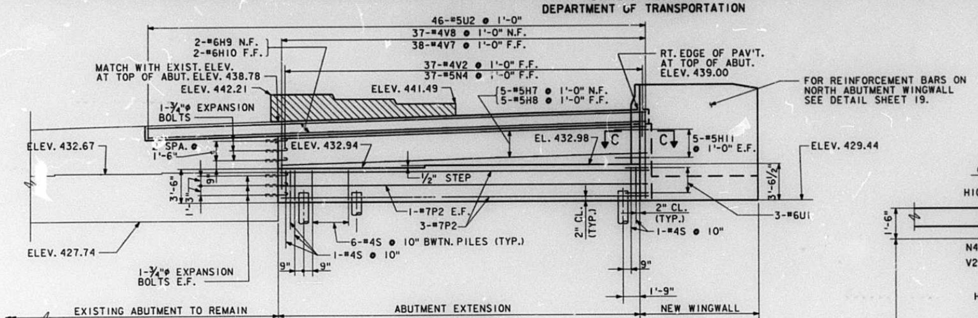
87S687 PRF: DETITOE 35 56 57 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

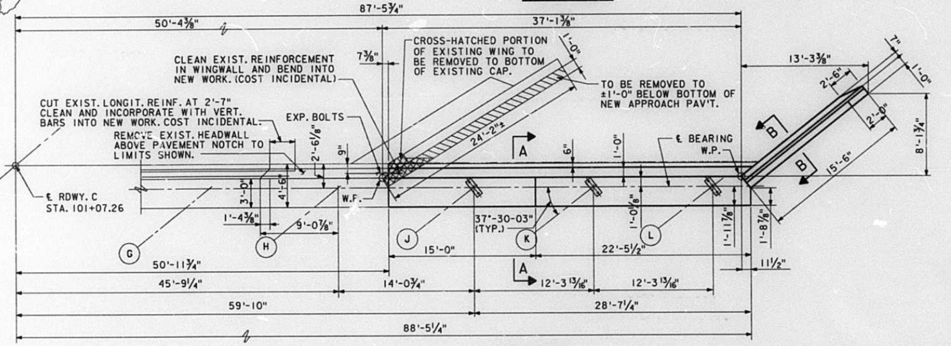
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	242

ILLINOIS PROJECT

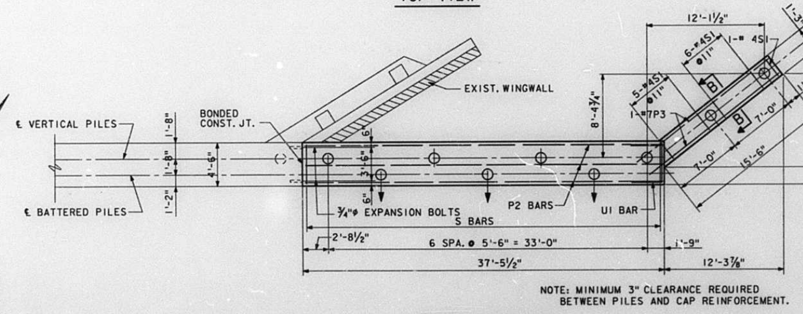
*82-3HVB-2R-1



ELEVATION



TOP VIEW



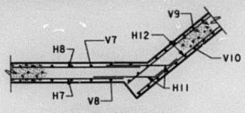
NOTE: MINIMUM 3" CLEARANCE REQUIRED BETWEEN PILES AND CAP REINFORCEMENT.

PLAN - PILE CAP

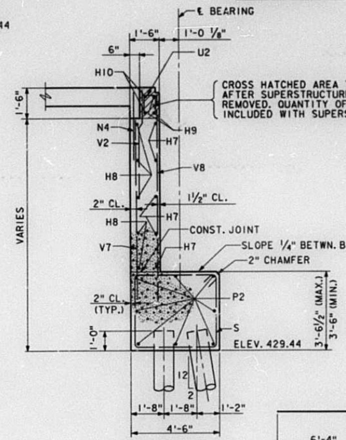
DENOTES DIRECTION OF BATTERED PILES.

PILE DATA

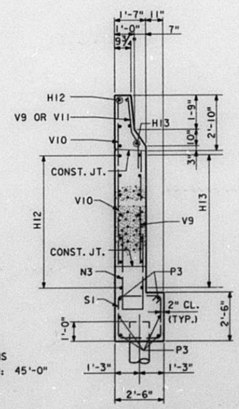
TYPE: CONCRETE
CAPACITY: 45 TONS
ESTIMATED LENGTH: 45'-0"
NO. REQUIRED: 9



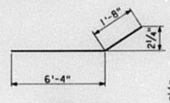
SECTION C-C



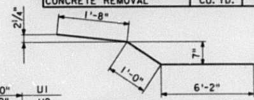
SECTION A-A



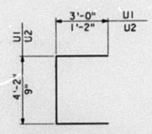
SECTION B-B



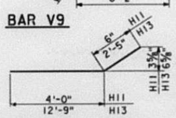
BAR V11



BAR V9



BARS U1 & U2



BARS H11 & H13

BILL OF MATERIAL

NORTH ABUTMENT & WINGWALL				
BAR	NO.	SIZE	LENGTH	SHAPE
H7	5	#5	36'-2"	
H8	5	#5	37'-8"	
H9	2	#6	44'-0"	
H10	2	#6	45'-0"	
H11	10	#5	4'-6"	
H12	12	#4	15'-2"	
H13	8	#4	15'-2"	
P2	8	#7	37'-0"	
P3	6	#7	17'-0"	
S	41	#4	15'-3"	
S1	12	#4	9'-5"	
U1	3	#6	10'-2"	
U2	46	#5	3'-1"	
V2	37	#4	4'-3"	
V7	38	#4	5'-10"	
V8	37	#4	7'-2"	
V9	13	#6	8'-10"	
V10	16	#6	8'-8"	
V11	3	#6	8'-0"	
N3	16	#6	10'-4"	
N4	37	#5	3'-0"	
Structure Excavation			Cu. Yds.	60
CLASS X CONCRETE			CU. YDS.	43.2
REINFORCEMENT BARS			LBS.	3620
CONCRETE PILE			LIN. FT.	405
EXP. BOLTS 3/4"φ X 12"			EA.	9
CONCRETE REMOVAL			CU. YD.	9.2

NOTES

CHAMFER ALL EXPOSED EDGES STANDARD 3/4 INCH.

SPACING OF PILES TO BE MEASURED AT BOTTOM OF FOOTING.

EXP. BOLTS SHALL CONSIST OF SELF DRILLING EXP. ANCHORS AND 3/4"φ×1'-0" LONG HOOKED BOLTS.

FOR BAR BENDING DETAILS NOT SHOWN, SEE SHEET 15.

REHABILITATION FOR FAI - 55/70 COMPLEX

ROADWAY C OVER 4TH STREET
NORTH ABUTMENT MODIFICATIONS

STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.

R. TAGARAO	DESIGNED
M. COTTEN	CHECKED
D. FRIERDICH	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

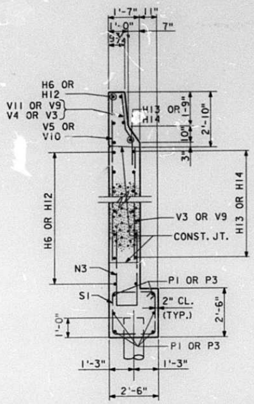
REV. 8/26/88

SHEET NO. 18 OF 20

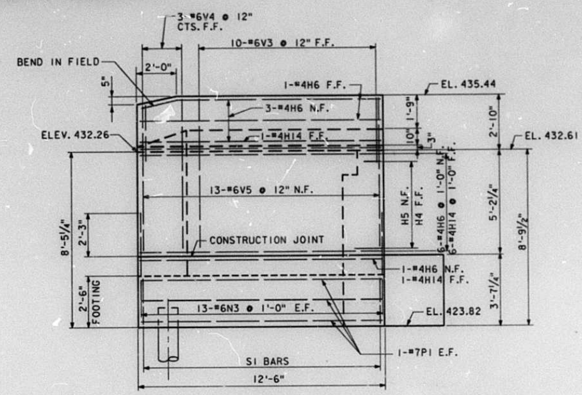
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	243

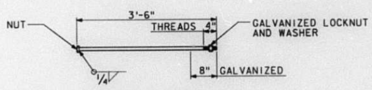
*82-3HVB-2R-1



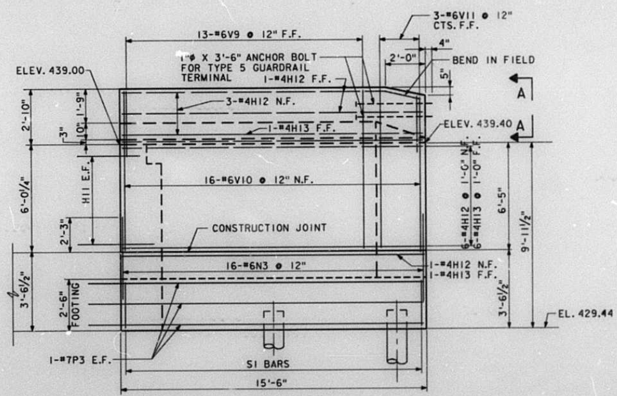
TYPICAL SECTION THRU WINGWALL



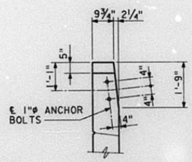
ELEVATION OF WINGWALL AT SOUTH ABUT.



1"ø ANCHOR BOLT
(2 REQUIRED)
NOTE: COST INCIDENTAL



ELEVATION OF WINGWALL AT NORTH ABUT.



VIEW A-A

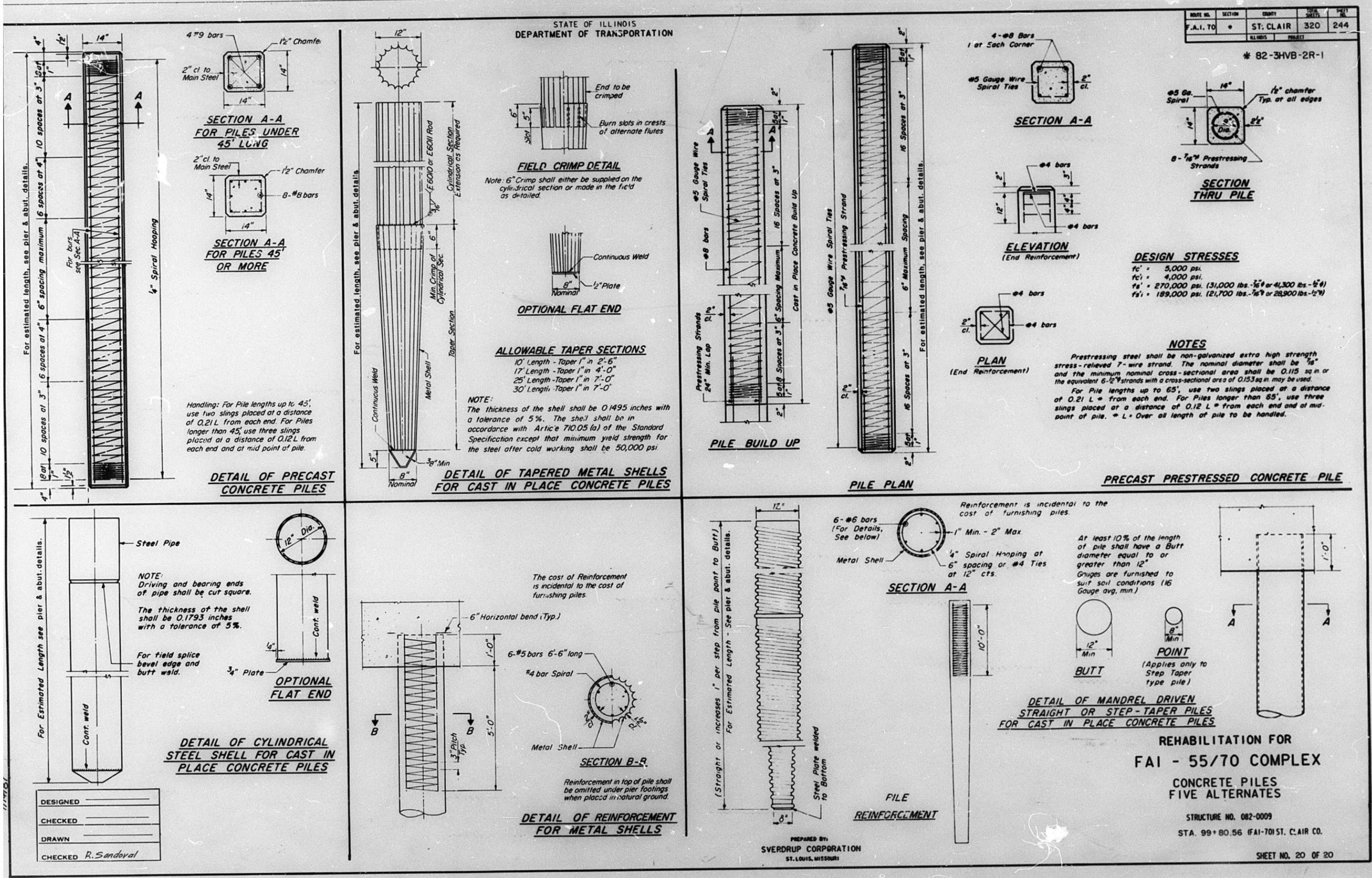
NOTES

FOR BILL OF MATERIAL FOR WINGWALL AT NORTH ABUT. SEE SHEET 18.
FOR BILL OF MATERIAL FOR WINGWALL AT SOUTH ABUT. SEE SHEET 15.

R. TAGARAO	DESIGNED
M. COTTEN	CHECKED
D. FRIERDICH	DRAWN
R. SANDOVAL	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

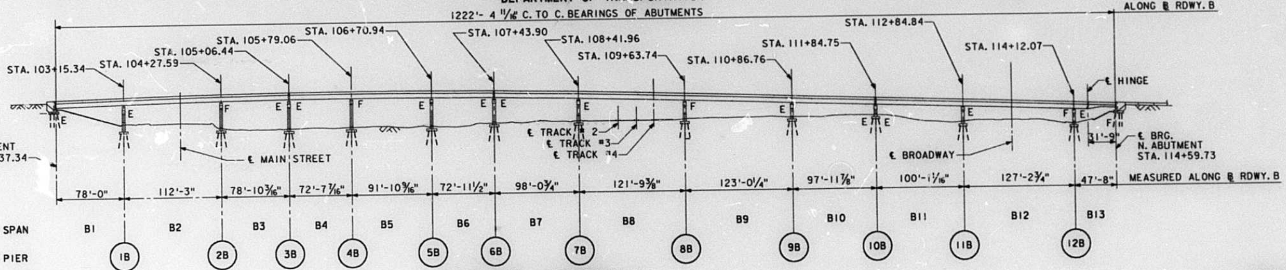
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER 4TH STREET
WINGWALL DETAILS
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | * | ST. CLAIR | 320 | 244
* 82-3HVB-2R-1
4-#9 bars
1½" Chamfer
2" cl to Main Steel
SECTION A-A FOR PILES UNDER 45' LONG
2" cl. to Main Steel
1½" Chamfer
8-#8 bars
SECTION A-A FOR PILES 45' OR MORE
For estimated length, see pier & abut. details
10 spaces at 3"
16 spaces at 4"
6" spacing maximum
6 spaces at 4"
10 spaces at 3"
¼" Spiral Hooping
For bars see Sec A-A
Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.
DETAIL OF PRECAST CONCRETE PILES
End to be crimped
Burn slots in crests of alternate flutes
FIELD CRIMP DETAIL
Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.
Continuous Weld
½" Plate
8" Nominal
OPTIONAL FLAT END
E6010 or E6011 Rod
Cylindrical Section Extension as Required
Min. Crimp of Cylindrical Sec.
Taper Section
Metal Shell
Continuous Weld
3/8" Min
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 shell 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.
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES
#5 Gauge Wire Spiral Ties
#8 bars
Prestressing Strands 24" Min. Lap
16 Spaces at 3"
6" Spacing Maximum
Cast in Place Concrete Build Up
PILE BUILD UP
#5 Gauge Wire Spiral Ties
7/16" Prestressing Strand
16 Spaces at 3"
6" Maximum Spacing
16 Spaces at 3"
For estimated length, see pier & abut. details
PILE PLAN
4-#8 Bars 1 at Each Corner
#5 Gauge Wire Spiral Ties
SECTION A-A
#4 bars
ELEVATION (End Reinforcement)
PLAN (End Reinforcement)
#5 Ga. Spiral
½" chamfer Typ. at all edges
8-7/16" Prestressing Strands
SECTION THRU PILE
DESIGN STRESSES
f'c = 5,000 psi.
f'ci = 4,000 psi.
f's = 270,000 psi. (31,000 lbs.-7/16" or 41,300 lbs.-½")
f'si = 189,000 psi. (21,700 lbs.-7/16" or 28,900 lbs.-½")
NOTES
Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.115 sq. in. or the equivalent 6-½" 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
Steel Pipe
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.
For Estimated Length see pier & abut. details
Cont. weld
12" Dia.
¾" Plate
OPTIONAL FLAT END
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES
The cost of Reinforcement is incidental to the cost of furnishing piles.
6" Horizontal bend (Typ.)
6-#5 bars 6'-6" long
#4 bar Spiral
3" Pitch Typ.
Metal Shell
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
(Straight or increases 1" per step from pile point to Butt)
For Estimated Length - See pier & abut. details.
Steel Plate welded to Bottom
Reinforcement is incidental to the cost of furnishing piles.
6-#6 bars (For Details, See below)
1" Min. - 2" Max.
Metal Shell
¼" Spiral Hooping at 6" spacing or #4 Ties at 12" cts.
SECTION A-A
PILE REINFORCEMENT
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.)
12" Min
BUTT
8" Min
POINT (Applies only to Step Taper type pile)
DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES
DESIGNED
CHECKED
DRAWN
CHECKED R. Sandoval
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI
REHABILITATION FOR
FAI - 55/70 COMPLEX
CONCRETE PILES
FIVE ALTERNATES
STRUCTURE NO. 082-0009
STA. 99+80.56 (FAI-70) ST. CLAIR CO.
SHEET NO. 20 OF 20

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	245
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION - ROADWAY B

NOTE: STATIONS FOR RDWY. B ARE ALONG ℄ RDWY. B AND ARE HERE FOR REFERENCE ONLY.

BUILT 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. 082-0011

NAME PLATE

(SEE ILL. STD. 2113)

NOTE: EXISTING NAME PLATE TO BE CLEANED AND RELOCATED NEXT TO NEW NAME PLATE. COST INCIDENTAL.

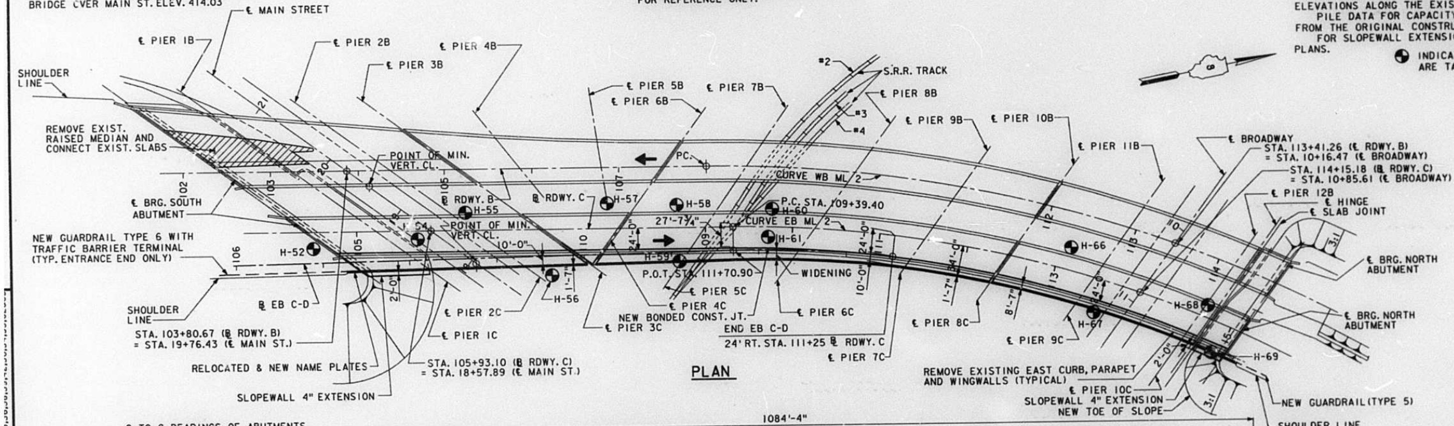
BENCH MARK C-4

CHISELED "□" IN CONCRETE FOUNDATION AT EAST END OF PIER B-2 ON W.B. I-55/70 BRIDGE OVER MAIN ST. ELEV. 414.03

NOTES

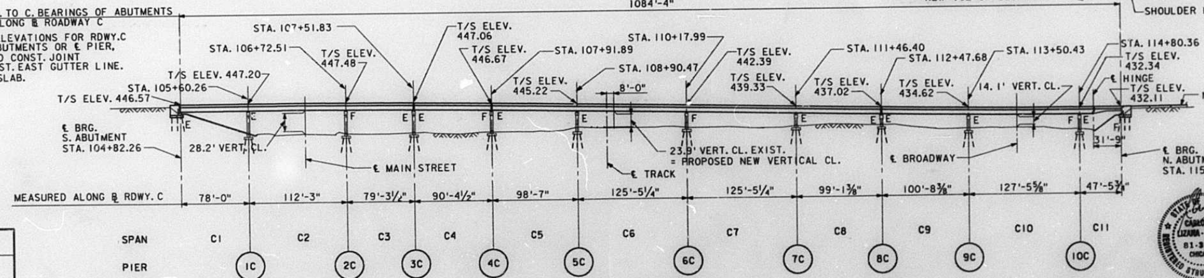
FINAL TOP OF SLAB ELEVATIONS SHOWN IN THIS SET OF PLANS ARE BASED ON SURVEY DATA, SHOWING ELEVATIONS ALONG THE EXISTING EAST GUTTER LINE.
PILE DATA FOR CAPACITY AND LENGTH ARE ESTIMATED FROM THE ORIGINAL CONSTRUCTION PLANS.
FOR SLOPEWALL EXTENSION DETAILS SEE ROADWAY PLANS.

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

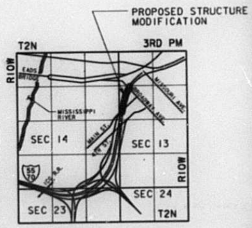


PLAN

NOTE:
STATIONS AND T/S ELEVATIONS FOR RDWY. C ARE AT ℄ BRG. AT ABUTMENTS OR ℄ PIER, BOTH AT NEW BONDED CONST. JOINT AT 3'-0" INSIDE EXIST. EAST GUTTER LINE.
T/S = TOP OF NEW SLAB.



ELEVATION - ROADWAY C



LOCATION SKETCH

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James T. [signature]
Engineer of Bridges and Structures

CARLOS A. LIZANA-FARIAS 81-3956 CHICAGO REGISTERED STRUCTURAL ENGINEER STATE OF ILLINOIS

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAYS B & C OVER BROADWAY AND MAIN STREETS
GENERAL PLAN AND ELEVATION

ROADWAY "B" STRUCTURE NO. 082-0010
ROADWAY "C" STRUCTURE NO. 082-0011
STA. 102+35.25 TO STA. 114+60.46 ROADWAY B
STA. 104+47.41 TO STA. 115+34.53 ROADWAY C
(FAI-70) ST. CLAIR CO.

C. LIZANA	DESIGNED
G.J. DEE	CHECKED
S. KAEMMERER	DRAWN
T. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

SHEET NO. 1 OF 47

87S579 PRF: DET59E

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	246
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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: Fabricated under a separate contract.

(•) ERECTING : 420,000 LBS. (M183)
980 LBS. (M223 GRADE 50)
(SEE SPECIAL PROVISIONS FOR FIELD PAINTING REQMTS.)

CAST STEEL SHALL BE CLASS 70. STRUCTURAL STEEL WELDMENTS OF EQUAL SECTIONS AND MEETING AASHTO M183 MAY BE SUBSTITUTED FOR CASTINGS AT THE OPTION OF THE FABRICATOR, SUBJECT TO APPROVAL BY THE ENGINEER PRIOR TO FABRICATION. NO ADDITIONAL COMPENSATION WILL BE ALLOWED THE FABRICATOR FOR THIS SUBSTITUTION.

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 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, ONE EACH AT PIERS 2C, 6C AND 10C AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE 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.

THE CONCRETE FOR BRIDGE FLOORS FINISHED IN ACCORDANCE WITH ARTICLE 503.15 OF THE STANDARD SPECIFICATIONS, SHALL BE PLACED AND COMPACTED PARALLEL TO THE SKEW IN UNIFORM INCREMENTS ALONG CENTER LINE OF BRIDGE. THE FINISHING MACHINE, WHEN REQUIRED, SHALL BE SET PARALLEL TO THE SKEW FOR STRIKING OFF AND SCREEDING THE CONCRETE.

SEE PROPOSAL FOR BORING DATA.

FOR MAINTENANCE AND CONSTRUCTION SIGN SUPPORT DETAILS AND LOCATION SEE SHEET 292 OF 320.

INDEX OF DRAWINGS

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
	STRUCTURE EXCAVATION	CU. YDS.	——	599	599
	CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	695.2	——	695.2
	CLASS X CONCRETE	CU. YDS.	——	424.3	424.3
	REINFORCEMENT BARS	LBS.	——	42,550	42,550
	REINFORCEMENT BARS, EPOXY COATED	LBS.	136,120	——	136,120
	FURNISHING CONCRETE PILES	LIN. FT.	——	3087	3087
	DRIVING CONCRETE PILES	LIN. FT.	——	3087	3087
	TEST PILE CONCRETE	EACH	——	3	3
	NEOPRENE EXPANSION JOINT (2")	LIN. FT.	39	——	39
	NEOPRENE EXPANSION JOINT (2½")	LIN. FT.	68	——	68
	NEOPRENE EXPANSION JOINT (4")	LIN. FT.	52	——	52
	NEOPRENE EXPANSION JOINT (6½")	LIN. FT.	12	——	12
	PREFORMED JOINT SEAL (1¼")	LIN. FT.	12	——	12
	PREFORMED JOINT SEAL (2½")	LIN. FT.	12	——	12
	CONCRETE REMOVAL	CU. YDS.	427.0	5.2	432.2
	FURNISHING AND ERECTING STRUCTURAL STEEL	LBS.	1820	——	1820
	ERECTING STRUCTURAL STEEL	LUMP SUM	1	——	1
	STUD SHEAR CONNECTORS	EACH	74	——	74
	FLOOR DRAINS	EACH	40	——	40
*	PROTECTIVE COAT	SQ. YDS.	410	——	410
	NAME PLATE	EACH	1	——	1
	EXPANSION BOLTS ¾"ø×12"	EACH	——	228	228

*QUANTITY DOES NOT INCLUDE DECK SURFACE.

C. LIZANA	DESIGNED
G.J. DEE	CHECKED
D. RIEHL	DRAWN
R. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAYS B & C OVER BROADWAY AND MAIN STREET
GENERAL NOTES, ESTIMATED QUANTITIES AND INDEX OF DRAWINGS
ROADWAY "B" STRUCTURE NO. 082-0010
ROADWAY "C" STRUCTURE NO. 082-0011
STA. 102+35.25 TO STA. 114+60.46 ROADWAY B
STA. 104+47.41 TO STA. 115+34.53 ROADWAY C
(FAI-70) ST. CLAIR CO.
SHEET NO. 2 OF 47

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: fabricated under a separate contract.

(*) ERECTING : 420,000 LBS. (M183)
980 LBS. (M223 GRADE 50)
(SEE SPECIAL PROVISIONS FOR FIELD PAINTING REQMTS.)

CAST STEEL SHALL BE CLASS 70. STRUCTURAL STEEL WELDMENTS OF EQUAL SECTIONS AND MEETING AASHTO M183 MAY BE SUBSTITUTED FOR CASTINGS AT THE OPTION OF THE FABRICATOR, SUBJECT TO APPROVAL BY THE ENGINEER PRIOR TO FABRICATION. NO ADDITIONAL COMPENSATION WILL BE ALLOWED THE FABRICATOR FOR THIS SUBSTITUTION.

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 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, ONE EACH AT PIERS 2C, 6C AND 10C AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE 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.

THE CONCRETE FOR BRIDGE FLOORS FINISHED IN ACCORDANCE WITH ARTICLE 503.15 OF THE STANDARD SPECIFICATIONS, SHALL BE PLACED AND COMPACTED PARALLEL TO THE SKEW IN UNIFORM INCREMENTS ALONG CENTER LINE OF BRIDGE. THE FINISHING MACHINE, WHEN REQUIRED, SHALL BE SET PARALLEL TO THE SKEW FOR STRIKING OFF AND SCREEDING THE CONCRETE.

SEE PROPOSAL FOR BORING DATA.

FOR MAINTENANCE AND CONSTRUCTION SIGN SUPPORT DETAILS AND LOCATION SEE SHEET 292 OF 320.

C. LIZANA	DESIGNED
G.J. DEE	CHECKED
D. RIEHL	DRAWN
R. BECK	CHECKED

10320	FILE: 2F3:C110.1)DET60E.DGN	LEVELS PLOTTED	DATE: OCT. 14, 1987
875580	PRF: DET60E	35, 56, 58, 63	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF DRAWINGS

F.A.I. 70	*	ST. CLAIR	320	246A

* 82-3HVB-2R;1

156,220

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPERSTR.	SUBSTR.	TOTAL
STRUCTURE EXCAVATION	CU. YDS.	—	599	599
CLASS X CONCRETE SUPERSTRUCTURE	CU. YDS.	695.2	—	695.2
CLASS X CONCRETE	CU. YDS.	—	424.3	424.3
REINFORCEMENT BARS	LBS.	—	42,550	42,550
REINFORCEMENT BARS, EPOXY COATED	LBS.	136,120	—	136,120
FURNISHING CONCRETE PILES	LIN. FT.	—	3087	3087
DRIVING CONCRETE PILES	LIN. FT.	—	3087	3087
TEST PILE CONCRETE	EACH	—	3	3
NEOPRENE EXPANSION JOINT (2")	LIN. FT.	39	—	39
NEOPRENE EXPANSION JOINT (2½")	LIN. FT.	68	—	68
NEOPRENE EXPANSION JOINT (4")	LIN. FT.	52	—	52
NEOPRENE EXPANSION JOINT (6½")	LIN. FT.	12	—	12
PREFORMED JOINT SEAL (1¼")	LIN. FT.	12	—	12
PREFORMED JOINT SEAL (2½")	LIN. FT.	12	—	12
CONCRETE REMOVAL	CU. YDS.	427.0	5.2	432.2
FURNISHING AND ERECTING STRUCTURAL STEEL	LBS.	1820	—	1820
ERECTING STRUCTURAL STEEL	LUMP SUM	1	—	1
STUD SHEAR CONNECTORS	EACH	74	—	74
FLOOR DRAINS	EACH	40	—	40
* PROTECTIVE COAT	SQ. YDS.	410	—	410
NAME PLATE	EACH	1	—	1
EXPANSION BOLTS ¾"ø×12"	EACH	—	228	228

*QUANTITY DOES NOT INCLUDE DECK SURFACE.

AS REVISED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAYS B & C OVER BROADWAY
AND MAIN STREET
GENERAL NOTES, ESTIMATED QUANTITIES
AND INDEX OF DRAWINGS
ROADWAY "B" STRUCTURE NO. 082-0010
ROADWAY "C" STRUCTURE NO. 082-0011
STA. 102+35.25 TO STA. 114+60.46 ROADWAY B
STA. 104+47.41 TO STA. 115+34.53 ROADWAY C
(FAI-70) ST. CLAIR CO.
SHEET NO. 2 OF 47

Revised 1-25-89, M.H.B.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

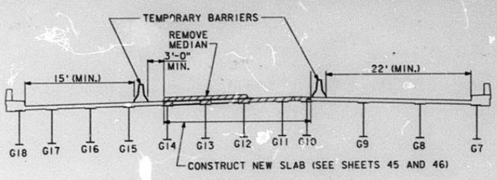
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	247
		ILLINOIS	PROJECT	

* 82-3HVB-2R-1

BILL OF MATERIAL

CONCRETE REMOVAL SPANS C1 THRU C11	291 CU. YDS.

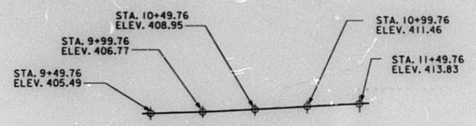
NOTE: REMOVAL OF EXISTING BITUMINOUS OVERLAY INCIDENTAL TO COST OF CONCRETE REMOVAL FOR SPANS C1 THRU C11.



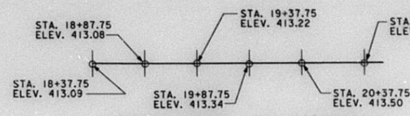
ROADWAY B RECONSTRUCTION
(SPAN B1 AND B2 ONLY)

CONSTRUCTION SEQUENCE

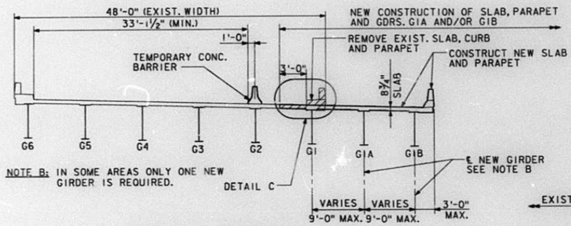
1. PLACE TEMPORARY BARRIERS AND SHIFT TRAFFIC.
2. REMOVE EXISTING MEDIAN AND PORTION OF EXISTING SLAB.
3. CONSTRUCT NEW ROADWAY SLAB.
4. REMOVE TEMPORARY BARRIERS.



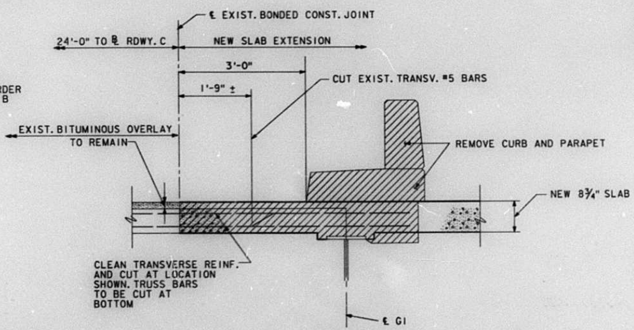
PROFILE GRADE - BROADWAY



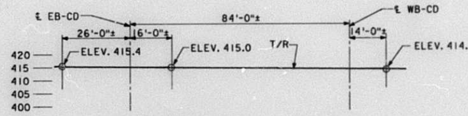
PROFILE GRADE - MAIN STREET



ROADWAY C WIDENING



DETAIL C



PROFILE GRADE - S.R.R. TRACKS

CONSTRUCTION SEQUENCE

1. PLACE TEMPORARY CONCRETE BARRIER AND SHIFT TRAFFIC.
2. REMOVE EXISTING EAST SIDE PARAPET AND SLAB TO DIMENSION SHOWN. WIDEN PIERS AND ABUTMENTS.
3. SET NEW GIRDERS G1A AND/OR G1B.
4. POUR NEW SLAB AND CONSTRUCT NEW PARAPET.
5. REMOVE TEMPORARY CONCRETE BARRIER.

NOTES

FOR PAY ITEM "TEMPORARY CONCRETE BARRIER", SEE ROADWAY PLANS.

GIRDERS G1 THRU G18 ARE EXISTING GIRDER DESIGNATIONS. G1-A AND G1-B ARE NEW GIRDER DESIGNATIONS ADDED UNDER THIS CONTRACT.

DESIGN STRESSES

EXISTING STRUCTURE

DESIGN SPECIFICATIONS: AASHO 1961 AND APPLICABLE 1962 AND 1963 INTERIMS.

LOADING: HS20-44 AND ALTERNATE

REINFORCED CONCRETE:
- DECK SLAB: fc=1400 psi n=10
- SUBSTRUCTURE: fc=1400 psi n=10; Vc=75 psi - FOOTINGS
- REINFORCING: fs=20,000 psi

STRUCTURAL STEEL: fs=20,000 psi (M183)

FUTURE WEARING SURFACE = 25 psf

WIDENING

DESIGN SPECIFICATIONS: AASHTO 1983 AND APPLICABLE 1984 thru 1987 INTERIMS. AASHTO GUIDE TO HORIZ. CURVED HIGHWAY BRIDGES 1980, 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: fs=27,000 psi (M223, GR. 50); fs=20,000 psi (M183)

CURVE DATA - WB ML 2

P.I. STA. = 112+16.69
Δ = 30° - 31' - 52" RT.
D = 3° - 41' - 32"
R = 1551.83'
T = 423.53'
L = 826.92'
E = 56.76'
P.C. STA. = 107+93.16
P.C.C. STA. = 116+20.08

CURVE DATA - EB ML 2

P.I. STA. = 118+84.59
Δ = 69° - 00' - 37" RT.
D = 4° - 10' - 01"
R = 1375.00'
T = 945.19'
L = 1656.13'
E = 293.54'
P.C. STA. = 109+39.40
P.T. STA. = 125+95.53

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

R. NIEMIETZ	DESIGNED
S. YORDY	CHECKED
J. CORLEY	DRAWN
T. DILLON	CHECKED

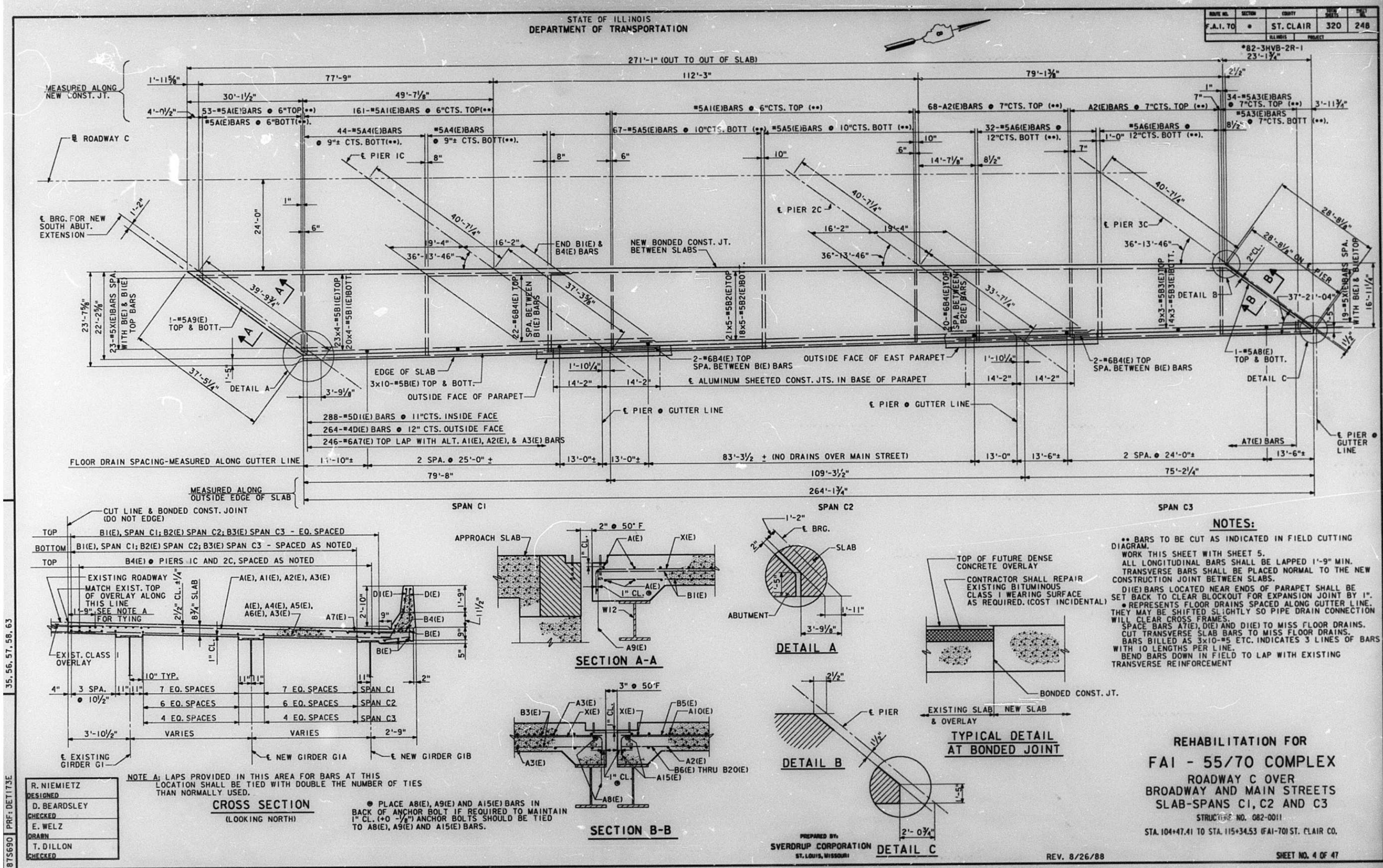
875581 PRF: DET6IE ALL

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAYS B AND C - DECK REHABILITATION
PROFILES, CURVE DATA AND
STAGE CONSTRUCTION DETAILS

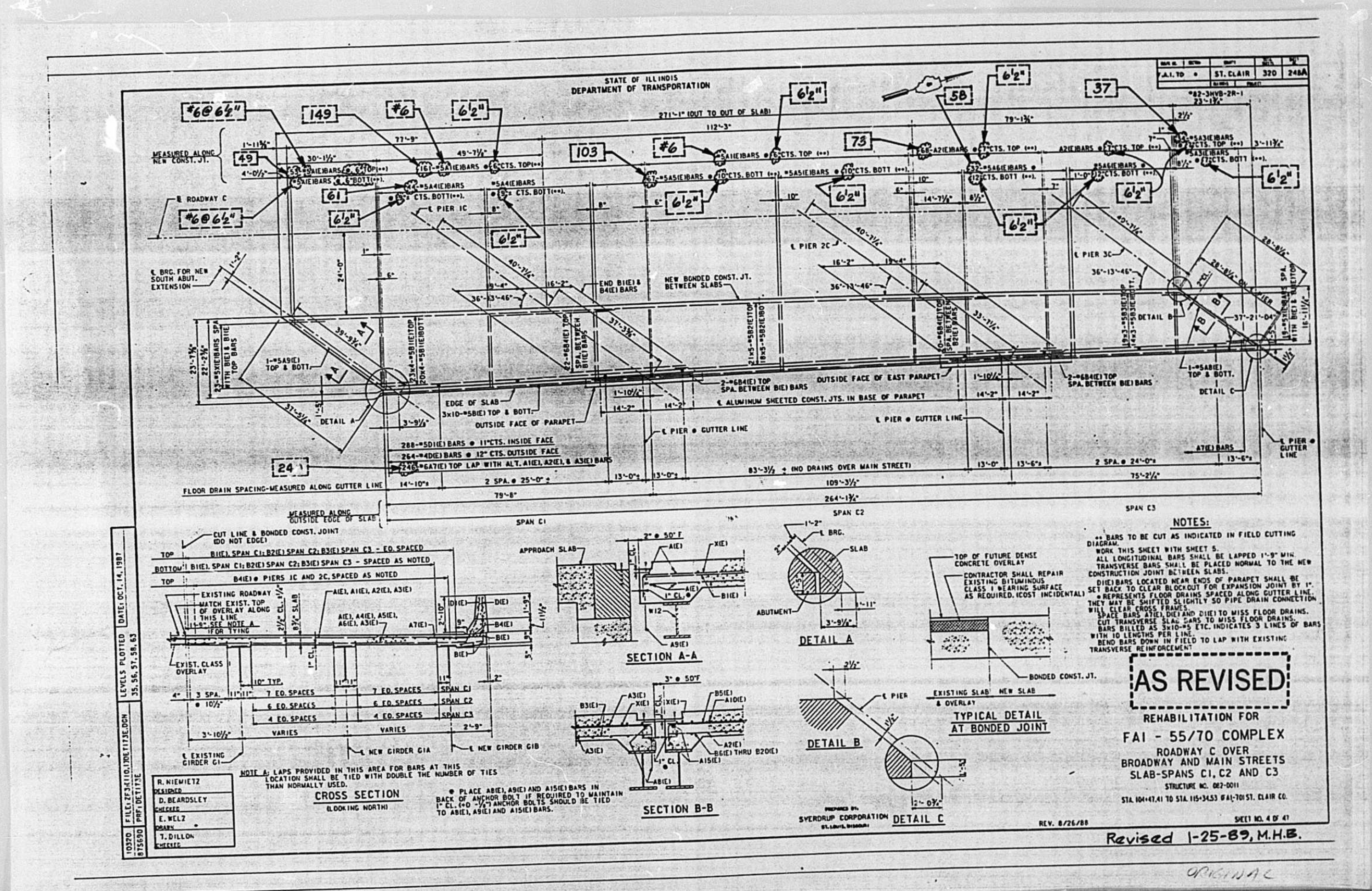
ROADWAY "B" STRUCTURE NO. 082-0010
ROADWAY "C" STRUCTURE NO. 082-0011

STA. 102+35.25 TO STA. 114+60.46 ROADWAY B
STA. 104+47.41 TO STA. 115+34.53 ROADWAY C
(FAI-70) ST. CLAIR CO.

SHEET NO. 3 OF 47



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ● | ST. CLAIR | 320 | 248
*82-3HVB-2R-1
271'-1" (OUT TO OUT OF SLAB)
MEASURED ALONG NEW CONST. JT.
℄ ROADWAY C
℄ PIER 1C
℄ PIER 2C
℄ PIER 3C
℄ BRG. FOR NEW SOUTH ABUT. EXTENSION
NEW BONDED CONST. JT. BETWEEN SLABS
END B1(E) & B4(E) BARS
OUTSIDE FACE OF EAST PARAPET
EDGE OF SLAB
OUTSIDE FACE OF PARAPET
℄ ALUMINUM SHEETED CONST. JTS. IN BASE OF PARAPET
℄ PIER ● GUTTER LINE
288-#5D1(E) BARS ● 11"CTS. INSIDE FACE
264-#4D(E) BARS ● 12" CTS. OUTSIDE FACE
246-#6A7(E) TOP LAP WITH ALT. A1(E), A2(E), & A3(E) BARS
FLOOR DRAIN SPACING-MEASURED ALONG GUTTER LINE
83'-3½ ± (NO DRAINS OVER MAIN STREET)
MEASURED ALONG OUTSIDE EDGE OF SLAB
264'-1¾"
SPAN C1
SPAN C2
SPAN C3
DETAIL A
DETAIL B
DETAIL C
CROSS SECTION
(LOOKING NORTH)
NOTE A: LAPS PROVIDED IN THIS AREA FOR BARS AT THIS LOCATION SHALL BE TIED WITH DOUBLE THE NUMBER OF TIES THAN NORMALLY USED.
SECTION A-A
SECTION B-B
● PLACE A8(E), A9(E) AND A15(E) BARS IN BACK OF ANCHOR BOLT IF REQUIRED TO MAINTAIN 1" CL. (+0 -⅛") ANCHOR BOLTS SHOULD BE TIED TO A8(E), A9(E) AND A15(E) BARS.
TYPICAL DETAIL AT BONDED JOINT
TOP OF FUTURE DENSE CONCRETE OVERLAY
CONTRACTOR SHALL REPAIR EXISTING BITUMINOUS CLASS I WEARING SURFACE AS REQUIRED. (COST INCIDENTAL)
BONDED CONST. JT.
EXISTING SLAB & OVERLAY
NEW SLAB
NOTES:
●● BARS TO BE CUT AS INDICATED IN FIELD CUTTING DIAGRAM.
WORK THIS SHEET WITH SHEET 5.
ALL LONGITUDINAL BARS SHALL BE LAPPED 1'-9" MIN.
TRANSVERSE BARS SHALL BE PLACED NORMAL TO THE NEW CONSTRUCTION JOINT BETWEEN SLABS.
D1(E) BARS LOCATED NEAR ENDS OF PARAPET SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXPANSION JOINT BY 1".
● REPRESENTS FLOOR DRAINS SPACED ALONG GUTTER LINE. THEY MAY BE SHIFTED SLIGHTLY SO PIPE DRAIN CONNECTION WILL CLEAR CROSS FRAMES.
SPACE BARS A7(E), D1(E) AND D(E) TO MISS FLOOR DRAINS.
CUT TRANSVERSE SLAB BARS TO MISS FLOOR DRAINS.
BARS BILLED AS 3x10-#5 ETC. INDICATES 3 LINES OF BARS WITH 10 LENGTHS PER LINE.
BEND BARS DOWN IN FIELD TO LAP WITH EXISTING TRANSVERSE REINFORCEMENT
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SLAB-SPANS C1, C2 AND C3
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.
R. NIEMIETZ
DESIGNED
D. BEARDSLEY
CHECKED
E. WELZ
DRAWN
T. DILLON
CHECKED
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
REV. 8/26/88
SHEET NO. 4 OF 47
35, 56, 57, 58, 63
875690 PRF: DET173E

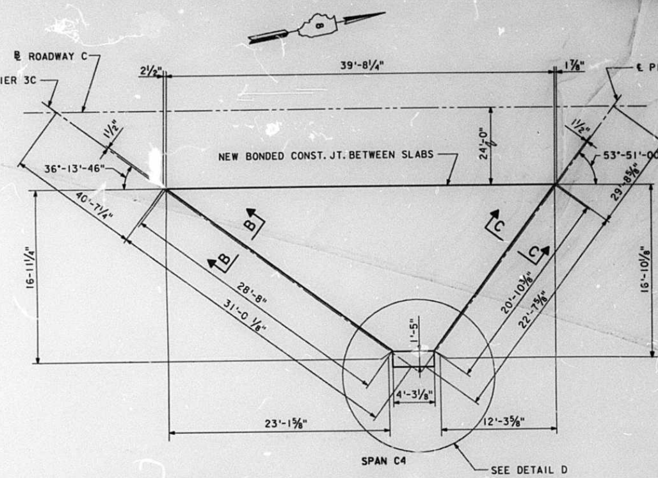

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70
ST. CLAIR
320
248A
271'-1" (OUT TO OUT OF SLAB)
112'-3"
MEASURED ALONG NEW CONST. JT.
℄ ROADWAY C
℄ BRG. FOR NEW SOUTH ABUT. EXTENSION
℄ PIER 1C
℄ PIER 2C
℄ PIER 3C
NEW BONDED CONST. JT. BETWEEN SLABS
END B1(E) & B4(E) BARS
EDGE OF SLAB
3x10-#5B(E) TOP & BOTT.
OUTSIDE FACE OF PARAPET
OUTSIDE FACE OF EAST PARAPET
℄ ALUMINUM SHEETED CONST. JTS. IN BASE OF PARAPET
℄ PIER @ GUTTER LINE
288-#5D1(E) BARS @ 11" CTS. INSIDE FACE
264-#4D(E) BARS @ 12" CTS. OUTSIDE FACE
DETAIL A
DETAIL B
DETAIL C
83'-3½" ± (NO DRAINS OVER MAIN STREET)
FLOOR DRAIN SPACING-MEASURED ALONG GUTTER LINE
MEASURED ALONG OUTSIDE EDGE OF SLAB
2 SPA. @ 25'-0"±
2 SPA. @ 24'-0"±
79'-8"
109'-3½"
75'-2¼"
264'-1¾"
SPAN C1
SPAN C2
SPAN C3
CUT LINE & BONDED CONST. JOINT (DO NOT EDGE)
TOP B1(E), SPAN C1; B2(E) SPAN C2; B3(E) SPAN C3 - EQ. SPACED
BOTTOM B1(E), SPAN C1; B2(E) SPAN C2; B3(E) SPAN C3 - SPACED AS NOTED
TOP B4(E) @ PIERS 1C AND 2C, SPACED AS NOTED
EXISTING ROADWAY
MATCH EXIST. TOP OF OVERLAY ALONG THIS LINE
1'-9" SEE NOTE A FOR TYING
EXIST. CLASS I OVERLAY
10" TYP.
3 SPA. @ 10½"
7 EQ. SPACES
6 EQ. SPACES
4 EQ. SPACES
VARIES
℄ EXISTING GIRDER G1
℄ NEW GIRDER G1A
℄ NEW GIRDER G1B
NOTE A: LAPS PROVIDED IN THIS AREA FOR BARS AT THIS LOCATION SHALL BE TIED WITH DOUBLE THE NUMBER OF TIES THAN NORMALLY USED.
CROSS SECTION
(LOOKING NORTH)
APPROACH SLAB
SECTION A-A
SECTION B-B
• PLACE A8(E), A9(E) AND A15(E) BARS IN BACK OF ANCHOR BOLT IF REQUIRED TO MAINTAIN 1" CL. (+0 -⅛") ANCHOR BOLTS SHOULD BE TIED TO A8(E), A9(E) AND A15(E) BARS.
ABUTMENT
SLAB
℄ BRG.
℄ PIER
TOP OF FUTURE DENSE CONCRETE OVERLAY
CONTRACTOR SHALL REPAIR EXISTING BITUMINOUS CLASS I WEARING SURFACE AS REQUIRED. (COST INCIDENTAL)
BONDED CONST. JT.
EXISTING SLAB & OVERLAY
NEW SLAB
TYPICAL DETAIL AT BONDED JOINT
NOTES:
** BARS TO BE CUT AS INDICATED IN FIELD CUTTING DIAGRAM.
WORK THIS SHEET WITH SHEET 5.
ALL LONGITUDINAL BARS SHALL BE LAPPED 1'-9" MIN.
TRANSVERSE BARS SHALL BE PLACED NORMAL TO THE NEW CONSTRUCTION JOINT BETWEEN SLABS.
D1(E) BARS LOCATED NEAR ENDS OF PARAPET SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXPANSION JOINT BY 1".
• REPRESENTS FLOOR DRAINS SPACED ALONG GUTTER LINE. THEY MAY BE SHIFTED SLIGHTLY SO PIPE DRAIN CONNECTION WILL CLEAR CROSS FRAMES.
SPACE BARS A7(E), D(E) AND D1(E) TO MISS FLOOR DRAINS.
CUT TRANSVERSE SLAB BARS TO MISS FLOOR DRAINS.
BARS BILLED AS 3x10-#5 ETC. INDICATES 3 LINES OF BARS WITH 10 LENGTHS PER LINE.
BEND BARS DOWN IN FIELD TO LAP WITH EXISTING TRANSVERSE REINFORCEMENT
AS REVISED
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SLAB-SPANS C1, C2 AND C3
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 @ FAI-70 ST. CLAIR CO.
REV. 8/26/88
SHEET NO. 4 OF 47
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
R. NIEMIETZ
DESIGNED
D. BEARDSLEY
CHECKED
E. WELZ
DRAWN
T. DILLON
CHECKED
10320
875690
FILE: ZF3:(110,1)DET173E.DGN
PRF: DET173E
LEVELS PLOTTED 35, 56, 57, 58, 63
DATE: OCT. 14, 1987
Revised 1-25-89, M.H.B.
ORIGINAL

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

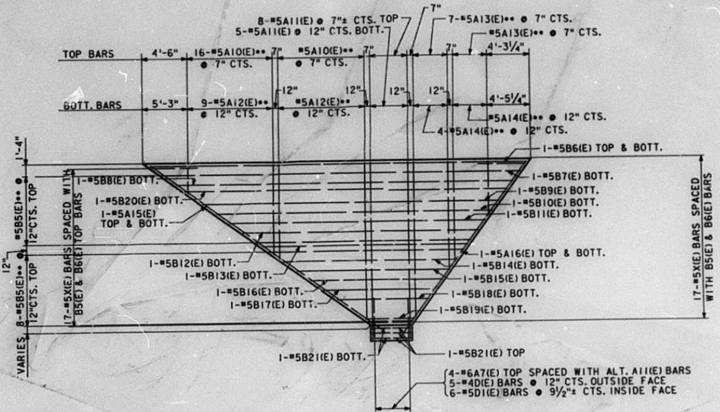
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	249

ILLINOIS | PROJECT

*82-3HVB-2R-1

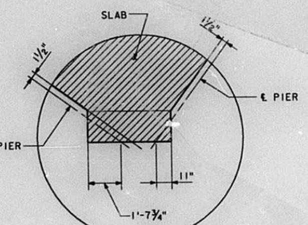


PLAN
(DIMENSIONS)

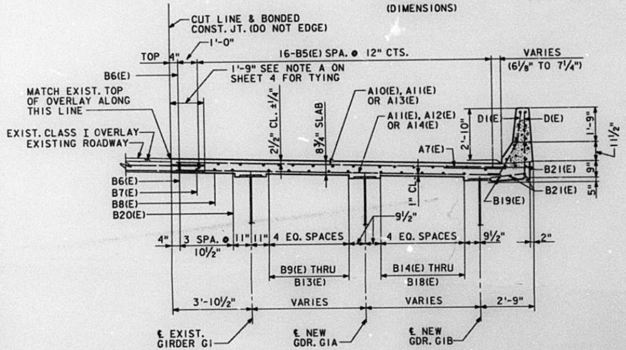


PLAN
(REINFORCEMENT)

** BARS TO BE CUT AS INDICATED IN FIELD CUTTING DIAGRAM.



DETAIL D



CROSS SECTION
(LOOKING NORTH)

NOTES

WORK THIS SHEET WITH SHEETS 4, 6 & 9.

SECTION C-C SAME AS SECTION B-B EXCEPT FOR BAR MARKS. SEE SHEET 4.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SLAB - SPAN C4
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
D. FRIERDICH	DRAWN
T.V. DILLON	CHECKED

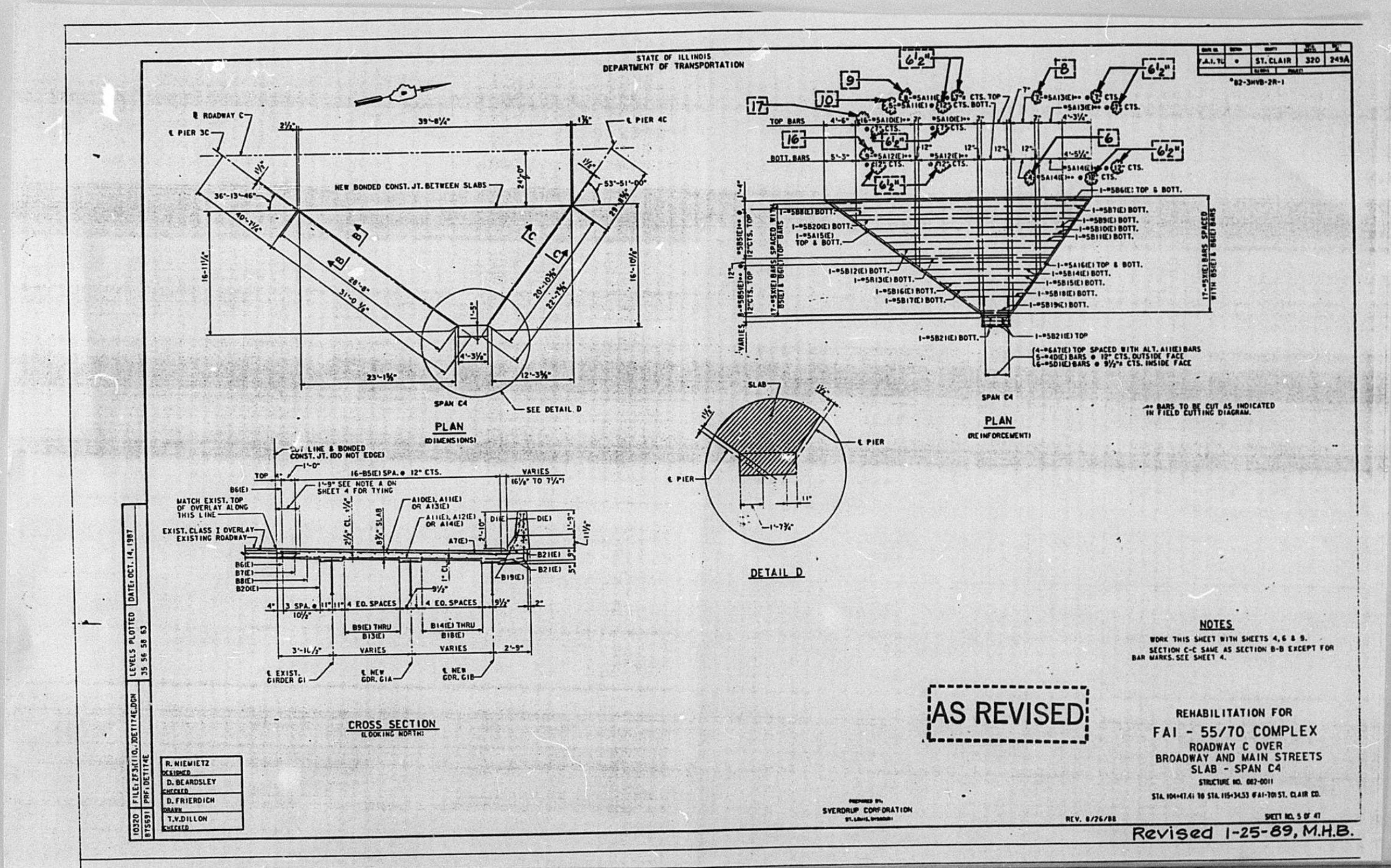
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

SHEET NO. 5 OF 47

87S691 PRF: DET174E

35 56 58 63

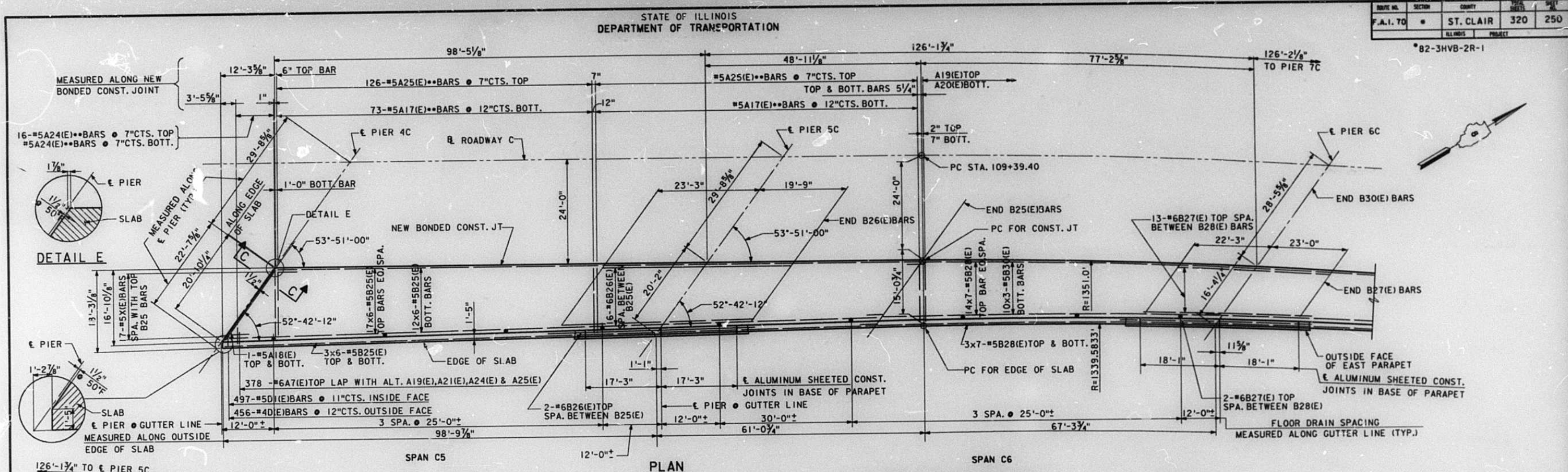


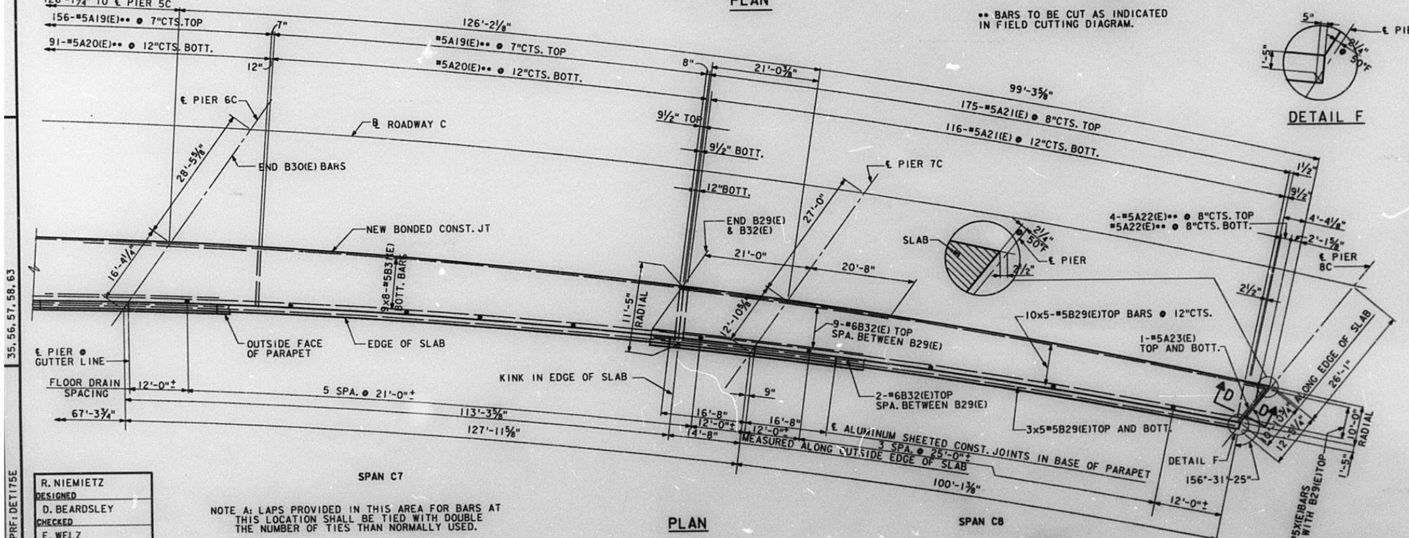
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 249A
82-3HVB-2R-1
NEW BONDED CONST. JT. BETWEEN SLABS
SPAN C4
SEE DETAIL D
PLAN
(DIMENSIONS)
PLAN
(REINFORCEMENT)
SPAN C4
** BARS TO BE CUT AS INDICATED IN FIELD CUTTING DIAGRAM.
DETAIL D
SLAB
℄ PIER
CROSS SECTION
(LOOKING NORTH)
CUT LINE & BONDED CONST. JT. (DO NOT EDGE)
MATCH EXIST. TOP OF OVERLAY ALONG THIS LINE
EXIST. CLASS I OVERLAY
EXISTING ROADWAY
℄ EXIST. GIRDER G1
℄ NEW GDR. G1A
℄ NEW GDR. G1B
NOTES
WORK THIS SHEET WITH SHEETS 4, 6 & 9.
SECTION C-C SAME AS SECTION B-B EXCEPT FOR BAR MARKS. SEE SHEET 4.
AS REVISED
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SLAB - SPAN C4
STRUCTURE NO. 082-0011
PREPARED BY
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
REV. 8/26/88
SHEET NO. 5 OF 47
R. NIEMIETZ
DESIGNED
D. BEARDSLEY
CHECKED
D. FRIERDICH
DRAWN
T.V. DILLON
CHECKED
LEVELS PLOTTED 35 56 58 63
DATE: OCT. 14, 1987
Revised 1-25-89, M.H.B.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	250

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





NOTES:

WORK THIS SHEET WITH SHEETS 7 AND 10.
FOR CROSS SECTIONS SEE SHEET 7.
ALL LONGITUDINAL BARS SHALL BE LAPPED 1'-9" MINIMUM.
TRANSVERSE BARS ARE PLACED RADIAL TO AND MEASURED ALONG THE NEW SLAB CONST. JOINT.
D1(E) BARS LOCATED NEAR THE ENDS OF THE PARAPET SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXPANSION JOINT BY 1 INCH.
SPACE BARS D(E) AND D1(E) TO MISS FLOOR DRAINS.
CUT TRANSVERSE BARS IN THE FIELD TO MISS FLOOR DRAINS.
BARS BILLED AS 17x6-#5 ETC. INDICATES 17 LINES OF BARS WITH 6 LENGTHS PER LINE.
SECTION C-C, SAME AS SECTION B-B ON SHEET 4 EXCEPT FOR BAR MARKS, FOR SECTION D-D SEE SHEET 7.
• REPRESENTS 6" FLOOR DRAINS SPACED ALONG GUTTER LINE. THEY MAY BE SHIFTED SLIGHTLY SO DRAIN PIPE CONNECTION WILL CLEAR CROSS FRAMES.
FOR NOTE ABOUT ANGLES ON PLANS, SEE NOTES, SHEET 8.
BEND BARS DOWN IN FIELD TO LAP WITH EXISTING TRANSVERSE REINFORCEMENT.

REHABILITATION FOR FAI - 55/70 COMPLEX
ROADWAY C OVER BROADWAY AND MAIN STREETS SLAB-SPANS C5, C6, C7 AND C8

STRUCTURE NO. 082-0011

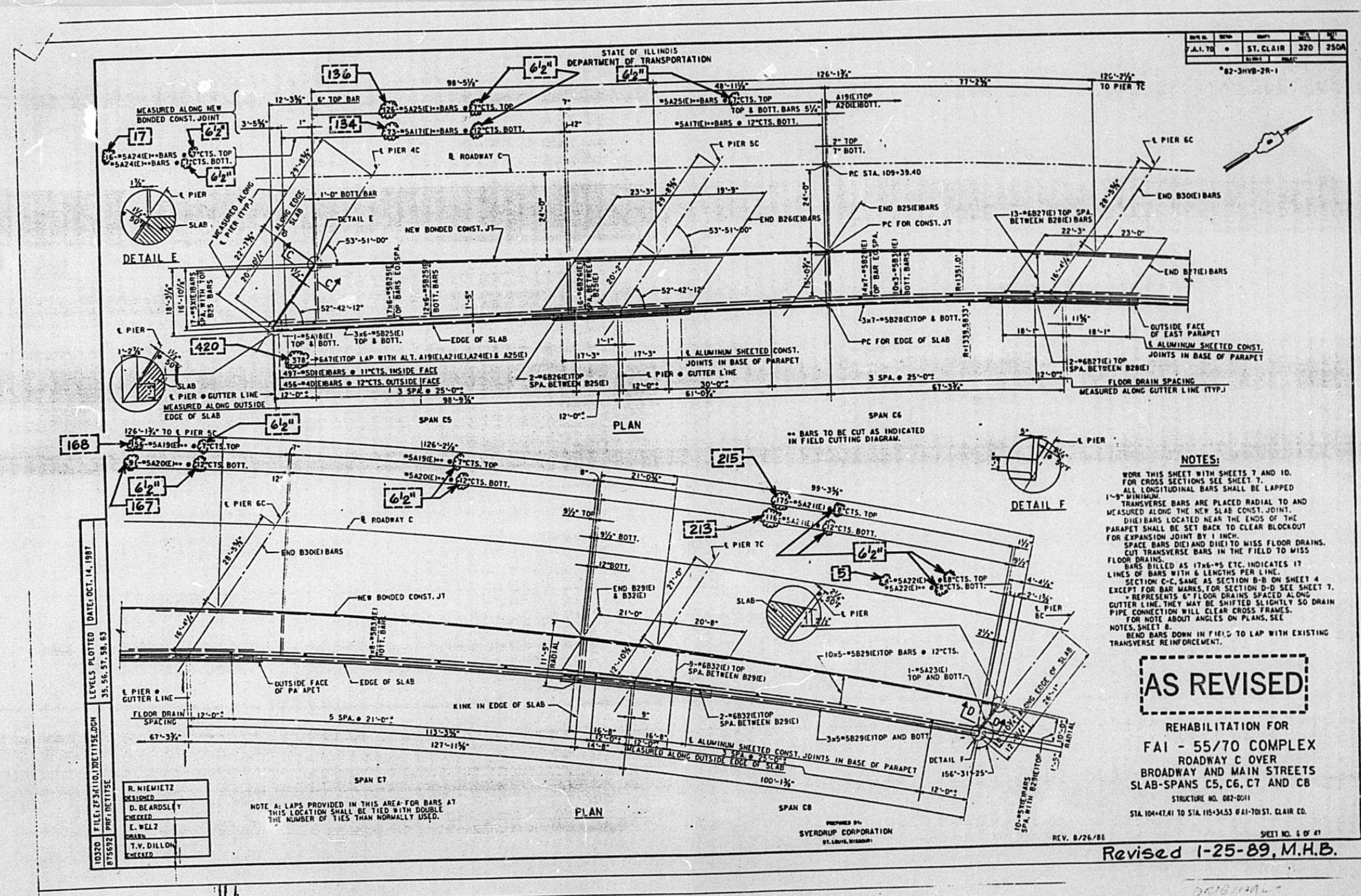
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

REV. 8/26/88

R. NIEMIETZ — DESIGNED
D. BEARDSLEY — CHECKED
E. WELZ — DRAWN
T.V. DILLON — CHECKED

8T5692 PRF: DET175E 35, 56, 57, 58, 63

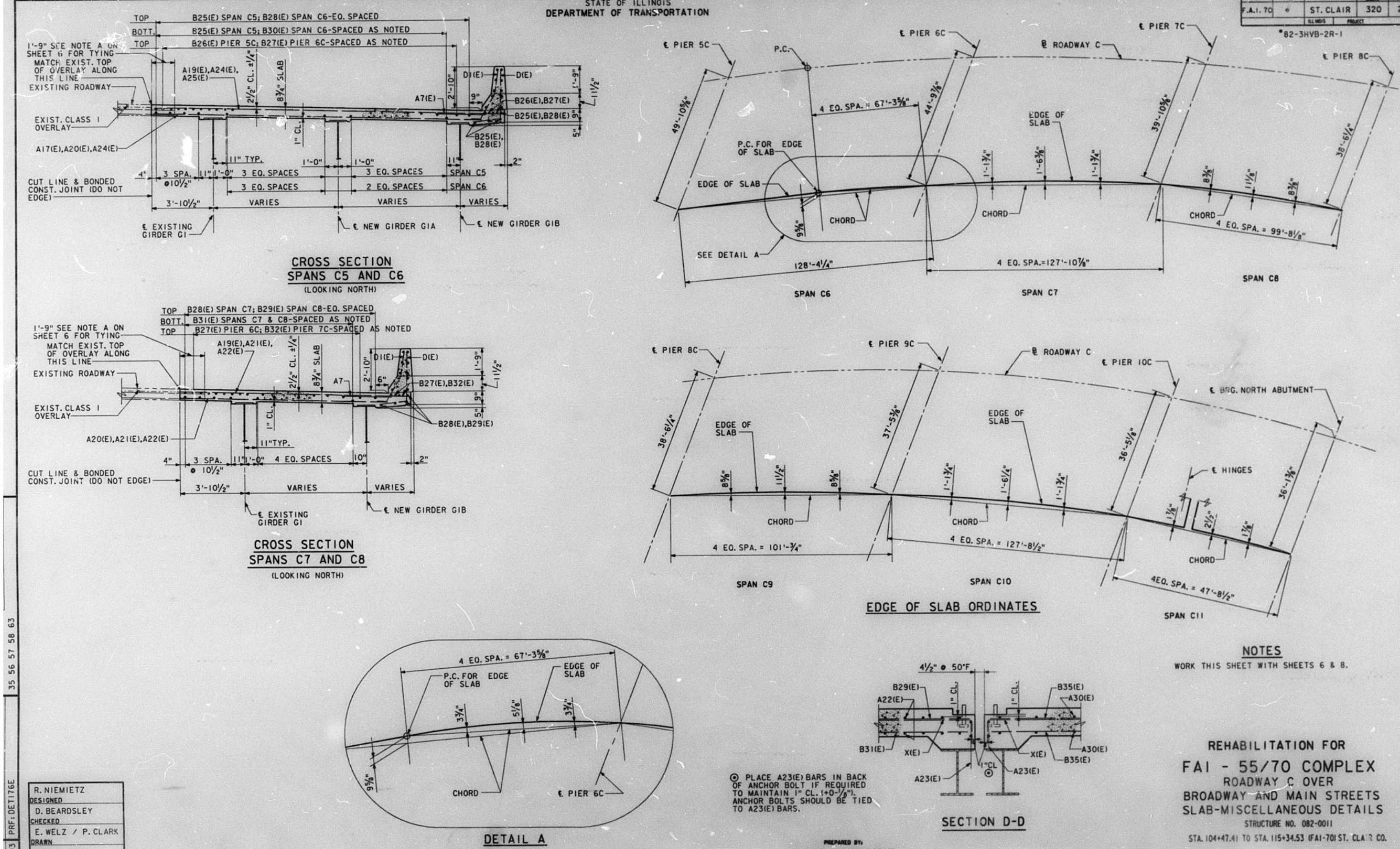


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 250A
82-3HVB-2R-1
DETAIL E
PLAN
SPAN C5
SPAN C6
** BARS TO BE CUT AS INDICATED IN FIELD CUTTING DIAGRAM.
DETAIL F
PLAN
SPAN C7
SPAN C8
NOTE A: LAPS PROVIDED IN THIS AREA FOR BARS AT THIS LOCATION SHALL BE TIED WITH DOUBLE THE NUMBER OF TIES THAN NORMALLY USED.
NOTES:
WORK THIS SHEET WITH SHEETS 7 AND 10.
FOR CROSS SECTIONS SEE SHEET 7.
ALL LONGITUDINAL BARS SHALL BE LAPPED 1'-9" MINIMUM.
TRANSVERSE BARS ARE PLACED RADIAL TO AND MEASURED ALONG THE NEW SLAB CONST. JOINT.
D1(E) BARS LOCATED NEAR THE ENDS OF THE PARAPET SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXPANSION JOINT BY 1 INCH.
SPACE BARS D(E) AND D1(E) TO MISS FLOOR DRAINS.
CUT TRANSVERSE BARS IN THE FIELD TO MISS FLOOR DRAINS.
BARS BILLED AS 17x6-#5 ETC. INDICATES 17 LINES OF BARS WITH 6 LENGTHS PER LINE.
SECTION C-C, SAME AS SECTION B-B ON SHEET 4 EXCEPT FOR BAR MARKS, FOR SECTION D-D SEE SHEET 7.
• REPRESENTS 6" FLOOR DRAINS SPACED ALONG GUTTER LINE. THEY MAY BE SHIFTED SLIGHTLY SO DRAIN PIPE CONNECTION WILL CLEAR CROSS FRAMES.
FOR NOTE ABOUT ANGLES ON PLANS, SEE NOTES, SHEET 8.
BEND BARS DOWN IN FIELD TO LAP WITH EXISTING TRANSVERSE REINFORCEMENT.
AS REVISED
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SLAB-SPANS C5, C6, C7 AND C8
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.
REV. 8/26/88
SHEET NO. 6 OF 47
PREPARED BY
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
R. NIEMIETZ
DESIGNED
D. BEARDSLEY
CHECKED
E. WELZ
DRAWN
T.V. DILLON
CHECKED
10320 | FILE: 2F34(10,13)DET115E.DGN | LEVELS PLOTTED 35,56,57,58,63 | DATE: OCT. 14, 1987
Revised 1-25-89, M.H.B.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	4	ST. CLAIR	320	251

B2-3HVB-2R-1



⊙ PLACE A23(E) BARS IN BACK OF ANCHOR BOLT IF REQUIRED TO MAINTAIN 1" CL. (+0-1/8"). ANCHOR BOLTS SHOULD BE TIED TO A23(E) BARS.

NOTES

WORK THIS SHEET WITH SHEETS 6 & 8.

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
E. WELZ / P. CLARK	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SLAB-MISCELLANEOUS DETAILS

STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 7 OF 47

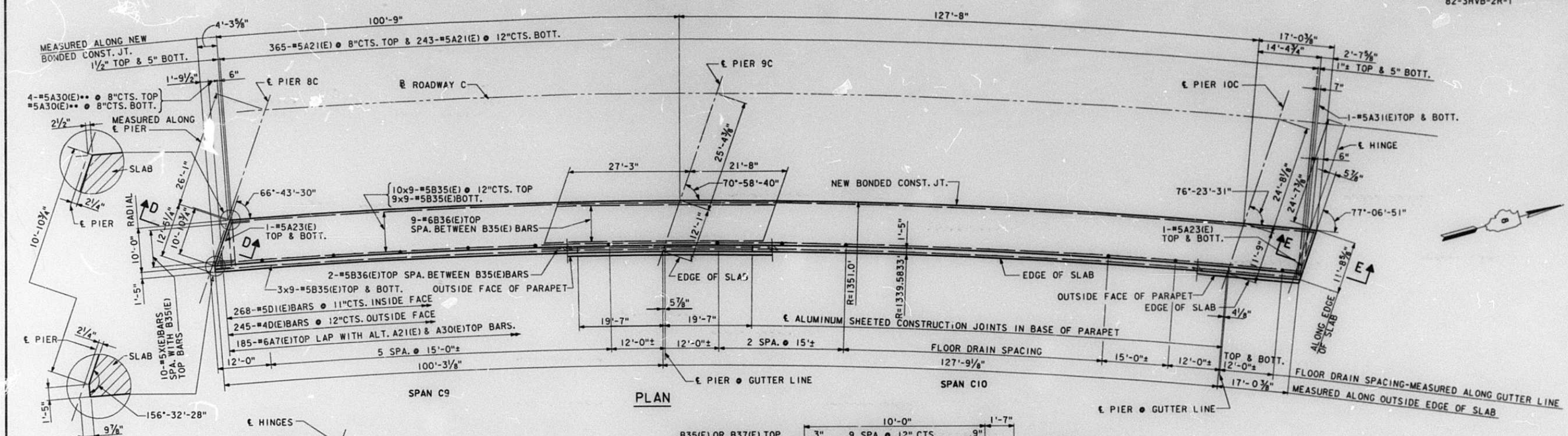
875693 PRF. DET176E

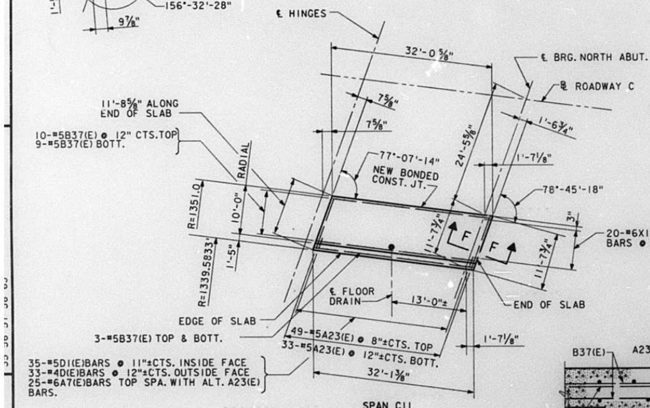
35 56 57 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	252

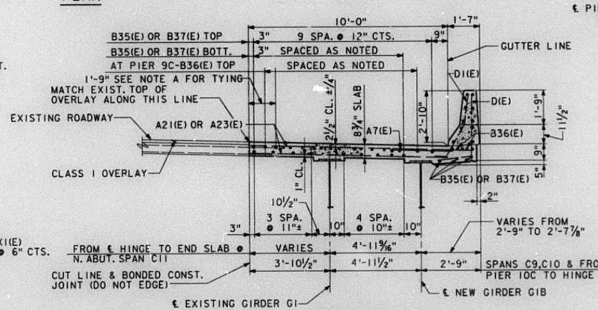
*82-3HVB-2R-1





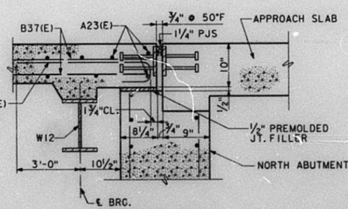
PLAN

NOTE: A23(E) BARS ARE TO BE PLACED PARALLEL TO THE END OF SLAB.

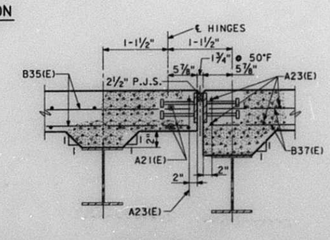


CROSS SECTION
LOOKING NORTH

NOTE A: LAPS PROVIDED IN THIS AREA FOR BARS AT THIS LOCATION SHALL BE TIED WITH DOUBLE THE NUMBER OF TIES THAN NORMALLY USED.



SECTION F-F
(1¼" PJS. SEE SHEET 19 FOR DETAILS)



SECTION E-E
(2½" PJS. SEE SHEET 19 FOR DETAILS)

NOTES

WORK THIS SHEET WITH SHEET 11.

ANGLES SHOWN IN PLANS ARE FROM ℄ PIER, ℄ BRG. OR ℄ HINGES TO TANGENT TO CURVE AT LOCATION NOTED.

FOR ADDITIONAL NOTES ON PLACING TRANSVERSE BARS AND FLOOR DRAINS, SEE SHEET 4.

FOR SECTIONS D-D, SEE SHEET 7.

● REPRESENTS 6" φ FLOOR DRAIN, SPACED ALONG GUTTER LINE. THEY MAY BE SHIFTED SLIGHTLY SO PIPE DRAIN CONNECTION WILL CLEAR DIAPHRAGMS OR CROSS FRAMES.

BARS BILLED AS 10x6-#5 ETC. INDICATES 10 LINES OF BARS WITH 6 LENGTHS PER LINE.

ALL LONGITUDINAL BARS SHALL BE SPLICED WITH A 1'-9" MINIMUM LAP.

BEND BARS DOWN IN FIELD TO LAP WITH EXISTING TRANSVERSE REINFORCEMENT

REHABILITATION FOR

FAI - 55/70 COMPLEX

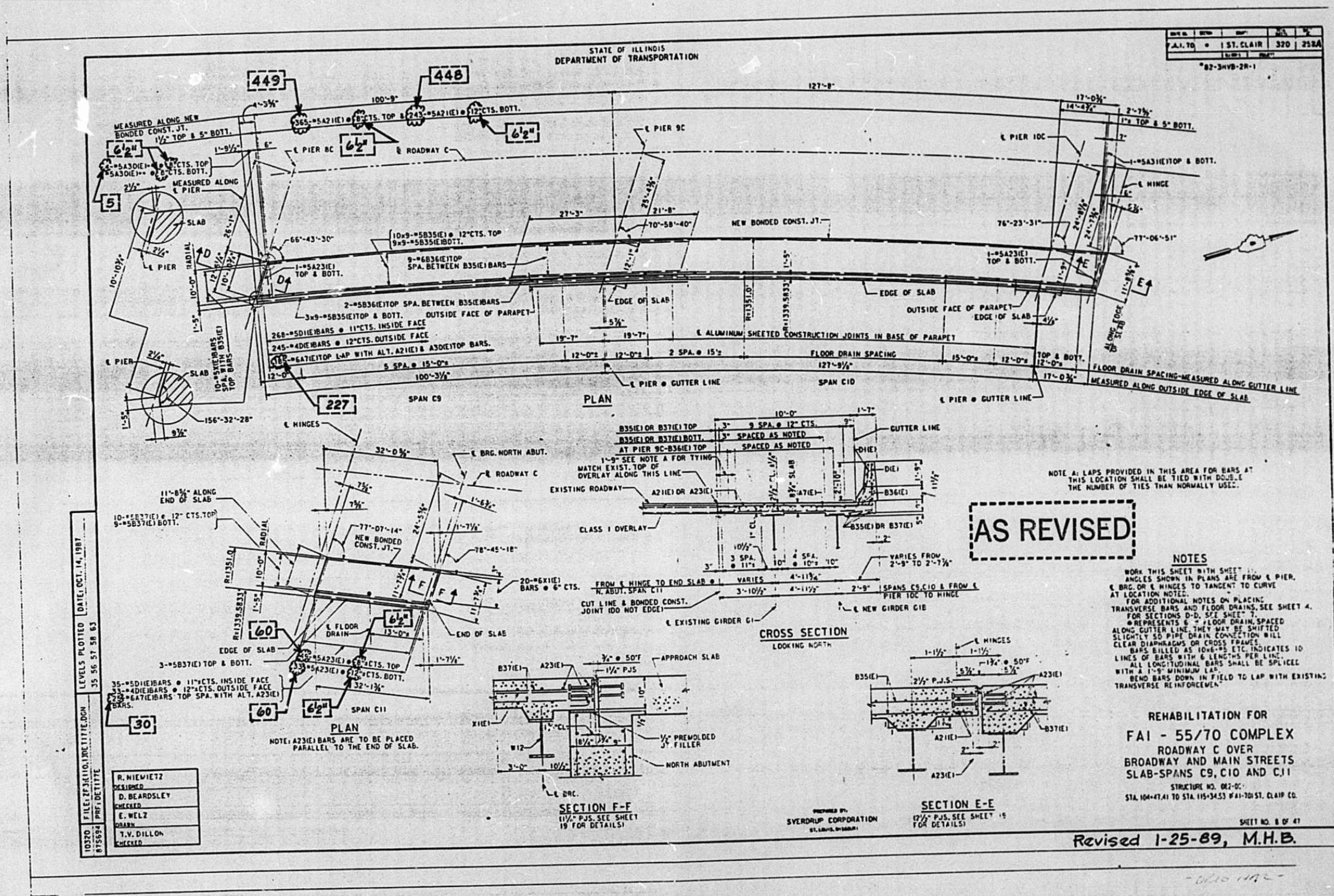
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SLAB-SPANS C9, C10 AND C11

STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
E. WELZ	DRAWN
T.V. DILLON	CHECKED

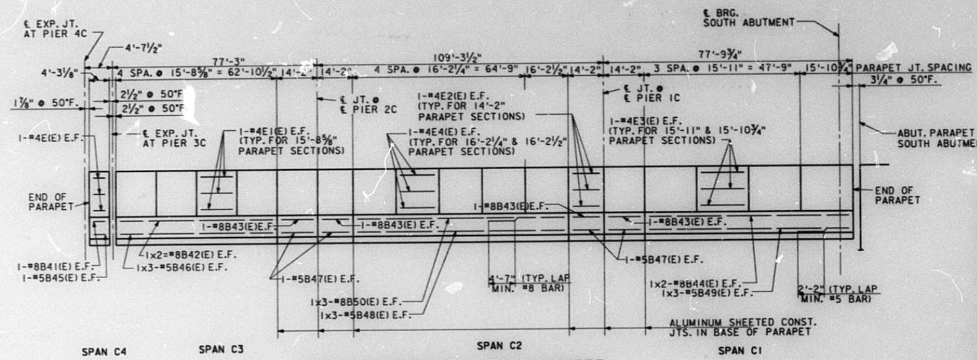
SHEET NO. 8 OF 47


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70
ST. CLAIR
320
252A
PLAN
CROSS SECTION
LOOKING NORTH
SECTION F-F
SECTION E-E
AS REVISED
NOTES
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SLAB-SPANS C9, C10 AND C11
PREPARED BY:
SVERDRUP CORPORATION
R. NIEMIETZ
D. BEARDSLEY
E. WELZ
T.V. DILLON
Revised 1-25-89, M.H.B.
SPAN C9
SPAN C10
SPAN C11
NEW BONDED CONST. JT.
EDGE OF SLAB
OUTSIDE FACE OF PARAPET
FLOOR DRAIN SPACING
NORTH ABUTMENT
APPROACH SLAB
EXISTING ROADWAY
CLASS I OVERLAY
GUTTER LINE
NEW GIRDER G1B
EXISTING GIRDER G1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

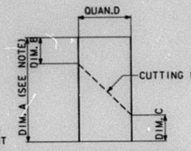
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	253
		ILLINOIS	PROJECT	

*82-3HVB-2R-1



INSIDE ELEVATION OF EAST PARAPET

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.



FIELD CUTTING DIAGRAM

BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A(E)	24'-5"	2'-8"	2'-8"	53
A1(E)	41'-10"	22'-6"	20'-11"	161
A2(E)	37'-0"	19'-3"	18'-6"	68
A3(E)	21'-0"	17'-9"	17'-9"	34
A4(E)	43'-10"	22'-6"	21'-11"	44
A5(E)	40'-2"	21'-2"	20'-1"	67
A6(E)	36'-10"	19'-1"	18'-5"	32
A10(E)	19'-5"	3'-1"	9'-11"	16
A12(E)	19'-7"	3'-7"	10'-2"	9
A13(E)	21'-5"	5'-6"	11'-1"	7
A14(E)	21'-1"	5'-9"	11'-3"	4
B5(E)	42'-2"	5'-4"	22'-2"	8

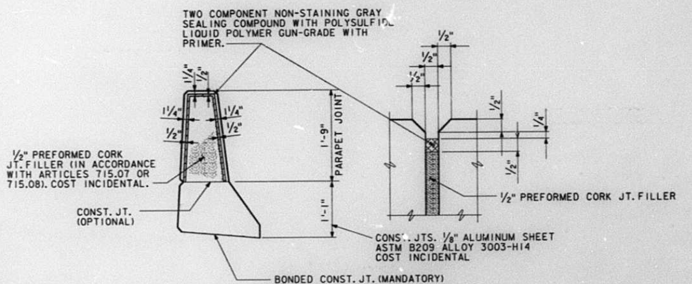
NOTE: ORDER EACH BAR MARK FULL LENGTH. CUT IN FIELD AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

BILL OF MATERIAL (SEE NOTES)

SPANS C1, C2, C3 & C4				
BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	53	#5	24'-5"	——
A1(E)	161	#5	41'-10"	——
A2(E)	68	#5	37'-0"	——
A3(E)	34	#5	21'-0"	——
A4(E)	44	#5	43'-10"	——
A5(E)	67	#5	40'-2"	——
A6(E)	32	#5	36'-10"	——
A7(E)	250	#6	4'-0"	——
A8(E)	2	#5	28'-6"	——
A9(E)	2	#5	37'-4"	——
A10(E)	16	#5	19'-5"	——
A11(E)	13	#5	17'-1"	——
A12(E)	9	#5	19'-7"	——
A13(E)	7	#5	21'-5"	——
A14(E)	4	#5	21'-1"	——
A15(E)	2	#5	29'-2"	——
A16(E)	2	#5	21'-4"	——
B(E)	60	#5	27'-11"	——
B1(E)	172	#5	24'-9"	——
B2(E)	195	#5	24'-10"	——
B3(E)	99	#5	21'-7"	——
B4(E)	42	#5	35'-6"	——
B5(E)	8	#5	42'-2"	——
B6(E)	2	#5	38'-8"	——
B7(E)	1	#5	36'-10"	——
B8(E)	1	#5	35'-0"	——
B9(E)	1	#5	29'-2"	——
B10(E)	1	#5	26'-11"	——
B11(E)	1	#5	24'-9"	——
B12(E)	1	#5	22'-6"	——
B13(E)	1	#5	20'-3"	——
B14(E)	1	#5	16'-11"	——
B15(E)	1	#5	14'-9"	——
B16(E)	1	#5	12'-6"	——

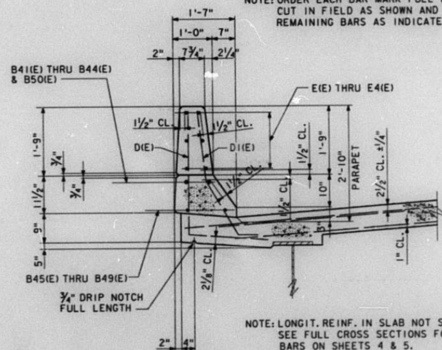
SPANS C1, C2, C3 & C4				
BAR	NO.	SIZE	LENGTH	SHAPE
B17(E)	1	#5	10'-5"	——
B18(E)	1	#5	8'-1"	——
B19(E)	1	#5	4'-8"	——
B20(E)	1	#5	33'-1"	——
B21(E)	5	#5	4'-0"	——
B41(E)	2	#8	4'-0"	——
B42(E)	4	#8	33'-9"	——
B43(E)	8	#8	13'-11"	——
B44(E)	4	#8	34'-2"	——
B45(E)	2	#5	4'-0"	——
B46(E)	6	#5	22'-7"	——
B47(E)	8	#5	13'-11"	——
B48(E)	6	#5	28'-6"	——
B49(E)	6	#5	22'-9"	——
B50(E)	6	#8	30'-1"	——
E(E)	6	#4	4'-0"	——
E1(E)	24	#4	15'-6"	——
E2(E)	24	#4	13'-11"	——
E3(E)	24	#4	15'-8"	——
E4(E)	30	#4	15'-11"	——
X(E)	76	#5	4'-1"	
D(E)	269	#4	5'-2"	
D1(E)	294	#5	3'-11"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	215.8
REINFORCEMENT BARS (EPOXY COATED)			LBS.	41,921

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.



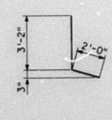
PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.

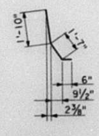


NOTE: LONGIT. REINF. IN SLAB NOT SHOWN, SEE FULL CROSS SECTIONS FOR THESE BARS ON SHEETS 4 & 5.

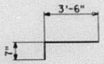
TYP. SECTION THRU PARAPET



BAR D(E)



BAR D1(E)



BAR X(E)

NOTES

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 17.
WORK THIS SHEET WITH SHEETS 4 & 5.

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
J. CORLEY	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PARAPET - SPANS C1, C2, C3, AND C4

STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

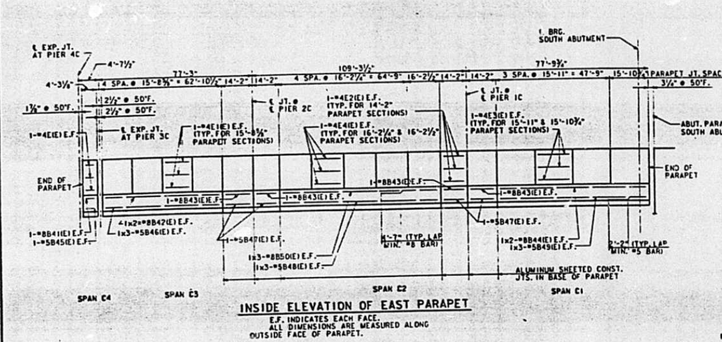
SHEET NO. 9 OF 47

LEVELS PLOTTED 35 56 57 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

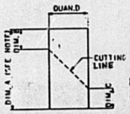
F.A.I. 70	•	ST. CLAIR	320	253A

*82-3HVB-2R-1



INSIDE ELEVATION OF EAST PARAPET

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.



FIELD CUTTING DIAGRAM

BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A(E)	24'-5"	2'-8"	2'-8"	53
A1(E)	41'-10"	22'-6"	20'-11"	161
A2(E)	37'-0"	19'-3"	18'-6"	68
A3(E)	21'-0"	17'-9"	17'-9"	34
A4(E)	43'-10"	22'-6"	21'-11"	44
A5(E)	40'-2"	21'-2"	20'-1"	67
A6(E)	36'-10"	19'-1"	18'-5"	32
A10(E)	19'-5"	3'-1"	9'-11"	16
A12(E)	19'-7"	3'-7"	10'-2"	9
A13(E)	21'-5"	5'-6"	11'-1"	7
A14(E)	21'-1"	5'-9"	11'-3"	4
B5(E)	42'-2"	5'-4"	22'-2"	8

NOTE: ORDER EACH BAR MARK FULL LENGTH. CUT IN FIELD AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

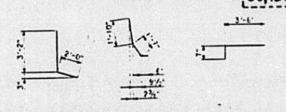
(*) 149, 149, 73, 37, 61, 103, 58, 17, 16, 8, 6

BILL OF MATERIAL (SEE NOTES)

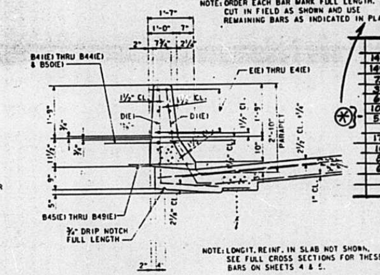
SPANS C1, C2, C3 & C4				
BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	53 [49]	#5 [#6]	24'-5"	—
A1(E)	161 [149]	#5 [#6]	41'-10"	—
A2(E)	68 [73]	#5 [#6]	37'-0"	—
A3(E)	34 [37]	#5 [#6]	21'-0"	—
A4(E)	44 [61]	#5	43'-10"	—
A5(E)	67 [103]	#5	40'-2"	—
A6(E)	32 [58]	#5	36'-10"	—
A7(E)	250 [249]	#6	4'-0"	—
A8(E)	2	#5	28'-6"	—
A9(E)	2	#5	37'-4"	—
A10(E)	16 [17]	#5	19'-5"	—
A11(E)	133 [19]	#5	17'-1"	—
A12(E)	9 [16]	#5	19'-7"	—
A13(E)	7 [8]	#5	21'-5"	—
A14(E)	4 [6]	#5	21'-1"	—
A15(E)	2	#5	29'-2"	—
A16(E)	2	#5	21'-4"	—
B(E)	60	#5	27'-11"	—
B1(E)	172	#5	24'-9"	—
B2(E)	195	#5	24'-10"	—
B3(E)	99	#5	21'-7"	—
B4(E)	42	#5	35'-6"	—
B5(E)	8	#5	42'-2"	—
B6(E)	2	#5	38'-8"	—
B7(E)	1	#5	36'-10"	—
B8(E)	1	#5	35'-0"	—
B9(E)	1	#5	29'-2"	—
B10(E)	1	#5	26'-11"	—
B11(E)	1	#5	24'-9"	—
B12(E)	1	#5	22'-6"	—
B13(E)	1	#5	20'-3"	—
B14(E)	1	#5	16'-11"	—
B15(E)	1	#5	14'-9"	—
B16(E)	1	#5	12'-6"	—

SPANS C1, C2, C3 & C4				
BAR	NO.	SIZE	LENGTH	SHAPE
B17(E)	1	#5	10'-5"	—
B18(E)	1	#5	8'-1"	—
B19(E)	1	#5	4'-8"	—
B20(E)	1	#5	33'-1"	—
B21(E)	5	#5	4'-0"	—
B41(E)	2	#8	4'-0"	—
B42(E)	4	#8	33'-9"	—
B43(E)	8	#8	13'-11"	—
B44(E)	4	#8	34'-2"	—
B45(E)	2	#5	4'-0"	—
B46(E)	6	#5	22'-7"	—
B47(E)	8	#5	13'-11"	—
B48(E)	6	#5	28'-6"	—
B49(E)	6	#5	22'-9"	—
B50(E)	6	#8	30'-1"	—
E(E)	6	#4	4'-0"	—
E1(E)	24	#4	15'-6"	—
E2(E)	24	#4	13'-11"	—
E3(E)	24	#4	15'-8"	—
E4(E)	30	#4	15'-11"	—
X(E)	76	#5	4'-1"	
D(E)	269	#4	5'-2"	
D1(E)	294	#5	3'-11"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	215.8
REINFORCEMENT BARS (EPOXY COATED)			LBS.	41,921 [50,150]

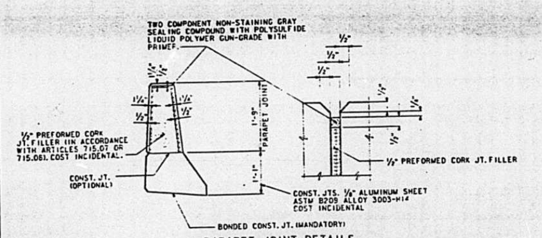
REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.



BAR D(E) BAR D1(E) BAR X(E)



TYP. SECTION THRU PARAPET



PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A 3/4" CHAMFER.

AS REVISED

NOTES

FOR LOCATION AND DETAILS OF EXPANSION JOINTS, SEE SHEET 17.
WORK THIS SHEET WITH SHEETS 4 & 5.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PARAPET - SPANS C1, C2, C3, AND C4
STRUCTURE NO. 082-0C
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.
SHEET NO. 9 OF 47

PREPARED BY
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

R. NIEMIETZ — DESIGNED
D. BEARDSLEY — CHECKED
J. CORLEY — DRAWN
T.V. DILLON — CHECKED

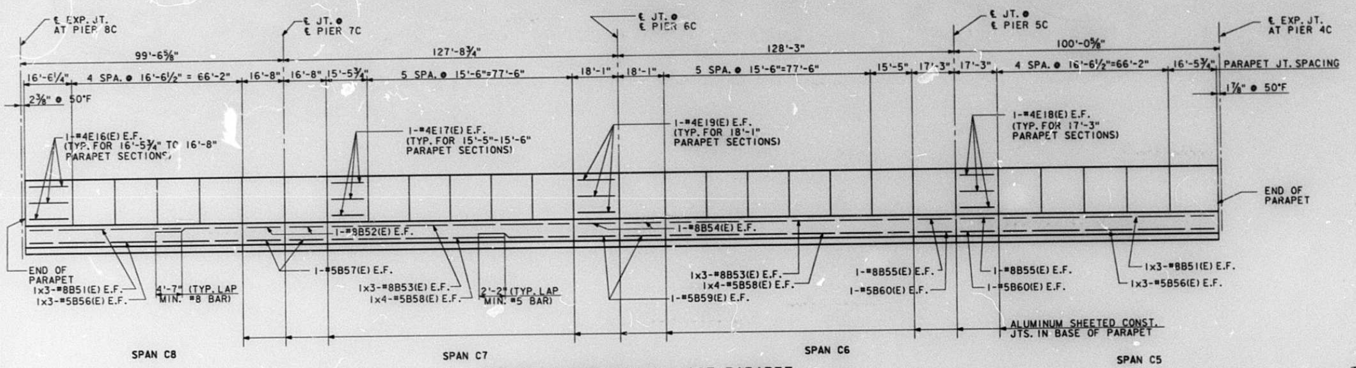
10320 | FILE: Z73(110)DETTTRE.004 | DATE: OCT. 14, 1987
875695 | PHF: DETTRE | LEVELS PLOTTED 35 56 57 58 63

Revised 1-25-89, M.H.B.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	254
		ILLINOIS	PROJECT	

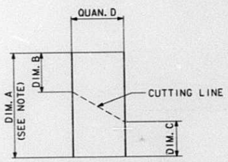
*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



INSIDE ELEVATION OF EAST PARAPET

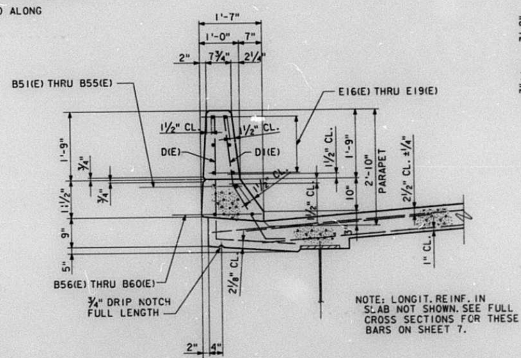
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.



FIELD CUTTING DIAGRAM

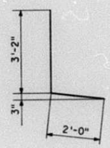
BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A17(E)	30'-10"	16'-10"	15'-5"	73
A19(E)	24'-2"	13'-10"	12'-7"	156
A20(E)	24'-2"	13'-10"	12'-7"	91
A22(E)	8'-7"	6'-7"	6'-7"	4
A24(E)	22'-0"	5'-0"	5'-0"	16
A25(E)	30'-8"	16'-10"	15'-4"	126

NOTE: ORDER EACH BAR MARK FULL LENGTH. CUT IN FIELD AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

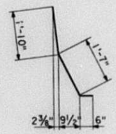


TYP. SECTION THRU PARAPET

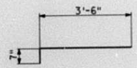
NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.



BAR D(E)



BAR D1(E)



BAR X(E)

BILL OF MATERIAL

SPANS C5, C6, C7 AND C8				
BAR	NO.	SIZE	LENGTH	SHAPE
A7(E)	378	#6	4'-0"	——
A17(E)	73	#5	30'-10"	——
A18(E)	2	#5	20'-7"	——
A19(E)	156	#5	24'-2"	——
A20(E)	91	#5	24'-2"	——
A21(E)	291	#5	10'-4"	——
A22(E)	4	#5	8'-7"	——
A23(E)	2	#5	10'-7"	——
A24(E)	16	#5	22'-0"	——
A25(E)	126	#5	30'-8"	——
B25(E)	210	#5	26'-0"	——
B26(E)	18	#6	43'-0"	——
B27(E)	15	#6	45'-3"	——
B28(E)	140	#5	28'-1"	——
B29(E)	80	#5	25'-5"	——
B30(E)	30	#5	27'-6"	——
B31(E)	72	#5	29'-11"	——
B32(E)	11	#6	41'-8"	——
B51(E)	12	#8	30'-9"	——
B52(E)	4	#8	16'-5"	——
B53(E)	12	#8	34'-2"	——
B54(E)	4	#8	17'-10"	——
B55(E)	4	#8	17'-0"	——
B56(E)	12	#5	29'-1"	——
B57(E)	4	#5	16'-5"	——
B58(E)	16	#5	25'-0"	——
B59(E)	4	#5	17'-10"	——
B60(E)	4	#5	17'-0"	——
D(E)	456	#4	5'-2"	
D1(E)	497	#5	3'-11"	
E16(E)	72	#4	16'-3"	——
E17(E)	72	#4	15'-2"	——
E18(E)	12	#4	17'-0"	——
E19(E)	12	#4	17'-10"	——
X(E)	27	#5	4'-1"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	250.7
REINFORCEMENT BARS (EPOXY COATED)			LBS.	45,503

NOTES

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED FOR PARAPET JOINT DETAIL. SEE SHEET 9.
WORK THIS SHEET WITH SHEET 6.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PARAPET - SPANS C5, C6, C7 AND C8
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

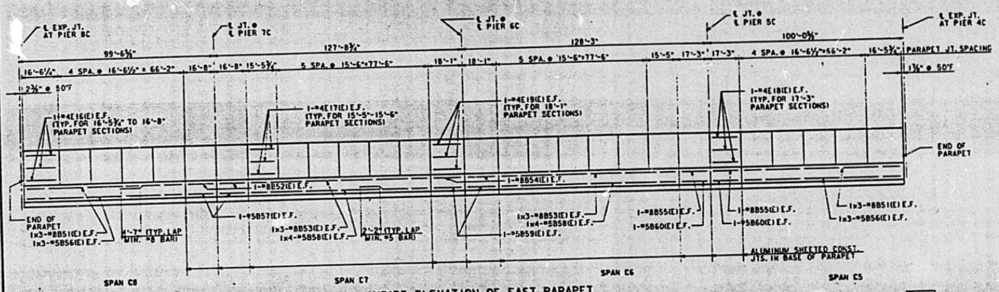
R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
J.G. CORLEY	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

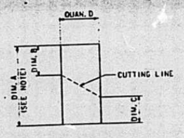
F.A.I. 70	*	ST. CLAIR	320	254A

*82-3HVB-2R-1



INSIDE ELEVATION OF EAST PARAPET

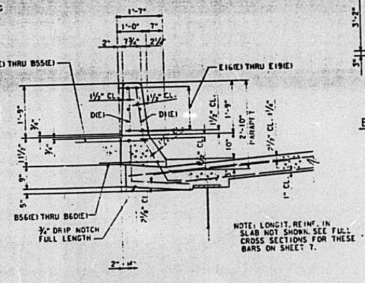
E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPET.



FIELD CUTTING DIAGRAM

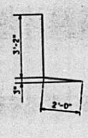
BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A17(E)	30'-10"	16'-10"	15'-5"	73 134
A19(E)	24'-2"	13'-10"	12'-7"	156 168
A20(E)	24'-2"	13'-10"	12'-7"	91 167
A22(E)	8'-7"	6'-7"	6'-7"	43 5
A24(E)	22'-0"	5'-0"	5'-0"	16 17
A25(E)	30'-8"	16'-10"	15'-4"	126 136

NOTE: ORDER EACH BAR MARK FULL LENGTH. CUT IN FIELD AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

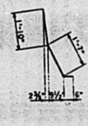


TYP. SECTION THRU PARAPET

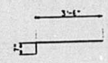
NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.



BAR D(E)



BAR D1(E)



BAR X(E)

BILL OF MATERIAL

SPANS C5, C6, C7 AND C8				
BAR	NO.	SIZE	LENGTH	SHAPE
A7(E)	328 420	#6	4'-0"	—
A17(E)	73 134	#5	30'-10"	—
A18(E)	2	#5	20'-7"	—
A19(E)	156 168	#5	24'-2"	—
A20(E)	91 167	#5	24'-2"	—
A21(E)	291 428	#5	10'-4"	—
A22(E)	43 5	#5	8'-7"	—
A23(E)	2	#5	10'-7"	—
A24(E)	16 17	#5	22'-0"	—
A25(E)	126 136	#5	30'-8"	—
B25(E)	210	#5	26'-0"	—
B26(E)	18	#6	43'-0"	—
B27(E)	15	#6	45'-3"	—
B28(E)	140	#5	28'-1"	—
B29(E)	80	#5	25'-5"	—
B30(E)	30	#5	27'-6"	—
B31(E)	72	#5	29'-11"	—
B32(E)	11	#6	41'-8"	—
B51(E)	12	#8	30'-9"	—
B52(E)	4	#8	16'-5"	—
B53(E)	12	#8	34'-2"	—
B54(E)	4	#8	17'-10"	—
B55(E)	4	#8	17'-0"	—
B56(E)	12	#5	29'-1"	—
B57(E)	4	#5	16'-5"	—
B58(E)	16	#5	25'-0"	—
B59(E)	4	#5	17'-10"	—
B60(E)	4	#5	17'-0"	—
D(E)	456	#4	5'-2"	
D1(E)	497	#5	3'-11"	
E16(E)	72	#4	16'-3"	—
E17(E)	72	#4	15'-2"	—
E18(E)	12	#4	17'-0"	—
E19(E)	12	#4	17'-10"	—
X(E)	27	#5	4'-1"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	250.7
REINFORCEMENT BARS (EPOXY COATED)			LBS.	45,503 51,760

NOTES

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED FOR PARAPET JOINT DETAIL, SEE SHEET 5. WORK THIS SHEET WITH SHEET 6.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PARAPET -SPANS C5, C6, C7 AND C8
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

AS REVISED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
J.G. CORLEY	DRAWN
T.V. DILLON	CHECKED

DATE: OCT. 14, 1987
LEVELS PLOTTED 35 56 57 58 63

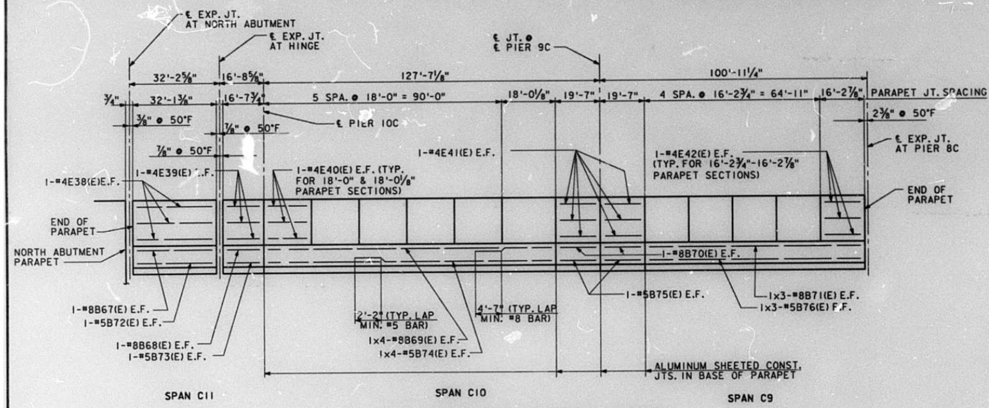
SHEET NO. 10 OF 47

Revised 1-25-89, M.H.B.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

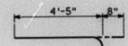
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	255
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

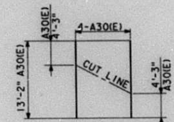


INSIDE ELEVATION OF EAST PARAPET

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG CUTSIDE FACE OF PARAPETS.

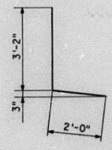


BAR X1(E)

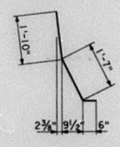


FIELD CUTTING DIAGRAM

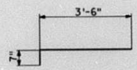
ORDER A30(E) BARS FULL LENGTH. CUT IN FIELD AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.



BAR D(E)

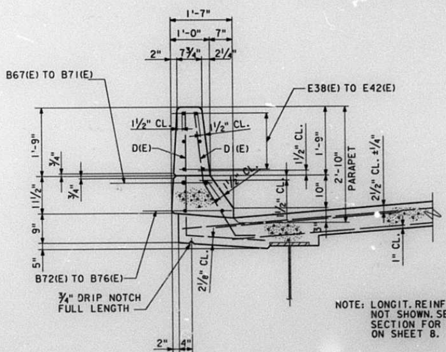


BAR D1(E)



BAR X(E)

BILL OF MATERIAL				
SPANS C9, C10, & C11				
BAR	NO.	SIZE	LENGTH	SHAPE
A7(E)	210	#6	1'-0"	—
A21(E)	608	#5	10'-4"	—
A23(E)	86	#5	10'-7"	—
A30(E)	4	#5	13'-2"	—
A31(E)	2	#5	8'-7"	—
A32(E)	2	#5	10'-9"	—
B35(E)	225	#5	28'-10"	—
B36(E)	11	#6	48'-11"	—
B37(E)	25	#5	31'-11"	—
B67(E)	2	#8	31'-10"	—
B68(E)	2	#8	16'-4"	—
B69(E)	8	#8	31'-0"	—
B70(E)	4	#8	19'-4"	—
B71(E)	6	#8	30'-2"	—
B72(E)	2	#5	31'-10"	—
B73(E)	2	#5	16'-4"	—
B74(E)	8	#5	28'-8"	—
B75(E)	4	#5	19'-4"	—
B76(E)	6	#5	28'-8"	—
D(E)	278	#4	5'-2"	
D1(E)	303	#5	3'-11"	
E38(E)	6	#4	31'-10"	—
E39(E)	6	#4	16'-4"	—
E40(E)	36	#4	17'-9"	—
E41(E)	12	#4	19'-4"	—
E42(E)	30	#4	16'-0"	—
X(E)	13	#5	4'-1"	
X1(E)	20	#6	5'-1"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	123.7
REINFORCEMENT BARS (EPOXY COATED)			LBS.	22,972



NOTE: LONGIT. REINF. IN SLAB NOT SHOWN. SEE FULL CROSS SECTION FOR THESE BARS ON SHEET 8.

TYP. SECTION THRU PARAPET

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER.

NOTES

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.
FOR LOCATION AND DETAILS OF EXPANSION DEVICES, SEE SHEETS 18 AND 19.
WORK THIS SHEET WITH SHEET 8.
FOR PARAPET JOINT DETAIL, SEE SHEET 9.

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
J.G. CORLEY	DRAWN
T.V. DILLON	CHECKED

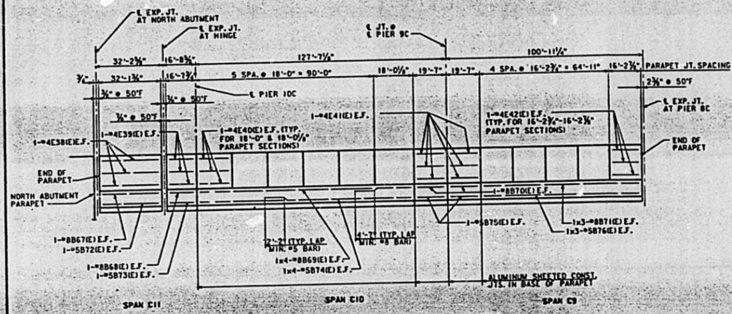
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PARAPET - SPANS C9, C10, AND C11
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

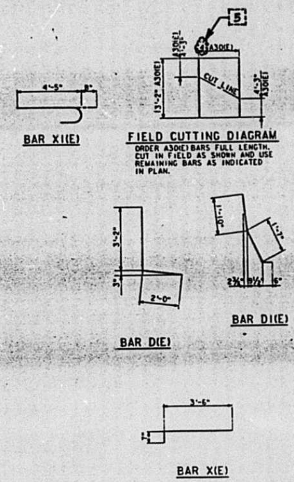
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	255A

*82-3HVB-2R-1



INSIDE ELEVATION OF EAST PARAPET

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.



FIELD CUTTING DIAGRAM

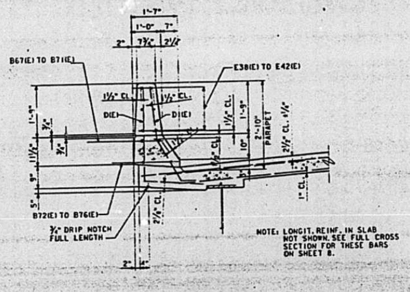
ORDER A30(E) BARS FULL LENGTH. CUT IN FIELD AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

BAR XI(E) — BAR D(E) — BAR DI(E) — BAR X(E)

BILL OF MATERIAL

SPANS C9, C10, & C11

BAR	NO.	SIZE	LENGTH	SHAPE
A1(E)	210 [257]	#6	4'-0"	—
A21(E)	60 [837]	#5	10'-4"	—
A23(E)	86 [120]	#5	10'-7"	—
A30(E)	43 [5]	#5	13'-2"	—
A31(E)	2	#5	8'-7"	—
A32(E)	2	#5	10'-9"	—
B35(E)	225	#5	28'-10"	—
B36(E)	11	#6	48'-11"	—
B37(E)	25	#5	31'-11"	—
B67(E)	2	#8	31'-10"	—
B68(E)	2	#8	16'-4"	—
B69(E)	8	#8	31'-0"	—
B70(E)	4	#8	19'-4"	—
B71(E)	6	#8	30'-2"	—
B72(E)	2	#5	31'-10"	—
B73(E)	2	#5	16'-4"	—
B74(E)	8	#5	28'-8"	—
B75(E)	4	#5	19'-4"	—
B76(E)	6	#5	28'-8"	—
D(E)	278	#4	5'-2"	
D1(E)	303	#5	3'-11"	
E38(E)	6	#4	31'-10"	—
E39(E)	6	#4	16'-4"	—
E40(E)	36	#4	17'-9"	—
E41(E)	12	#4	19'-4"	—
E42(E)	30	#4	16'-0"	—
X(E)	13	#5	4'-1"	
X1(E)	20	#6	5'-1"	
CLASS X CONCRETE SUPERSTRUCTURE			CU. YDS.	123.7
REINFORCEMENT BARS (EPOXY COATED)			LBS.	22,972 [26,760]



TYP. SECTION THRU PARAPET

NOTE: ALL EDGES SHALL HAVE A 3/4" CHAMFER.

NOTE: LONGIT. REINF. IN SLAB NOT SHOWN. SEE FULL CROSS SECTION FOR THESE BARS ON SHEET 8.

NOTES

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

FOR LOCATION AND DETAILS OF EXPANSION DEVICES, SEE SHEETS 18 AND 19.

WORK THIS SHEET WITH SHEET 8.

FOR PARAPET JOINT DETAIL, SEE SHEET 9.

AS REVISED

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PARAPET - SPANS C9, C10, AND C11
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

R. NIEMIETZ — DESIGNED
D. BEARDSLEY — CHECKED
J.G. CORLEY — DRAWN
T.V. DILLON — CHECKED

10320 FILE: 2F3C(110,13)DET180E.DGN — LEVELS PLOTTED 35 56 57 58 63 — DATE: OCT. 14, 1987
875697 PRF: DET180E

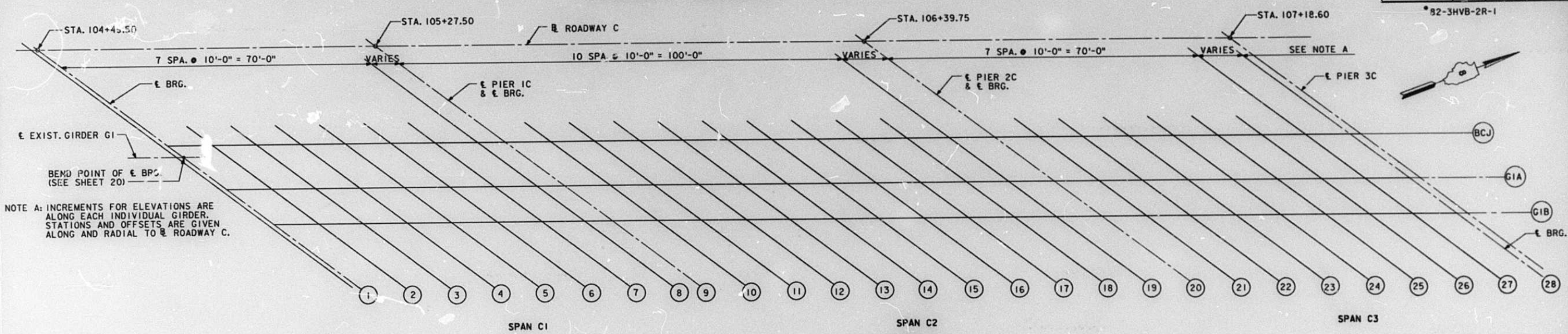
SHEET NO. 9 OF 47

Revised 1-25-89, M.H.B.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	256
		ILLINOIS	PROJECT	

82-3HVB-2R-1



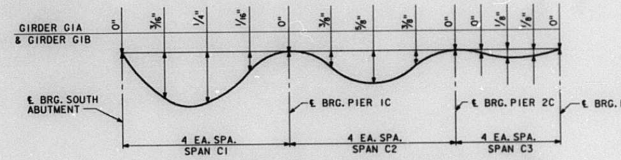
NOTE A: INCREMENTS FOR ELEVATIONS ARE ALONG EACH INDIVIDUAL GIRDER. STATIONS AND OFFSETS ARE GIVEN ALONG AND RADIAL TO ℄ ROADWAY C.

PLAN

NOTE: FOR TRANS. GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLANS.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
1	BCJ	104 + 82.480	24.000	446.570	446.570
1	G1A	104 + 99.400	35.462	446.460	446.460
1	G1B	105 + 11.040	45.049	446.380	446.380
2	BCJ	104 + 92.480	24.000	446.660	446.660
2	G1A	105 + 09.400	36.363	446.550	446.670
2	G1B	105 + 21.030	44.849	446.480	446.570
3	BCJ	105 + 02.480	24.000	446.750	446.750
3	G1A	105 + 19.400	36.275	446.650	446.860
3	G1B	105 + 31.030	44.649	446.570	446.740
4	BCJ	105 + 12.480	24.000	446.840	446.840
4	G1A	105 + 29.390	36.166	446.730	446.970
4	G1B	105 + 41.030	44.449	446.650	446.840
5	BCJ	105 + 22.480	24.000	446.930	446.930
5	G1A	105 + 39.390	36.067	446.800	447.010
5	G1B	105 + 51.030	44.294	446.720	446.880
6	BCJ	105 + 32.480	24.000	447.010	447.010
6	G1A	105 + 49.390	35.969	446.870	447.000
6	G1B	105 + 61.030	44.049	446.800	446.900
7	BCJ	105 + 42.480	24.000	447.080	477.080
7	G1A	105 + 59.390	35.870	446.940	446.990
7	G1B	105 + 71.020	43.894	446.870	446.890
8	BCJ	105 + 52.480	24.000	447.150	447.150
8	G1A	105 + 69.390	35.771	447.020	447.010
8	G1B	105 + 81.020	43.650	446.920	446.910
9	BCJ	105 + 60.260	24.000	447.200	447.200
9	G1A	105 + 76.270	35.736	447.070	447.070
9	G1B	105 + 86.910	43.532	446.950	446.950
10	BCJ	105 + 70.260	24.000	447.270	447.270
10	G1A	105 + 86.270	35.636	447.110	447.190
10	G1B	105 + 96.910	43.332	446.980	447.060
11	BCJ	105 + 80.260	24.000	447.330	447.330
11	G1A	105 + 96.270	35.536	447.140	447.370
11	G1B	106 + 06.910	43.132	447.010	447.220
12	BCJ	105 + 90.260	24.000	447.360	447.360
12	G1A	106 + 06.270	35.435	447.170	447.570
12	G1B	106 + 16.910	42.932	447.060	447.400
13	BCJ	106 + 00.260	24.000	447.390	447.390
13	G1A	106 + 16.270	35.335	447.210	447.740
13	G1B	106 + 26.910	42.732	447.090	447.530
14	BCJ	106 + 10.260	24.000	447.430	447.430
14	G1A	106 + 26.270	35.234	447.250	447.870
14	G1B	106 + 36.900	42.532	447.110	447.620

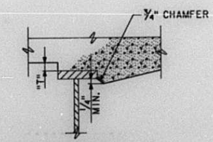
LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
15	BCJ	106 + 20.260	24.000	447.460	447.460
15	G1A	106 + 36.270	35.134	447.260	447.890
15	G1B	106 + 46.900	42.332	447.120	447.640
16	BCJ	106 + 30.260	24.000	447.480	447.480
16	G1A	106 + 46.270	35.033	447.270	447.830
16	G1B	106 + 56.900	42.132	447.130	447.580
17	BCJ	106 + 40.260	24.000	447.490	447.490
17	G1A	106 + 56.270	34.933	447.280	447.720
17	G1B	106 + 66.900	41.932	447.120	447.460
18	BCJ	106 + 50.260	24.000	447.500	447.500
18	G1A	106 + 66.270	34.833	447.270	147.550
18	G1B	106 + 76.900	41.732	447.110	447.310
19	BCJ	106 + 60.260	24.000	447.490	447.490
19	G1A	106 + 76.270	34.732	447.260	447.380
19	G1B	106 + 86.890	41.532	447.070	447.150
20	BCJ	106 + 72.510	24.000	447.480	447.480
20	G1A	106 + 87.100	34.690	447.210	447.210
20	G1B	106 + 96.180	41.346	447.030	447.030
21	BCJ	106 + 82.510	24.000	447.450	447.450
21	G1A	106 + 97.100	34.581	447.160	447.130
21	G1B	107 + 06.180	41.146	446.990	446.970
22	BCJ	106 + 92.510	24.000	447.400	447.400
22	G1A	107 + 07.100	34.472	447.110	447.130
22	G1B	107 + 16.180	40.946	446.940	446.970
23	BCJ	107 + 02.510	24.000	447.350	447.350
23	G1A	107 + 17.100	34.363	447.070	447.150
23	G1B	107 + 26.180	40.746	446.880	446.970
24	BCJ	107 + 12.510	24.000	447.300	447.300
24	G1A	107 + 27.090	34.254	447.010	447.130
24	G1B	107 + 36.170	40.546	446.780	446.910
25	BCJ	107 + 22.510	24.000	447.250	447.250
25	G1A	107 + 37.090	34.145	446.920	447.060
25	G1B	107 + 46.170	40.347	446.690	446.830
26	BCJ	107 + 32.510	24.000	447.200	447.200
26	G1A	107 + 47.090	34.036	446.830	446.950
26	G1B	107 + 56.170	40.171	446.590	446.710
27	BCJ	107 + 42.510	24.000	447.120	447.120
27	G1A	107 + 57.090	33.627	446.740	446.800
27	G1B	107 + 66.170	39.947	446.490	446.550
28	BCJ	107 + 50.980	24.000	447.060	447.060
28	G1A	107 + 64.430	33.847	446.690	446.680
28	G1B	107 + 72.590	39.818	446.430	446.430



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".



FILLET HEIGHTS

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE GIRDERS SHALL BE TAKEN AT THE INTERVALS SHOWN ON PLAN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR THE DEAD LOAD DEFLECTION" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "T" ABOVE TOP FLANGE OF GIRDERS.

C. PLIAKOS	DESIGNED
R. WINKELMANN	CHECKED
P. NELSON	DRAWN
C. PLIAKOS	CHECKED

875582 PRF: DET62E 35 56 57

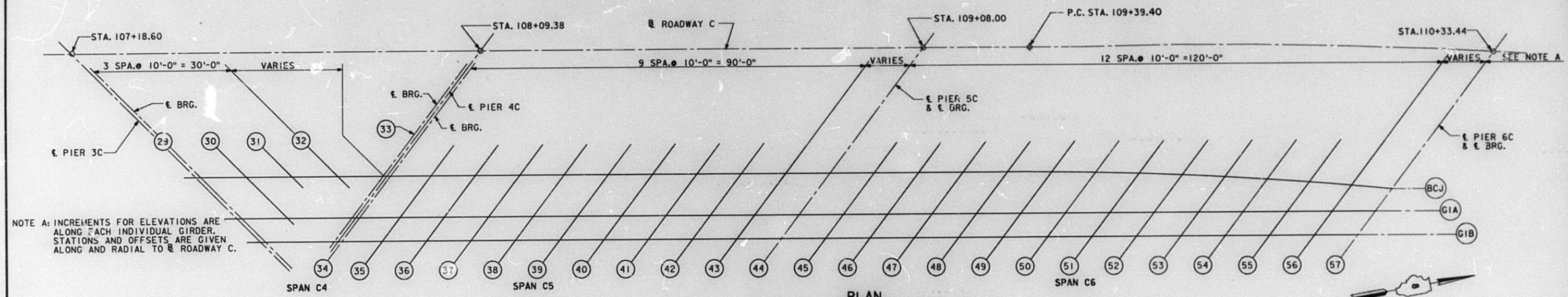
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
TOP OF SLAB ELEVATIONS
SPANS C1, C2, AND C3
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 12 OF 47

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

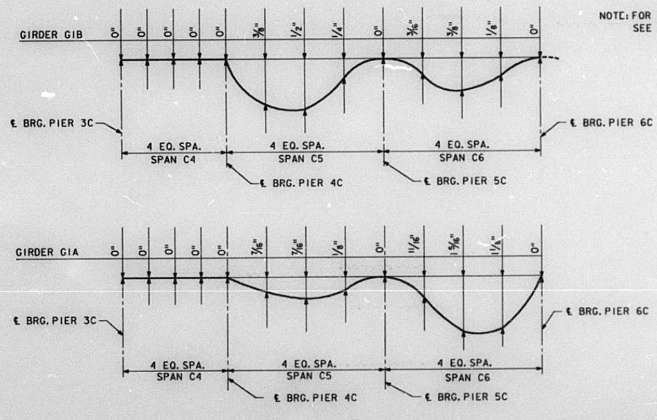


PLAN

NOTE: FOR TRANSVERSE GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLANS.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
29	BCJ	107 + 52.680	24.000	447.050	447.050
29	G1A	107 + 66.100	33.830	446.660	446.660
29	G1B	107 + 74.240	39.785	446.410	446.410
30	BCJ	107 + 62.680	24.000	446.970	446.970
30	G1A	107 + 76.100	33.799	446.570	446.570
31	BCJ	107 + 72.680	24.000	446.900	446.[illegible]
32	BCJ	107 + 82.680	24.000	446.800	446.800
33	BCJ	107 + 91.270	24.000	446.680	446.680
33	G1A	107 + 84.130	33.774	446.460	446.460
33	G1B	107 + 79.820	39.674	446.340	446.340
34	BCJ	107 + 92.510	24.000	446.660	446.660
34	G1A	107 + 85.380	33.762	446.440	446.440
34	G1B	107 + 81.080	39.648	446.320	446.320
35	BCJ	108 + 02.510	24.000	446.540	446.540
35	G1A	107 + 95.380	33.709	446.300	446.510
35	G1B	107 + 91.080	39.448	446.170	446.350
36	BCJ	108 + 12.510	24.000	446.400	446.400
36	G1A	108 + 05.380	33.656	446.150	445.530
36	G1B	108 + 01.070	39.248	446.020	446.360
37	BCJ	108 + 22.510	24.000	446.280	446.280
37	G1A	108 + 15.380	33.602	446.000	446.480
37	G1B	108 + 11.070	39.049	445.870	446.320
38	BCJ	108 + 32.510	24.000	446.130	446.130
38	G1A	108 + 25.380	33.549	445.860	446.370
38	G1B	108 + 21.070	38.849	445.720	44[illegible].220
39	BCJ	108 + 42.510	24.000	445.990	445.990
39	G1A	108 + 35.380	33.496	445.700	446.160
39	G1B	108 + 31.070	38.649	445.560	446.040
40	BCJ	108 + 52.510	24.000	445.840	445.840
40	G1A	108 + 45.380	33.443	445.540	445.880
40	G1B	108 + 41.070	38.449	445.390	445.780
41	BCJ	108 + 62.510	24.000	445.700	445.700
41	G1A	108 + 55.380	33.390	445.370	445.570
41	G1B	108 + 51.060	38.249	445.230	445.510
42	BCJ	108 + 72.510	24.000	445.540	445.540
42	G1A	108 + 65.380	33.337	445.210	445.270
42	G1B	108 + 61.060	38.049	445.070	445.220
43	BCJ	108 + 82.510	24.000	445.380	445.380
43	G1A	108 + 75.380	33.284	445.050	445.050
43	G1B	108 + 71.060	37.849	444.910	444.970
44	BCJ	108 + 90.470	24.000	445.220	445.220
44	G1A	108 + 83.720	33.239	444.890	444.890
44	G1B	108 + 80.490	37.660	444.740	444.740
45	BCJ	109 + 00.470	24.000	445.020	445.020
45	G1A	108 + 93.720	33.186	444.680	444.800
45	G1B	108 + 90.490	37.460	444.530	444.540
46	BCJ	109 + 10.470	24.000	444.830	444.830
46	G1A	109 + 03.720	33.133	444.470	444.790
46	G1B	109 + 00.480	37.260	444.310	444.370
47	BCJ	109 + 20.470	24.000	444.630	444.630
47	G1A	109 + 13.720	33.080	444.260	444.880
47	G1B	109 + 10.480	37.060	444.110	444.270
48	BCJ	109 + 30.470	24.000	444.420	444.420
48	G1A	109 + 23.720	33.027	444.040	444.920
48	G1B	109 + 20.480	36.860	443.900	444.150
49	BCJ	109 + 40.490	24.000	444.180	444.180
49	G1A	109 + 33.720	32.974	443.810	444.930
49	G1B	109 + 30.480	36.660	443.670	444.000
50	BCJ	109 + 50.660	24.000	443.940	443.940
50	G1A	109 + 43.820	32.914	443.550	444.840
50	G1B	109 + 40.500	36.460	443.420	444.780
51	BCJ	109 + 60.840	24.000	443.680	443.680
51	G1A	109 + 54.070	32.791	443.300	444.670
51	G1B	109 + 50.770	36.215	443.170	443.530
52	BCJ	109 + 71.020	24.000	443.440	443.440
52	G1A	109 + 64.310	32.594	443.040	444.400
52	G1B	109 + 61.040	35.895	442.920	443.230
53	BCJ	109 + 81.200	24.000	443.200	443.200
53	G1A	109 + 74.550	32.323	442.800	443.040
53	G1B	109 + 71.300	35.500	442.670	442.890
54	BCJ	109 + 91.370	24.000	442.970	442.970
54	G1A	109 + 84.780	31.977	442.570	443.590
54	G1B	109 + 81.550	35.146	442.430	442.540
55	BCJ	110 + 01.550	24.000	442.750	442.750
55	G1A	109 + 95.010	31.557	442.370	443.080
55	G1B	109 + 91.810	34.948	442.200	442.230
56	BCJ	110 + 11.730	24.000	442.530	442.530
56	G1A	110 + 05.230	31.0[illegible]2	442.170	442.510
56	G1B	110 + 02.070	34.758	441.970	441.950
57	BCJ	110 + 17.990	24.000	442.390	442.390
57	G1A	110 + 13.620	30.600	442.000	442.000
57	G1B	110 + 10.950	34.601	441.770	441.770

NOTE: FOR FILLET HEIGHT DETAILS SEE SHEET 12.



DEAD LOAD DEFLECTION DIAGRAMS

(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".

C. PLIAKOS	DESIGNED
R. WINKELMANN	CHECKED
P. NELSON	DRAWN
C. PLIAKOS	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR FAI - 55/70 COMPLEX

ROADWAY C OVER BROADWAY AND MAIN STREETS
TOP OF SLAB ELEVATIONS
SPANS C4, C5, AND C6

STRUCTURE NO. 082-0011

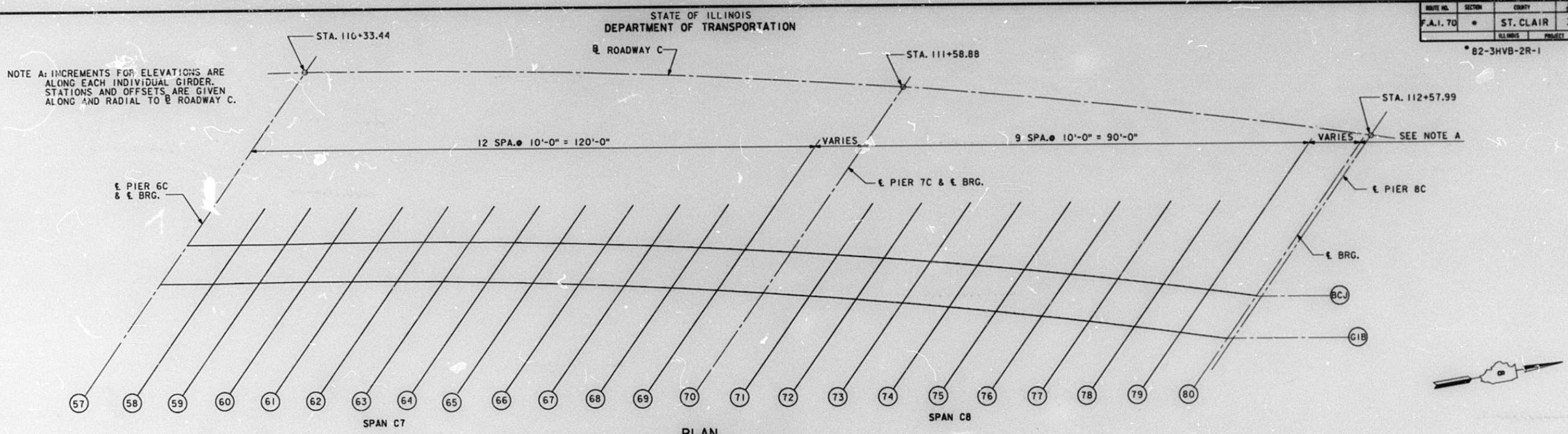
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

87S583 PRF-DET63E 35 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	258
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

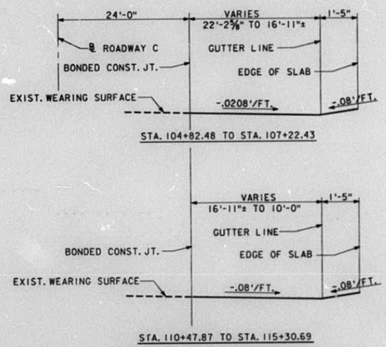


PLAN

NOTE: FOR TRANSVERSE GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLANS.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
57	BCJ	110 + 17.990	24.000	442.390	442.390
57	G1B	110 + 10.950	34.601	441.770	441.770
58	BCJ	110 + 28.160	24.000	442.170	442.170
58	G1B	110 + 21.200	34.428	441.540	441.610
59	BCJ	110 + 38.340	24.000	441.900	441.900
59	G1B	110 + 31.460	34.264	441.290	441.490
60	BCJ	110 + 48.520	24.000	441.650	441.650
60	G1B	110 + 41.710	34.108	441.020	441.370
61	BCJ	110 + 58.700	24.000	441.390	441.390
61	G1B	110 + 51.960	33.961	440.760	441.240
62	BCJ	110 + 68.870	24.000	441.120	441.120
62	G1B	110 + 62.210	33.823	440.500	441.090
63	BCJ	110 + 79.050	24.000	440.870	440.870
63	G1B	110 + 72.460	33.694	440.250	440.900
64	BCJ	110 + 89.230	24.000	440.640	440.640
64	G1B	110 + 82.710	33.573	440.020	440.670
65	BCJ	110 + 99.410	24.000	440.420	440.420
65	G1B	110 + 92.960	33.461	439.800	440.360
66	BCJ	111 + 09.580	24.000	440.190	440.190
66	G1B	111 + 03.210	33.358	439.580	440.040
67	BCJ	111 + 19.760	24.000	439.960	439.960
67	G1B	111 + 13.460	33.264	439.360	439.670
68	BCJ	111 + 29.940	24.000	439.730	439.730
68	G1B	111 + 23.710	33.179	439.150	439.310
69	BCJ	111 + 40.120	24.000	439.480	439.480
69	G1B	111 + 33.950	33.102	438.900	438.940
70	BCJ	111 + 46.400	24.000	439.330	439.330
70	G1B	111 + 41.570	33.051	438.730	438.730
71	BCJ	111 + 56.580	24.000	439.090	439.090
71	G1B	111 + 51.810	32.990	438.480	438.480

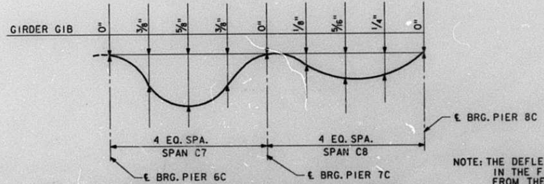
LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
72	BCJ	111 + 66.760	24.000	438.840	438.840
72	G1B	111 + 62.060	32.938	438.250	438.310
73	BCJ	111 + 76.940	24.000	438.600	438.600
73	G1B	111 + 72.300	32.894	438.000	438.160
74	BCJ	111 + 87.120	24.000	438.380	438.380
74	G1B	111 + 82.550	32.859	437.770	438.010
75	BCJ	111 + 97.290	24.000	438.160	438.160
75	G1B	111 + 92.790	32.833	437.540	437.840
76	BCJ	112 + 07.470	24.000	437.930	437.930
76	G1B	112 + 03.040	33.816	437.320	437.650
77	BCJ	112 + 17.650	24.000	437.710	437.710
77	G1B	112 + 13.280	32.808	437.100	437.400
78	BCJ	112 + 27.830	24.000	437.480	437.480
78	G1B	112 + 23.530	32.809	436.870	437.090
79	BCJ	112 + 38.000	24.000	437.240	437.240
79	G1B	112 + 33.770	32.818	436.630	436.730
80	BCJ	112 + 46.550	24.000	437.050	437.050
80	G1B	112 + 42.640	32.833	436.430	436.430



SUPERELEVATION TRANSITION

NOTES

FOR FILLET HEIGHT DETAIL SEE SHEET 12.



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".

C. PLIAKOS	DESIGNED
R. WINKELMANN	CHECKED
P. NELSON	DRAWN
C. PLIAKOS	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

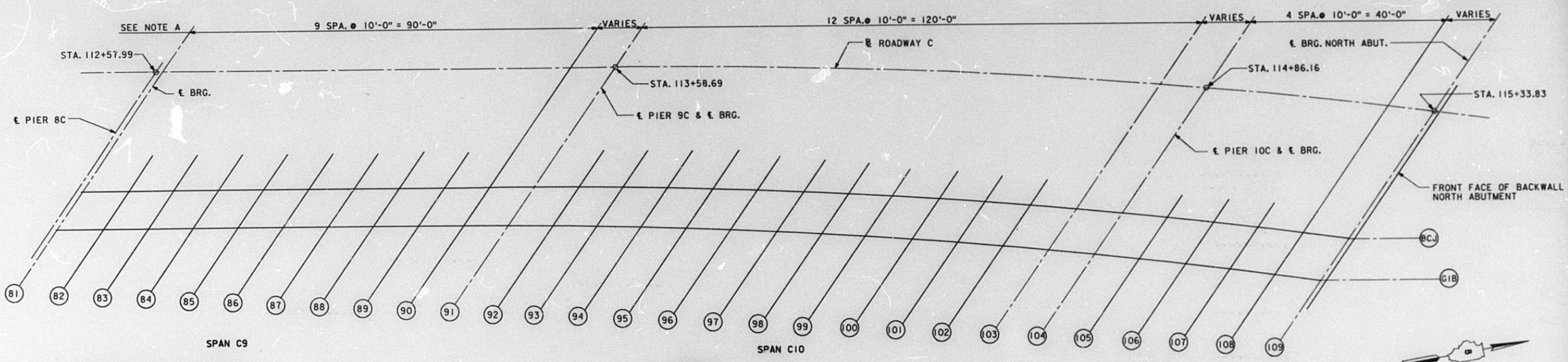
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
TOP OF SLAB ELEVATIONS
SPANS C7 AND C8
STRUCTURE NO. 082-0011
STA. 114+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	259

ILLINOIS PROJECT

* 82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



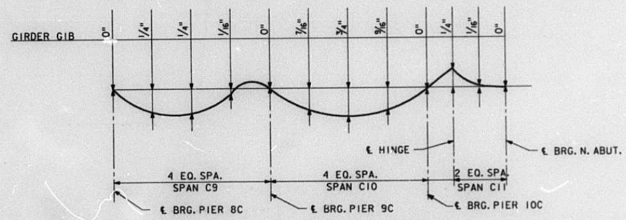
PLAN

NOTE: FOR TRANSVERSE GIRDER DIMENSIONS AT ℄ BRGS., SEE FRAMING PLANS.

NOTE A: INCREMENTS FOR ELEVATIONS ARE ALONG EACH INDIVIDUAL GIRDER. STATIONS AND OFFSETS ARE GIVEN ALONG AND RADIAL TO ℄ ROADWAY C.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
81	BCJ	112 + 48.810	24.000	436.990	436.990
81	G1B	112 + 44.920	32.833	436.370	436.370
82	BCJ	112 + 58.990	24.000	436.760	436.760
82	G1B	112 + 55.170	32.833	436.140	436.260
83	BCJ	112 + 69.170	24.000	436.530	436.530
83	G1B	112 + 65.410	32.833	435.900	436.120
84	BCJ	112 + 79.340	24.000	436.290	436.290
84	G1B	112 + 75.660	32.833	435.670	435.940
85	BCJ	112 + 89.520	24.000	436.050	436.050
85	G1B	112 + 85.900	32.833	435.420	435.700
86	BCJ	112 + 99.700	24.000	435.810	435.810
86	G1B	112 + 96.150	32.833	435.180	435.420
87	BCJ	113 + 09.880	24.000	435.570	435.570
87	G1B	113 + 06.390	32.833	434.940	435.110
88	BCJ	113 + 20.050	24.000	435.330	435.330
88	G1B	113 + 16.630	32.833	434.700	434.780
89	BCJ	113 + 30.230	24.000	435.100	435.100
89	G1B	113 + 26.880	32.833	434.460	434.470
90	BCJ	113 + 40.410	24.000	434.860	434.860
90	G1B	113 + 37.120	32.833	434.220	434.200
91	BCJ	113 + 50.430	24.000	434.620	434.620
91	G1B	113 + 47.310	32.833	433.980	433.980
92	BCJ	113 + 60.610	24.000	434.380	434.380
92	G1B	113 + 57.550	32.833	433.740	433.830
93	BCJ	113 + 70.780	24.000	434.140	434.140
93	G1B	113 + 67.800	32.833	433.500	433.730
94	BCJ	113 + 80.960	24.000	433.940	433.940
94	G1B	113 + 78.040	32.833	433.280	433.670
95	BCJ	113 + 91.140	24.000	433.730	433.730
95	G1B	113 + 88.290	32.833	433.080	433.620

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
96	BCJ	114 + 01.320	24.000	433.530	433.530
96	G1B	113 + 98.530	32.833	432.880	433.550
97	BCJ	114 + 11.490	24.000	433.330	433.330
97	G1B	114 + 08.770	32.833	432.680	433.430
98	BCJ	114 + 21.670	24.000	433.130	433.130
98	G1B	114 + 19.020	32.833	432.470	433.250
99	BCJ	114 + 31.850	24.000	432.950	432.950
99	G1B	114 + 29.260	32.833	432.290	433.040
100	BCJ	114 + 42.030	24.000	432.790	432.790
100	G1B	114 + 39.510	32.833	432.130	432.790
101	BCJ	114 + 52.200	24.000	432.650	432.650
101	G1B	114 + 49.750	32.833	431.970	432.490
102	BCJ	114 + 62.380	24.000	432.510	432.510
102	G1B	114 + 60.000	32.833	431.840	432.200
103	BCJ	114 + 72.560	24.000	432.400	432.400
103	G1B	114 + 70.240	32.833	431.700	431.870
104	BCJ	114 + 80.360	24.000	432.340	432.340
104	G1B	114 + 78.170	32.833	431.650	431.650
105	BCJ	114 + 90.540	24.000	432.280	432.280
105	G1B	114 + 88.410	32.833	431.580	431.390
106	BCJ	115 + 00.710	24.000	432.220	432.220
106	G1B	114 + 98.660	32.849	431.520	431.330
107	BCJ	115 + 10.890	24.000	432.170	432.170
107	G1B	115 + 08.900	32.838	431.460	431.410
108	BCJ	115 + 21.070	24.000	432.130	432.130
108	G1B	115 + 19.140	32.751	431.430	431.450
109	BCJ	115 + 28.830	24.000	432.110	432.110
109	G1B	115 + 27.060	32.634	431.410	431.410



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".

NOTES

FOR FILLET HEIGHT DETAIL SEE SHEET 12.

C. PLIAKOS	DESIGNED
R. WINKELMANN	CHECKED
P. NELSON	DRAWN
C. PLIAKOS	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
TOP OF SLAB ELEVATIONS
SPANS C9, C10 AND C11

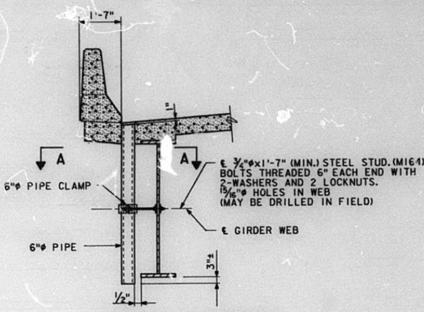
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

875585 PRF: DET65E 35 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

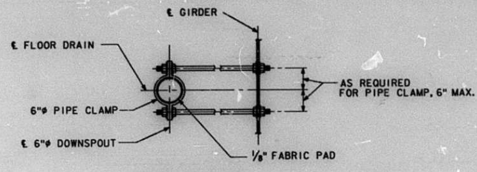
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	260
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

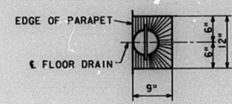


SECTION AT PARAPET

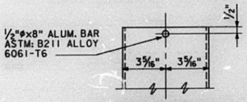
THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.



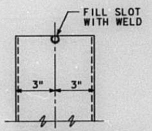
SECTION A-A



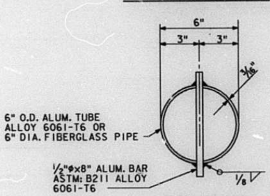
TOP PLAN



FIBERGLASS PIPE



ALUMINUM TUBE



TOP PLAN
ALUMINUM TUBE SHOWN

NOTES

FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.

THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE ZINC-SILICATE AND VINYL PAINT SYSTEM SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING.

FOR FLOOR DRAIN LOCATIONS, SEE SHEETS 4 THRU 8.

FLOOR DRAINS

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
FLOOR DRAIN	EACH	40

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
FLOOR DRAINS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO 115+34.53 (FAI-70) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

DESIGNED
CHECKED
D. RIEHL
DRAWN
G. DEE
CHECKED

87S698 PRF: DETI8IE
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	261
		ILLINOIS	PROJECT	

✱ 82-3HVB-2R-1

Joint Size	"C" at 50°F	"D" at 50°F	Location
2"	2"	1½" Min.	S. Abut.(Rdwy. C)
2½"	2½"	1¾" Min.	S. Abut.(Rdwy. B)
4"	3"	2½" Min.	Piers 3C & 4C

INSTALLATION NOT S

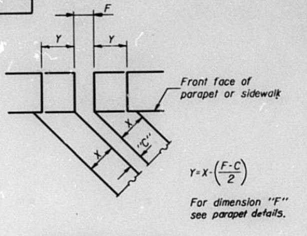
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

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

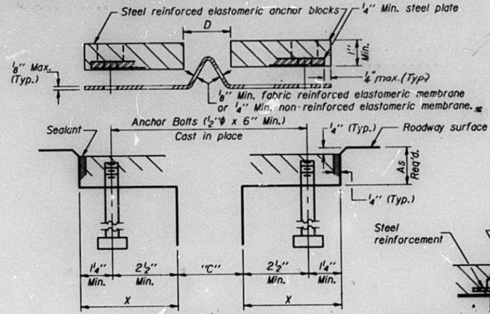
SKEW LIMITATIONS

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

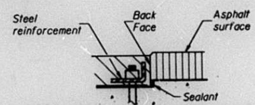
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also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



FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK 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.

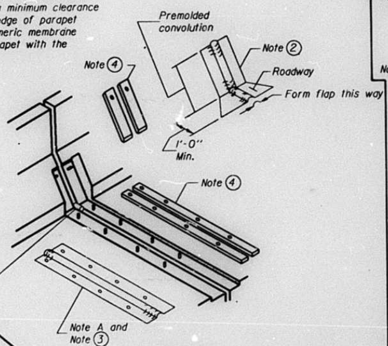
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

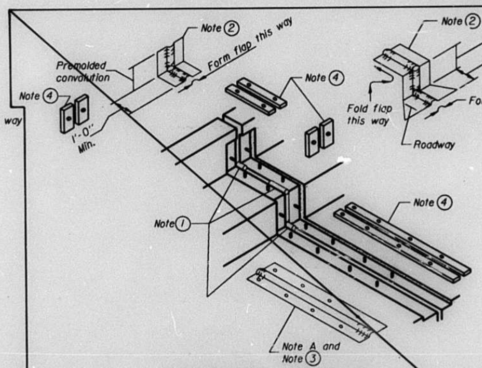
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

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.

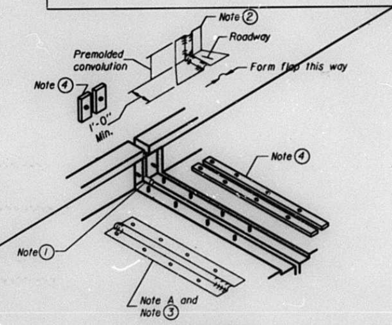
The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.



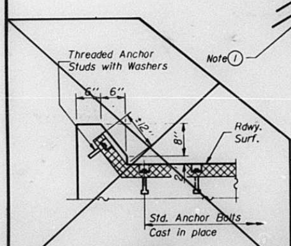
AT PARAPET



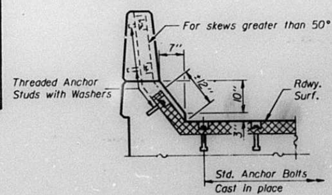
AT SIDEWALK OR MEDIAN



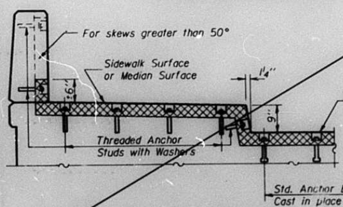
AT WALL



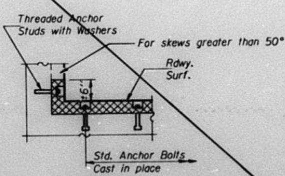
AT CURB



AT PARAPET



AT SIDEWALK OR MEDIAN



AT WALL

TYPICAL END TREATMENTS

DESIGNED	
CHECKED	
DRAWN	F.A. Combo
CHECKED	

7/4/87

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 2", 2½" AND 4" MOVEMENT

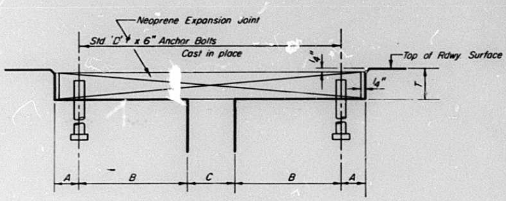
ROADWAY "B" STRUCTURE NO. 082-0010
ROADWAY "C" STRUCTURE NO. 082-0011
STA. 102+35.25 TO STA. 114+60.46 ROADWAY B
STA. 104+47.41 TO STA. 115+34.53 ROADWAY C
(FAI-70) ST. CLAIR CO.

SHEET NO. 17 OF 47

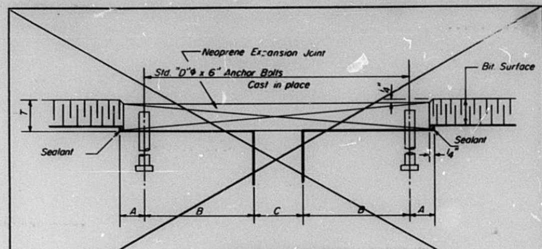
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	262
		ILLINOIS	PROJECT	

✱ 82-3HVB-2R-1



CROSS SECTION
*At 50° F
Dimensions are at right angles.
Bare Deck



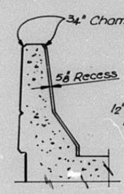
CROSS SECTION
*At 50° F
Dimensions are at right angles.
Deck with Class I

NEOPRENE EXPANSION JOINTS (6½)
(See Special Provisions)

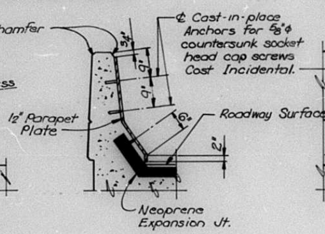
Model	Supplier	Blockout Dimensions
(6½) TRANSFLEX, MODEL 650 *	General Tire Company	T = 3¼", A = 2⅜", B = 9⅞"
~~(9) TRANSFLEX, MODEL 900~~	~~General Tire Company~~	~~T = 4", A = 2 1/16", B = 12¾"~~
~~(13) TRANSFLEX, MODEL 1300~~	~~General Tire Company~~	~~T = [illegible], A = 2¾", B = [illegible]~~

NOTE
Joint openings shall be adjusted in accordance with Article 503.07 (c) of the Std. Spec's when the deck is poured at an ambient temperature other than 50° F

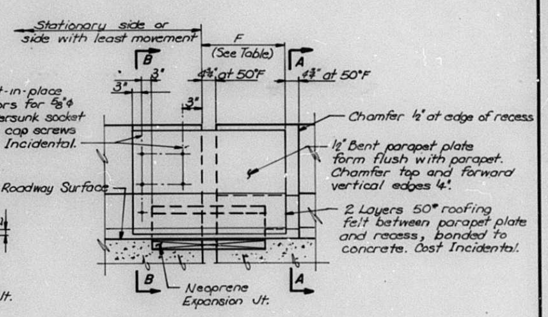
Joint Size	C at 50°F	"D"	"F"	Location
6½"	4½"	⅞"	1'-10"	Pier 8C (Rdwy. C)
~~9~~	~~5½"~~	~~⅞"~~		
~~13~~	~~7½"~~	~~1⅛"~~		



SECTION A-A



SECTION B-B

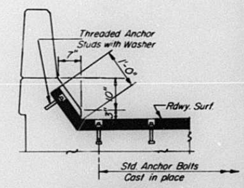


ELEVATION - EXPANSION JT. PARAPET PLATE
(at Pier 8C)

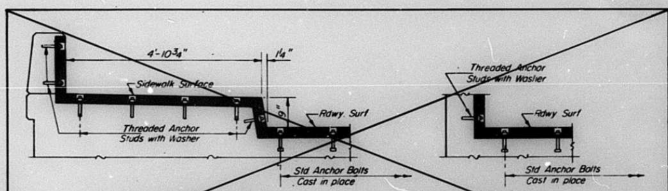
NOTES

It shall be the Contractor responsibility to coordinate the approved expansion device with the end parapet plate detail shown.

All parapet plates shall be AASHTO M183 and shop painted with the zinc-silicate and vinyl paint system.



AT PARAPET



AT SIDEWALK or MEDIAN **AT WALL**

TYPICAL END TREATMENTS

DESIGNED	
CHECKED	
DRAWN	G. J. Dee
CHECKED	F. A. Comba

EJ-T 12-31-84

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX

NEOPRENE EXPANSION JOINTS
For 6½", 9" and 13" movements

ROADWAY "C" STRUCTURE NO. 082-0011

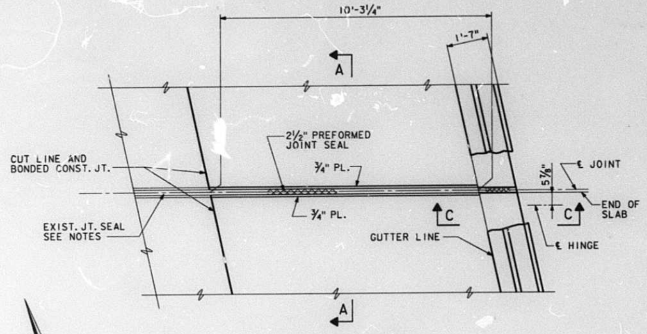
STA. 104+47.41 TO STA. 115+34.53 ROADWAY C
(FAI-70) ST. CLAIR CO.

SHEET NO. 18 OF 47

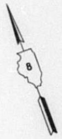
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

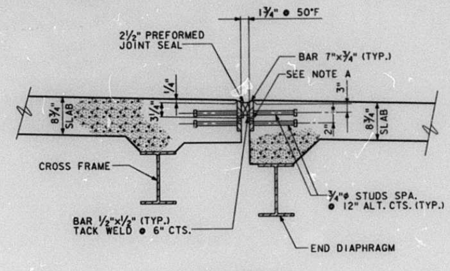
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	263
		ILLINOIS	PROJECT	

•82-3HVB-2R-1



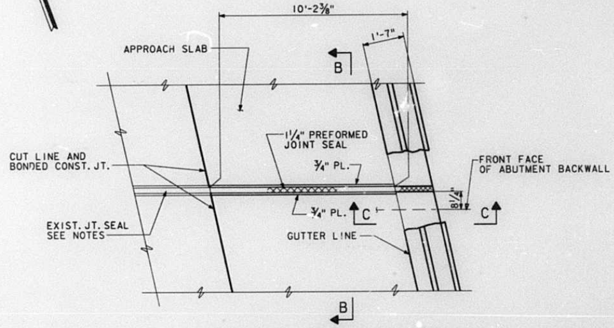
PLAN AT HINGE



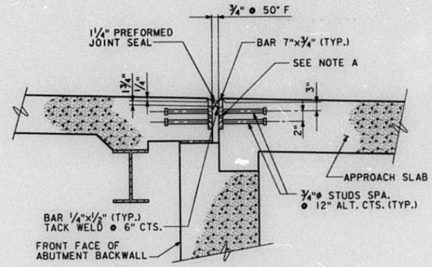


SECTION A-A

NOTE A: PROVIDE 7/16"ϕ HOLES AT 12" CTS. FOR 3/8" BOLTS. ALL BOLTS SHALL BE BURNED, SAWED OR CHIPPED OFF FLUSH WITH THE PLATES AFTER FORMS ARE REMOVED. (TYP.)



PLAN AT NORTH ABUTMENT

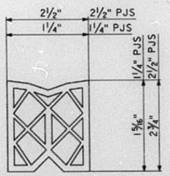


SECTION B-B

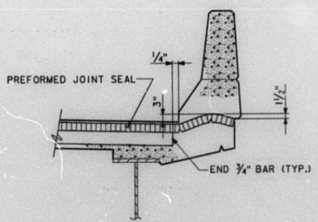
WEIGHT OF STRUCTURAL STEEL (M183) = 830 LBS.

NOTES

FOR STRUCTURAL STEEL NOTES SEE SHEET 22.
ALL STUDS TO BE 3/4"ϕx8" GRANULAR OR SOLID FLUX FILLED HEADED STUDS CONFORMING TO ART. 710.38 OF THE STD. SPECIFICATIONS, AUTOMATICALLY END WELDED.
THE EXPANSION JOINT PLATES SHALL BE FABRICATED TO CONFORM TO THE GRADE AND CROSS SLOPE OF THE ROADWAY.
SPLICING OF THE EXISTING JOINT SEAL WITH THE NEW JOINT SEAL SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SEE SPECIAL PROVISIONS.



PREFORMED JOINT SEAL



SECTION C-C

F. CAMBA
DESIGNED
CHECKED
S. KAEMMERER
DRAWN
R.F. BECK
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

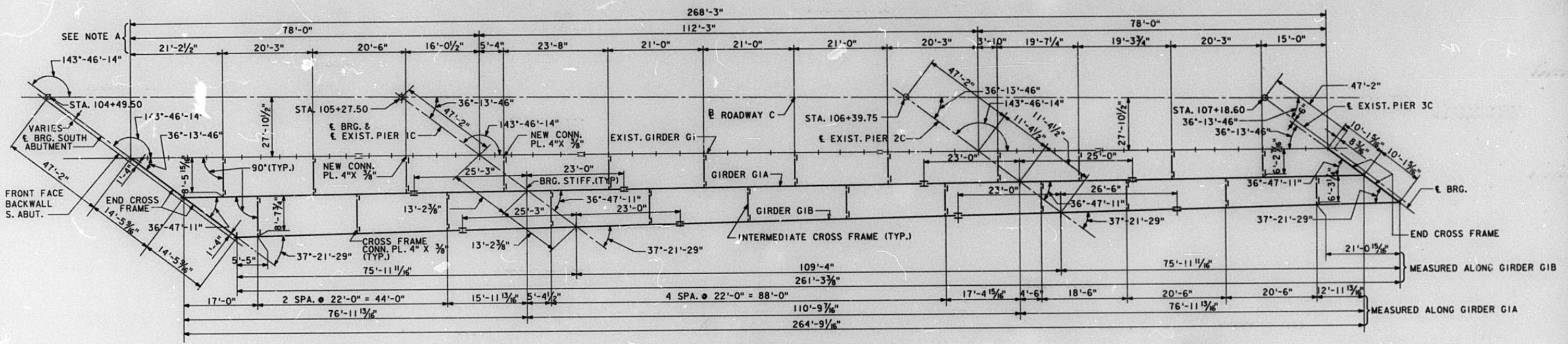
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN SHEETS
PREFORMED JOINT SEALS-1 1/4" & 2 1/2"
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 19 OF 47

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	264
ILLINOIS	PROJECT			

•62-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

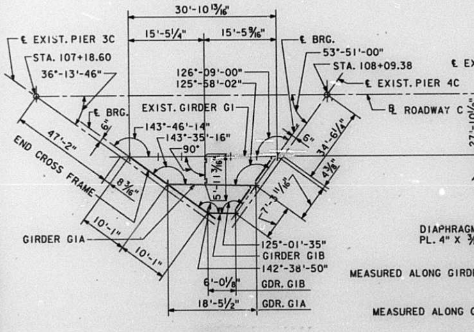


FRAMING PLAN

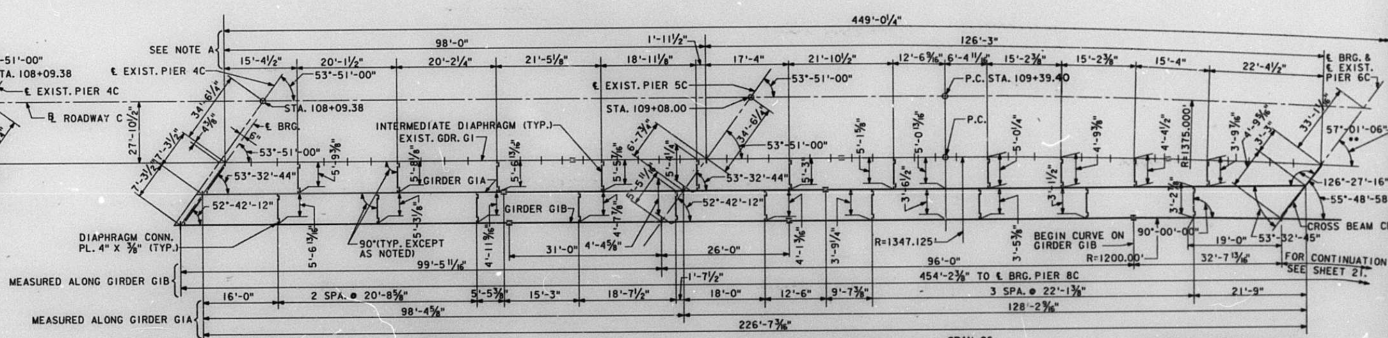
NOTES

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.



FRAMING PLAN



FRAMING PLAN

NOTE A: THESE DIMENSIONS ARE MEASURED ALONG EXISTING GIRDER G1. SPACING OF CROSS FRAMES ARE TO CENTERLINE OF EXISTING STIFFENER PLS. 6"X⅜" UNLESS OTHERWISE NOTED. WHERE APPLICABLE THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF THESE STIFFENERS BEFORE LOCATING CONN. PLATE ON GIRDER G1A FROM SOUTH ABUTMENT TO PIER 6C OR TO CONN. PLATE ON GIRDER GB1 FROM PIER 6C TO NORTH ABUTMENT.

NOTES

WORK THIS SHEET WITH SHEET 21.
FOR GENERAL NOTES, SEE SHEET 2.
FOR STRUCTURAL STEEL NOTES, SEE SHEET 22.
ANGLES SHOWN WHERE GIRDERS ARE CURVED AND NOTED BY ** ARE FROM TANGENT TO GIRDER AT ℄ PIER TO CENTERLINE OF PIER.
FOR CROSS BEAM CB-1 DETAILS AT PIER 6C, SEE SHEET 25.
GIRDER G1A IS STRAIGHT FULL LENGTH.
GIRDER G1B IS STRAIGHT TO FIELD SPLICE NEAR PIER 6C OF SPAN C6.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
FRAMING PLAN - SPANS C1 THRU C6
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 20 OF 47

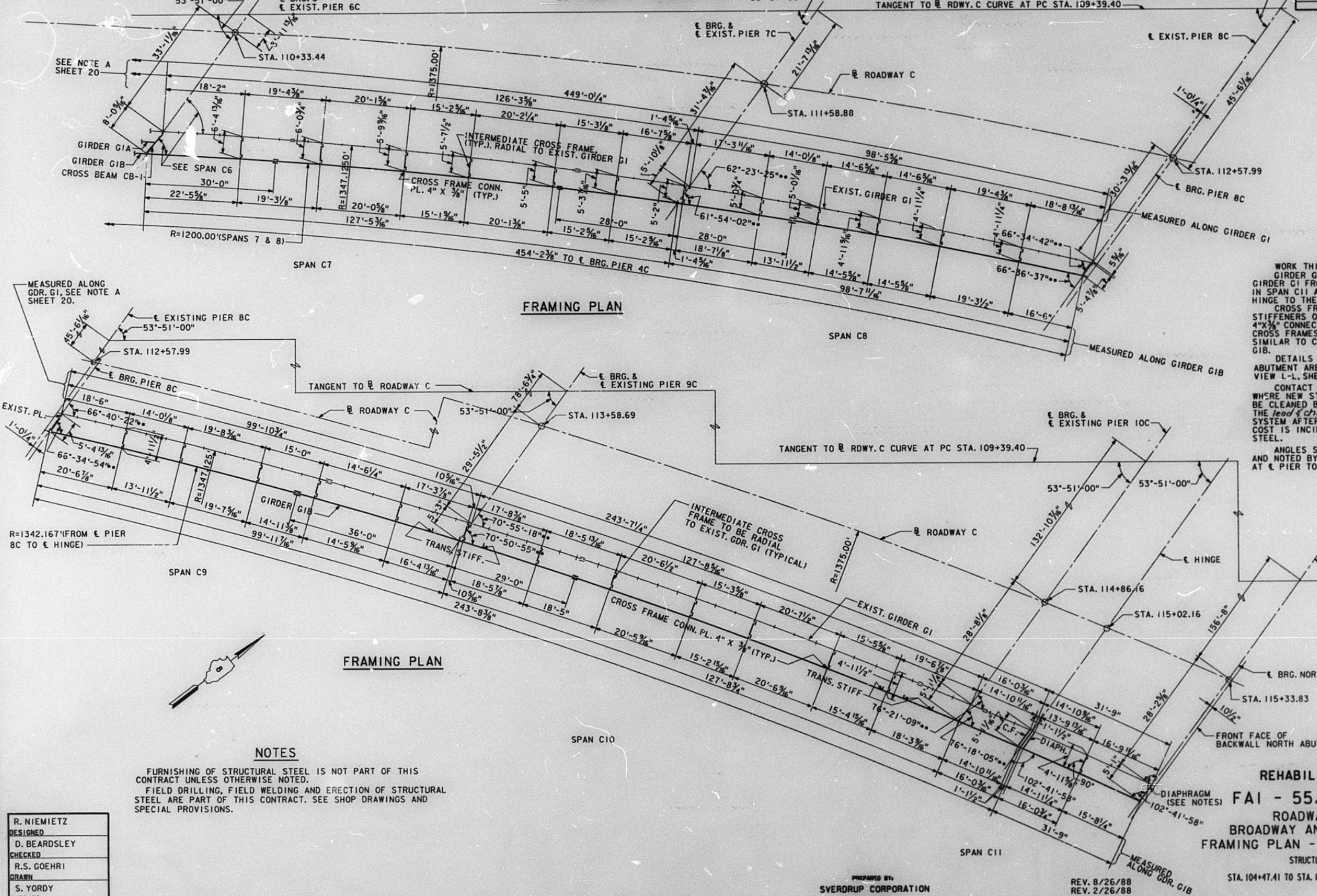
R. NIEMIETZ
DESIGNED
D. BEARDSLEY
CHECKED
R.S. GOEHRI
DRAWN
S. YORDY
CHECKED

87S375 PRF: DET66R 35 56 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	265
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1



NOTES

WORK THIS SHEET WITH SHEET 20.

GIRDER G1B IS CONCENTRIC TO EXISTING GIRDER G1 FROM PIER 8C TO THE HINGE IN SPAN C11 AND STRAIGHT FROM FROM THE HINGE TO THE END AT THE NORTH ABUTMENT.

CROSS FRAMES ARE CONNECTED TO EXISTING STIFFENERS ON GIRDER G1 EXCEPT NEW 4"X3/8" CONNECTION PLATES REQUIRED FOR CROSS FRAMES AT PIERS 7C AND 9C. DETAILS SIMILAR TO CONNECTION PLATES FOR GIRDER G1B.

DETAILS AT END DIAPHRAGM AT NORTH ABUTMENT ARE SAME AS SHOWN AT HINGE. SEE VIEW L-L, SHEET 25.

CONTACT SURFACES OF EXISTING STEEL WHERE NEW STEEL DIAPHRAGMS CONNECT, SHALL BE CLEANED BY METHOD I AND TOUCHED UP WITH THE *lead & chromate free alkyd paint* SYSTEM AFTER THE CONNECTIONS ARE MADE. COST IS INCIDENTAL TO ERECTING STRUCTURAL STEEL.

ANGLES SHOWN WHERE GIRDERS ARE CURVED AND NOTED BY •• ARE FROM TANGENT TO GIRDER AT ℄ PIER TO CENTERLINE OF PIER.

NOTES

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.

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
R.S. GOEHRI	DRAWN
S. YORDY	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88
REV. 8/3/87

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
FRAMING PLAN - SPANS C7 THRU C11
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

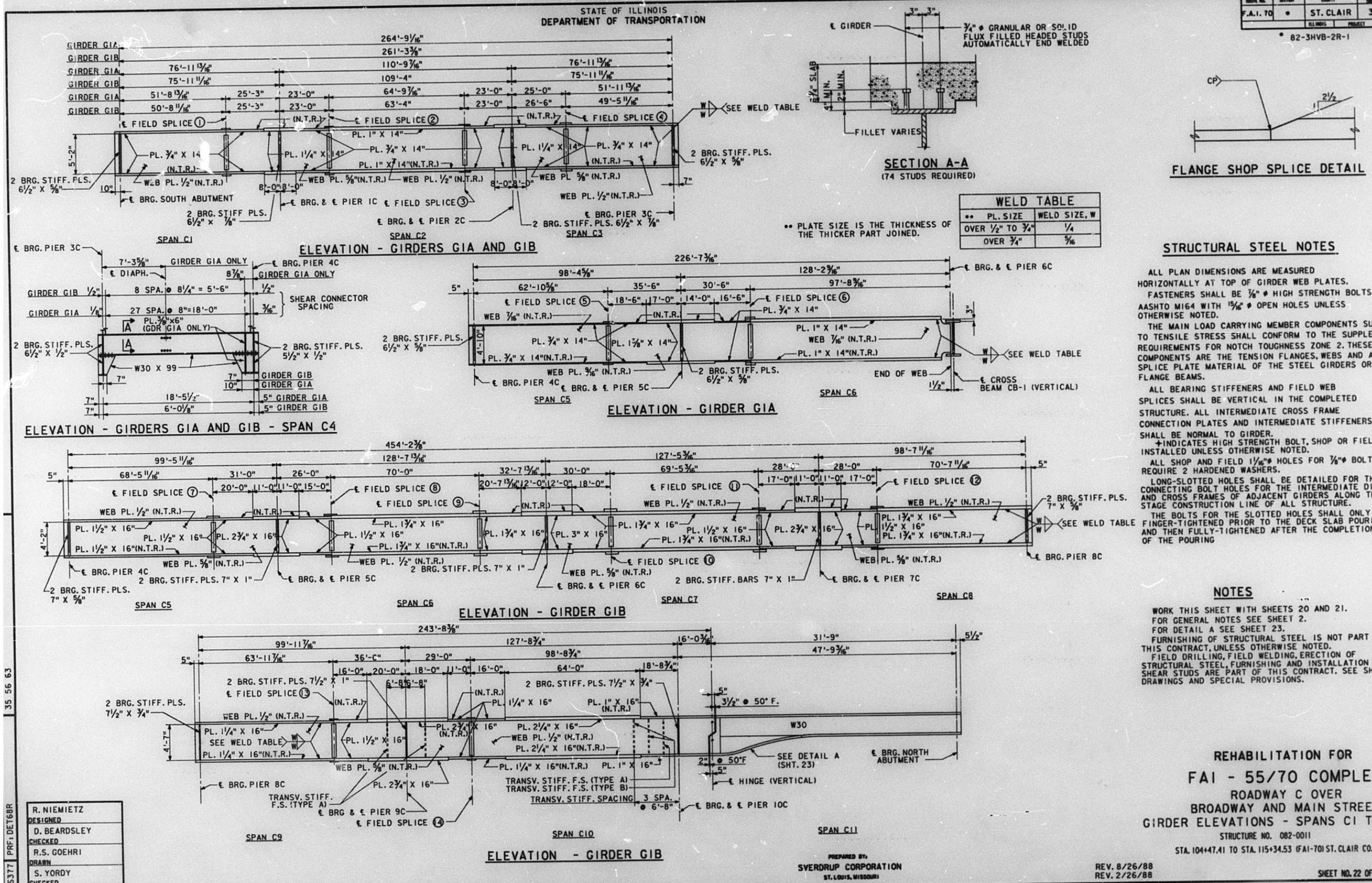
SHEET NO. 21 OF 47

875376 PRF: DET67R 35 56 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	266

• 82-3HVB-2R-1



WELD TABLE	
•• PL. SIZE	WELD SIZE, W
OVER ½" TO ¾"	¼
OVER ¾"	5/16

•• PLATE SIZE IS THE THICKNESS OF THE THICKER PART JOINED.

STRUCTURAL STEEL NOTES

ALL PLAN DIMENSIONS ARE MEASURED HORIZONTALLY AT TOP OF GIRDER WEB PLATES.

FASTENERS SHALL BE ⅞" φ HIGH STRENGTH BOLTS AASHTO M164 WITH 15/16" φ OPEN HOLES UNLESS OTHERWISE NOTED.

THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE TENSION FLANGES, WEBS AND ALL SPLICE PLATE MATERIAL OF THE STEEL GIRDERS OR WIDE FLANGE BEAMS.

ALL BEARING STIFFENERS AND FIELD WEB SPLICES SHALL BE VERTICAL IN THE COMPLETED STRUCTURE. ALL INTERMEDIATE CROSS FRAME CONNECTION PLATES AND INTERMEDIATE STIFFENERS SHALL BE NORMAL TO GIRDER.

+INDICATES HIGH STRENGTH BOLT, SHOP OR FIELD INSTALLED UNLESS OTHERWISE NOTED.

ALL SHOP AND FIELD 1 1/16"φ HOLES FOR ⅞"φ BOLTS REQUIRE 2 HARDENED WASHERS.

LONG-SLOTTED HOLES SHALL BE DETAILED FOR THE CONNECTING BOLT HOLES FOR THE INTERMEDIATE DIAPHRAGMS AND CROSS FRAMES OF ADJACENT GIRDERS ALONG THE STAGE CONSTRUCTION LINE OF ALL STRUCTURE.

THE BOLTS FOR THE SLOTTED HOLES SHALL ONLY BE FINGER-TIGHTENED PRIOR TO THE DECK SLAB POURING AND THEN FULLY-TIGHTENED AFTER THE COMPLETION OF THE POURING

NOTES

WORK THIS SHEET WITH SHEETS 20 AND 21.
FOR GENERAL NOTES SEE SHEET 2.
FOR DETAIL A SEE SHEET 23.
FURNISHING OF STRUCTURAL STEEL IS NOT PART OF 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
ROADWAY C OVER
BROADWAY AND MAIN STREETS
GIRDER ELEVATIONS - SPANS C1 THRU C11
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

R. NIEMIETZ
DESIGNED
D. BEARDSLEY
CHECKED
R.S. GOEHRI
DRAWN
S. YORDY
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 2/26/88

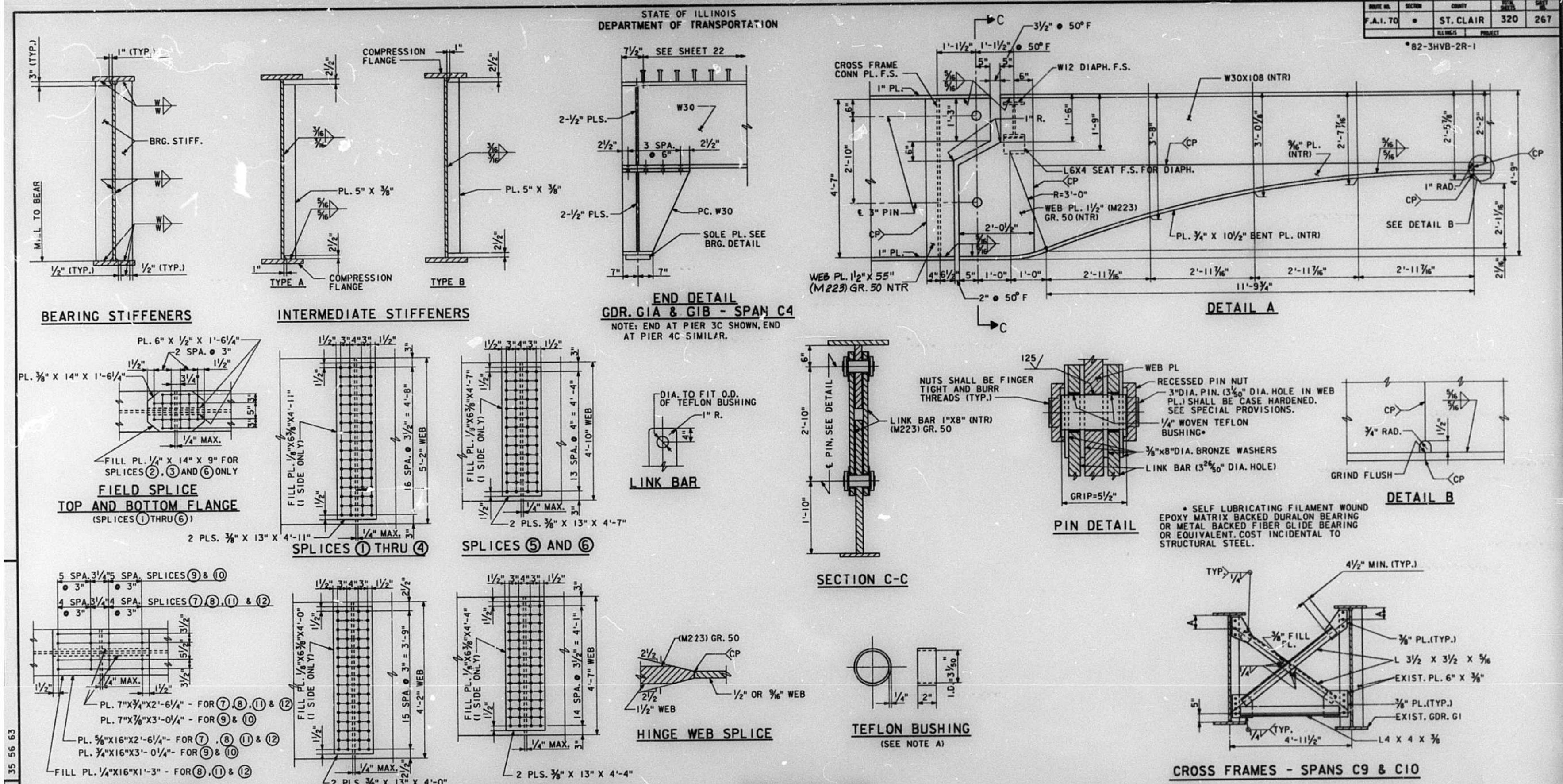
SHEET NO. 22 OF 47

87S377 PRF: DET6BR 35 56 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

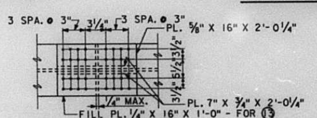
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	267

•82-3HVB-2R-1



DETAILS AT HINGE

NOTE A: BUSHING TO BE SELF LUBRICATING WOVEN TEFLON BEARING BACKED BY A FILAMENT WOUND EPOXY MATRIX AS PRODUCED BY REXNARD BEARING DIVISION OR SELF LUBRICATING METAL BACKED WOVEN TEFLON BEARING PRODUCED BY LSI TRANSPORT DYNAMICS DIVISION OR EQUIVALENT. COST INCIDENTAL TO STRUCTURAL STEEL.



FIELD SPLICE
TOP AND BOTTOM FLANGE
(SPLICES 13 AND 14)

NOTES

WORK THIS SHEET WITH FRAMING PLAN SHEETS 20 AND 21.
FOR WELDING OF CROSS FRAME CONNECTIONS, SEE SHEET 24.
FOR STRUCTURAL STEEL NOTES, SEE SHEET 22.
ALL SPLICE PLATES EXCEPT FILL PLATES ARE (N.T.R.)
FURNISHING OF STRUCTURAL STEEL IS NOT PART OF 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.
SEE SHOP DRAWINGS FOR VARIABLE DIMENSION A.

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
R.S. GOEHRI	DRAWN
S. YORDY	CHECKED

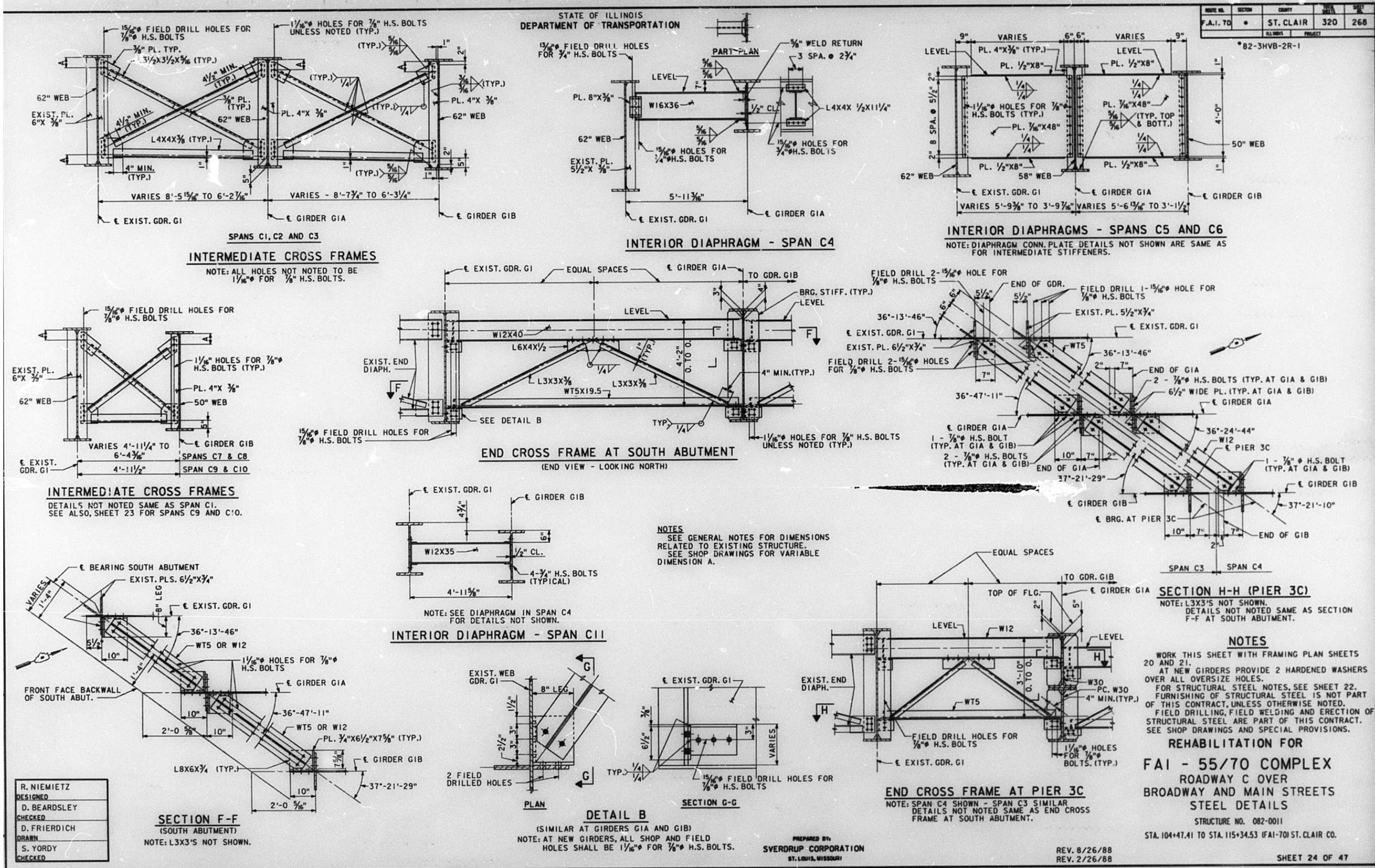
875378 PRF: DET69R
35 56 63

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

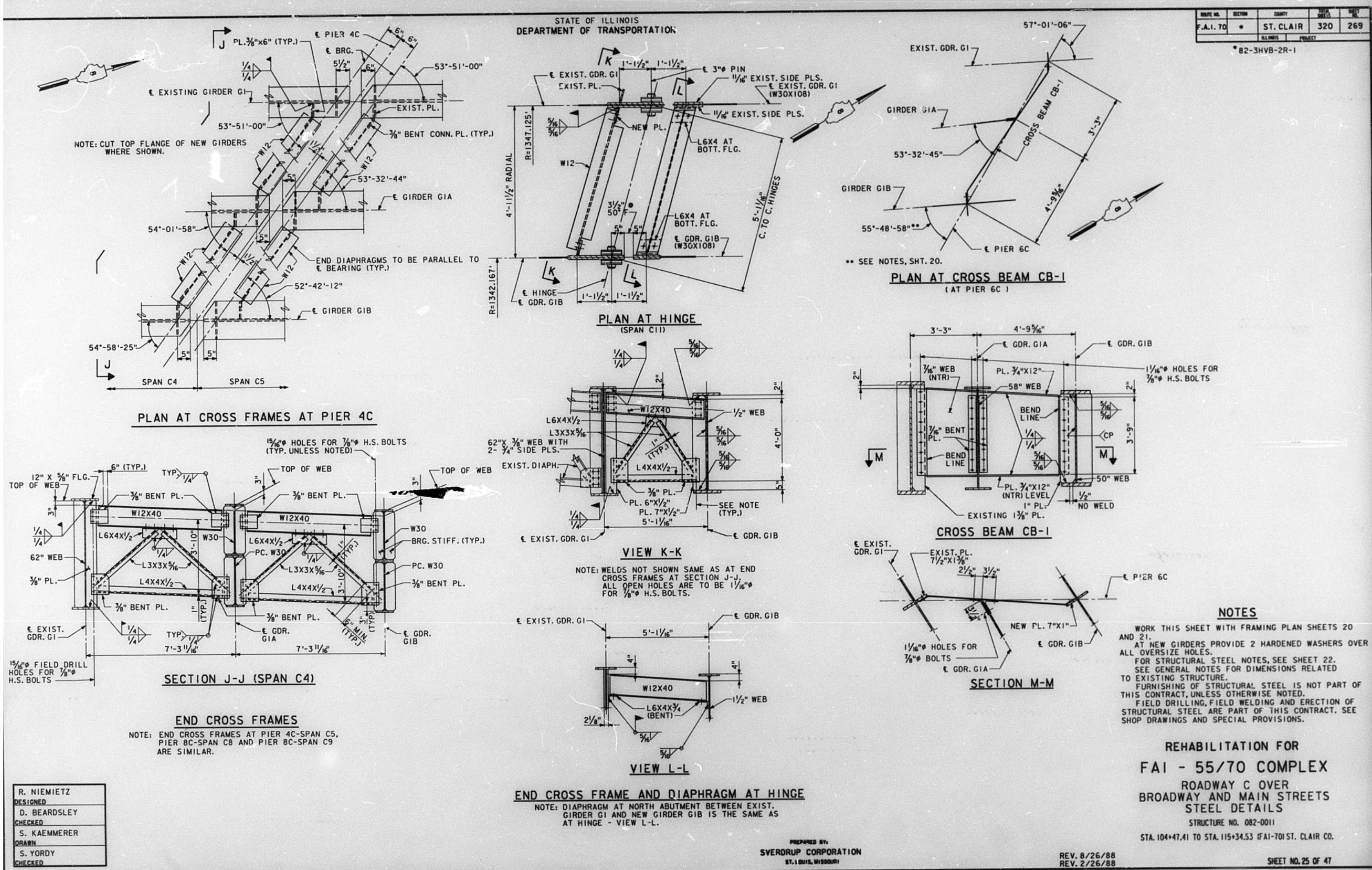
REV. 8/26/88
REV. 2/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
STEEL DETAILS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 23 OF 47



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 268
82-3HVB-2R-1
SPANS C1, C2 AND C3
INTERMEDIATE CROSS FRAMES
NOTE: ALL HOLES NOT NOTED TO BE 1 1/16"φ FOR 7/8" H.S. BOLTS.
INTERIOR DIAPHRAGM - SPAN C4
INTERIOR DIAPHRAGMS - SPANS C5 AND C6
NOTE: DIAPHRAGM CONN. PLATE DETAILS NOT SHOWN ARE SAME AS FOR INTERMEDIATE STIFFENERS.
INTERMEDIATE CROSS FRAMES
DETAILS NOT NOTED SAME AS SPAN C1. SEE ALSO, SHEET 23 FOR SPANS C9 AND C10.
END CROSS FRAME AT SOUTH ABUTMENT
(END VIEW - LOOKING NORTH)
SECTION H-H (PIER 3C)
NOTE: L3X3'S NOT SHOWN. DETAILS NOT NOTED SAME AS SECTION F-F AT SOUTH ABUTMENT.
INTERIOR DIAPHRAGM - SPAN C11
NOTE: SEE DIAPHRAGM IN SPAN C4 FOR DETAILS NOT SHOWN.
NOTES
SEE GENERAL NOTES FOR DIMENSIONS RELATED TO EXISTING STRUCTURE.
SEE SHOP DRAWINGS FOR VARIABLE DIMENSION A.
SECTION F-F
(SOUTH ABUTMENT)
NOTE: L3X3'S NOT SHOWN.
PLAN
DETAIL B
(SIMILAR AT GIRDERS GIA AND GIB)
NOTE: AT NEW GIRDERS, ALL SHOP AND FIELD HOLES SHALL BE 1 1/16"φ FOR 7/8"φ H.S. BOLTS.
SECTION G-G
END CROSS FRAME AT PIER 3C
NOTE: SPAN C4 SHOWN - SPAN C3 SIMILAR. DETAILS NOT NOTED SAME AS END CROSS FRAME AT SOUTH ABUTMENT.
NOTES
WORK THIS SHEET WITH FRAMING PLAN SHEETS 20 AND 21.
AT NEW GIRDERS PROVIDE 2 HARDENED WASHERS OVER ALL OVERSIZE HOLES.
FOR STRUCTURAL STEEL NOTES, SEE SHEET 22.
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.
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
STEEL DETAILS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.
R. NIEMIETZ
DESIGNED
D. BEARDSLEY
CHECKED
D. FRIERDICH
DRAWN
S. YORDY
CHECKED
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
REV. 8/26/88
REV. 2/26/88
SHEET 24 OF 47



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 269
82-3HVB-2R-1
PLAN AT CROSS FRAMES AT PIER 4C
NOTE: CUT TOP FLANGE OF NEW GIRDERS WHERE SHOWN.
END DIAPHRAGMS TO BE PARALLEL TO ℄ BEARING (TYP.)
℄ EXISTING GIRDER G1
℄ GIRDER G1A
℄ GIRDER G1B
SPAN C4
SPAN C5
SECTION J-J (SPAN C4)
END CROSS FRAMES
NOTE: END CROSS FRAMES AT PIER 4C-SPAN C5, PIER 8C-SPAN C8 AND PIER 8C-SPAN C9 ARE SIMILAR.
PLAN AT HINGE
(SPAN C11)
VIEW K-K
NOTE: WELDS NOT SHOWN SAME AS AT END CROSS FRAMES AT SECTION J-J. ALL OPEN HOLES ARE TO BE 1 1/16"φ FOR 7/8"φ H.S. BOLTS.
VIEW L-L
END CROSS FRAME AND DIAPHRAGM AT HINGE
NOTE: DIAPHRAGM AT NORTH ABUTMENT BETWEEN EXIST. GIRDER G1 AND NEW GIRDER G1B IS THE SAME AS AT HINGE - VIEW L-L.
PLAN AT CROSS BEAM CB-1
(AT PIER 6C)
•• SEE NOTES, SHT. 20.
CROSS BEAM CB-1
SECTION M-M
NOTES
WORK THIS SHEET WITH FRAMING PLAN SHEETS 20 AND 21.
AT NEW GIRDERS PROVIDE 2 HARDENED WASHERS OVER ALL OVERSIZE HOLES.
FOR STRUCTURAL STEEL NOTES, SEE SHEET 22.
SEE GENERAL NOTES FOR DIMENSIONS RELATED TO EXISTING STRUCTURE.
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.
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
STEEL DETAILS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.
SHEET NO. 25 OF 47
REV. 8/26/88
REV. 2/26/88
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
R. NIEMIETZ DESIGNED
D. BEARDSLEY CHECKED
S. KAEMMERER DRAWN
S. YORDY CHECKED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	270

ILLINOIS | PROJECT

82-3HVB-2R-1

GIRDER GIA MOMENT TABLE

	0.4 SP. C1 OR 0.6 SP. C3	PIER 1C OR 2C	0.5 SPAN C2
I (In.4)	30,603	47,418	37,713
D (k/')	1.234	1.247	1.259
M D ('k)	400	1216	722
M L ('k)	709	807	843
IMP. ('k)	175	184	179
M TOTAL ('k)	1284	2207	1744
fs (ksi)	16.0	18.0	17.8

SPANS C1, C2 AND C3

GIRDER GIA MOMENT TABLE

	0.4 SP. C5	PIER 5C	0.6 SP. C6
I (In.4)	25,234	43,078	31,480
D (k/')	0.822	0.756	0.707
M D ('k)	435	1464	911
M L ('k)	580	685	585
IMP. ('k)	130	144	116
M TOTAL ('k)	1145	2293	1612
fs (ksi)	16.2	19.4	18.4

SPAN C5 AND C6

* TOP OF GIRDER WEB ELEVATIONS-SPANS C1, C2 AND C3

LOCATION / GIRDER	℄ BEARING SOUTH ABUTMENT	SPLICE (1) SPAN C1	℄ BEARING PIER 1C	SPLICE (2) SPAN C2	SPLICE (3) SPAN C2	℄ BEARING PIER 2C	SPLICE (4) SPAN C3	℄ BEARING PIER 3C SPAN C3
GIA	445.35	445.77	445.96	446.07	446.20	446.11	445.99	445.58
GIB	445.27	445.71	445.84	445.96	446.04	445.93	445.81	445.32

GIRDER GIB MOMENT TABLE

	0.4 SP. C5	PIER 5C OR 7C	0.5 SP C6 OR SP. C7	PIER 6C	0.6 SP. C8
Sxx (In.3)	1398	2441	1596	2640	1596
I (In.4)	37,035	67,726	42,701	73,926	42,701
D (k/')	0.925	1.003	1.028	1.028	0.978
M D ('k)	611	1389	674	1459	590
M L ('k)	561	738	687	765	567
I mp ('k)	125	155	136	151	127
M D SECONDARY ('k)	----	----	----	----	----
M L SECONDARY ('k)	----	----	----	----	----
M TOTAL ('k)	1297	2282	1497	2375	1284
fs (ksi)	11.1	11.2	11.3	10.8	9.7
fw (ksi)	----	1.7	1.7	1.6	1.4
f TOTAL (ksi)	11.1	12.9	13.0	12.4	11.1
F_{bu}** (ksi)	20.0	14.9	20.0	14.9	20.0

SPANS C5, C6 C7 AND C8

GIRDER GIB MOMENT TABLE

	0.4 SP. C9	PIER 9C	0.6 SP. C10	PIER 10C	0.7 SP. C11
Sxx (In.3)	1342	2712	2216	1124	299
I (In.4)	38,573	82,037	65,928	32,020	4,470
D (k/')	0.943	0.969	0.995	0.897	0.798
M D ('k)	477	1733	1074	316	100
M L ('k)	549	741	727	363	151
I mp ('k)	122	155	144	85	45
M D SECONDARY ('k)	----	----	----	----	----
M L SECONDARY ('k)	----	----	----	----	----
M TOTAL ('k)	1148	2629	1945	764	296
fs (ksi)	10.3	11.6	10.5	8.2	11.9
fw (ksi)	1.5	1.7	1.6	1.2	----
f TOTAL (ksi)	11.8	13.3	12.1	9.4	11.9
F_{bu}** (ksi)	20.0	15.5	20.0	15.6	20.0

SPANS C9, C10 AND C11

* TOP OF GIRDER WEB ELEVATIONS - SPANS C4, C5 AND C6

LOCATION / GIRDER	℄ BEARING PIER 3C SPAN C4	℄ BEARING PIER 4C	℄ BEARING PIER 4C	SPLICE (5) SPAN C5	SPLICE (7) SPAN C5	℄ BEARING PIER 5C	SPLICE (6) SPAN C6	SPLICE (8) SPAN C6	SPLICE (9) SPAN C6	℄ BEARING PIER 6C
GIA	445.55	445.36	445.33	444.41	——	443.79	443.23	——	——	440.90
GIB	445.30	445.23	445.21	——	444.18	443.64	——	443.11	441.45	440.67

* TOP OF GIRDER WEB ELEVATIONS-SPANS C7 AND C8

LOCATION / GIRDER	℄ BEARING PIER 6C	SPLICE (10) SPAN C7	SPLICE (11) SPAN C7	℄ BEARING PIER 7C	SPLICE (12) SPAN C8	℄ BEARING PIER 8C SPAN C8
GIB	440.67	439.95	438.30	437.63	436.97	435.33

* TOP OF GIRDER WEB ELEVATIONS - SPANS C9, C10 AND C11

LOCATION / GIRDER	℄ BEARING PIER 8C SPAN C9	SPLICE (13) SPAN C9	℄ BEARING PIER 9C	SPLICE (14) SPAN C10	℄ BEARING PIER 10C	℄ HINGE SPAN C11	℄ BEARING NORTH ABUTMENT
GIB	435.27	433.76	432.88	432.24	430.55	430.38	430.30

* FOR FABRICATION ONLY

GIRDER GIA REACTION TABLE

	S. ABUT. OR PIER 3C	PIER 1C OR 2C
R D (K)	32.0	134.1
R L (K)	52.5	81.5
IMP. (K)	13.0	18.6
R TOTAL (K)	97.5	234.2

SPANS C1, C2 AND C3

GIRDER GIA REACTION TABLE

	PIER 4C	PIER 5C	PIER 6C
R D (K)	28.3	119.7	37.2
R L (K)	31.1	52.9	28.4
IMP. (K)	6.9	11.1	5.6
R TOTAL (K)	66.3	183.7	71.2

SPANS C5 AND C6

STRESS TABLE NOTES

** F_{bu} FROM EQ. (a), P. 15 OF AASHTO 1980 GUIDE SPECIFICATIONS FOR HORIZONTALLY CURVED HIGHWAY BRIDGES.

GIRDERS GIB FOR SPANS C5 THRU C11 PROPORTIONED FOR STRENGTH TO EQUAL EXISTING INTERIOR GIRDERS AS PER A.A.S.H.T.O. ART. 3.23.2.3.4.5 AND FOR COMPARABLE STIFFNESS.

fs = PRIMARY BENDING STRESS

fw = LATERAL WARPING STRESS

F_{bu} = ALLOWABLE COMPRESSION STRESS

GIRDER GIB REACTION TABLE

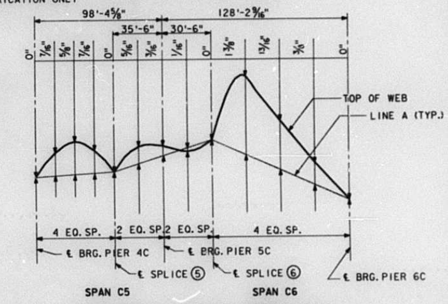
	PIER 4C	PIER 5C OR 7C	PIER 6C	PIER 8C
R D (K)	34.3	129.8	130.9	34.3
R L (K)	28.0	55.5	54.6	28.0
IMP. (K)	6.2	11.7	10.8	6.2
R TOTAL (K)	68.5	197.0	196.3	68.3

SPANS C5, C6 C7 AND C8

GIRDER GIB REACTION TABLE

	PIER 8C	PIER 9C	PIER 10C	N. ABUT.
R D (K)	30.1	144.2	79.5	12.7
R L (K)	26.3	48.5	34.1	20.4
IMP. (K)	5.8	10.1	8.0	6.1
R TOTAL (K)	62.2	202.8	121.6	39.2

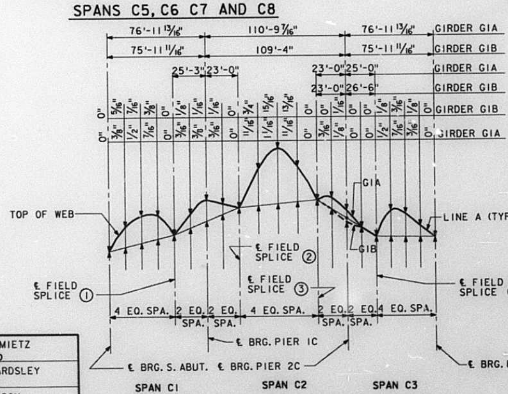
SPANS C9, C10 AND C11



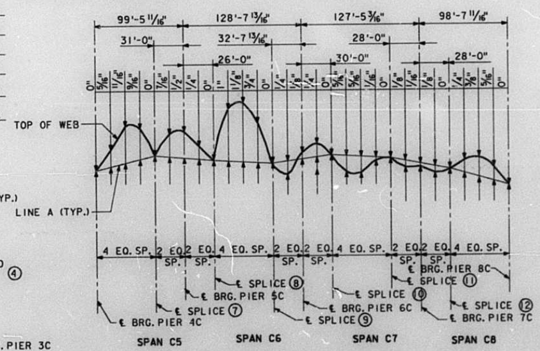
CAMBER DIAGRAM (GIRDER GIA)

NOTES

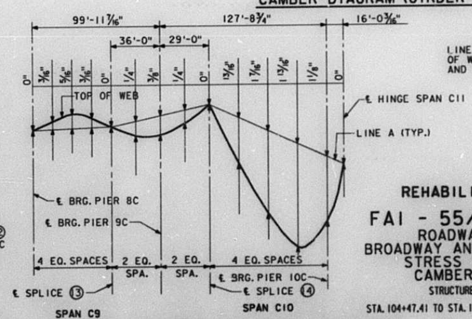
LINE A IS A STRAIGHT LINE AT TOP OF WEB PLATES BETWEEN ℄ BEARING AND FIELD SPLICES.



CAMBER DIAGRAM (GIRDER GIA & GIB)



CAMBER DIAGRAM (GIRDER GIB)



CAMBER DIAGRAM (GIRDER GIB)

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
P. NELSON	DRAWN
S. YORDY	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 4/15/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
STRESS TABLES AND
CAMBER DIAGRAMS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

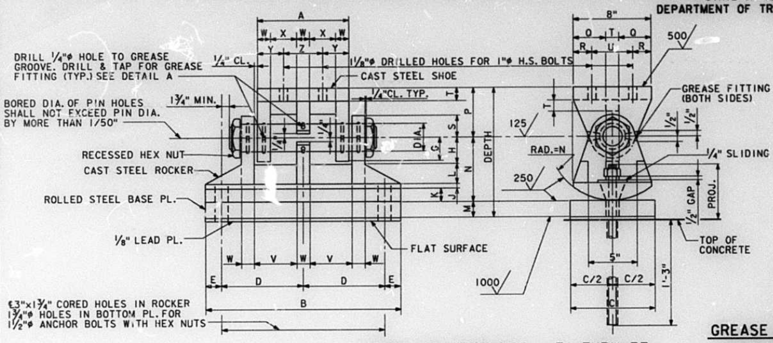
SHEET NO. 26 OF 47

35 56 63
87S381 PRF: DET72R

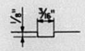
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	271
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

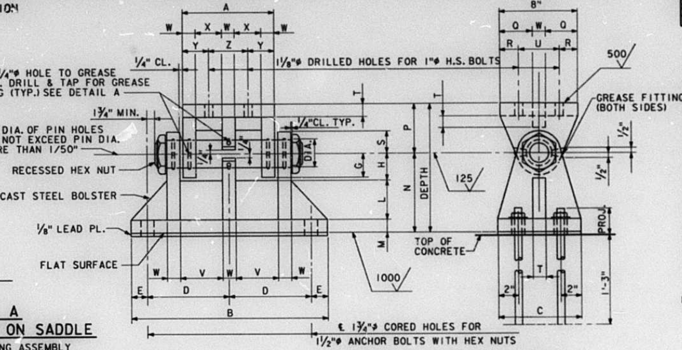


EXPANSION BEARINGS - E1 THRU E7



DETAIL A
GREASE GROOVE ON SADDLE

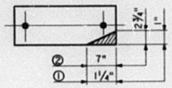
NOTE: GREASE BEARING ASSEMBLY WITH MOLYBDENUM GREASE BEFORE INSTALLATION.



FIXED BEARINGS - F1 AND F2

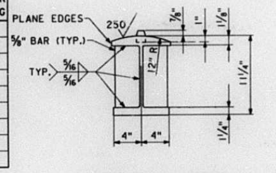
LOCATION	GIRDER	TYPE
SO. ABUT	G1A/G1B	E1
PIER 1C	G1A/G1B	E2
PIER 2C	G1A/G1B	F1
PIER 3C, SPANC3	G1A/G1B	E1
PIER 4C, SPAN C5	G1A	E7
PIER 4C, SPAN C5	G1B	E3 (1)
PIER 5C	G1A	E5
PIER 5C	G1B	E4
PIER 6C	G1B	F2
PIER 7C	G1B	E4
PIER 8C, SPAN C8	G1B	E3 (2)
PIER 8C, SPAN C9	G1B	E3 (2)
PIER 9C	G1B	E6
PIER 10C	G1B	F2

NOTE:
CUT ONE CORNER OF BASE PLATE OF BEARING E3 AS SHOWN BELOW.

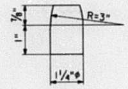


BEARING ASSEMBLY VARIABLES

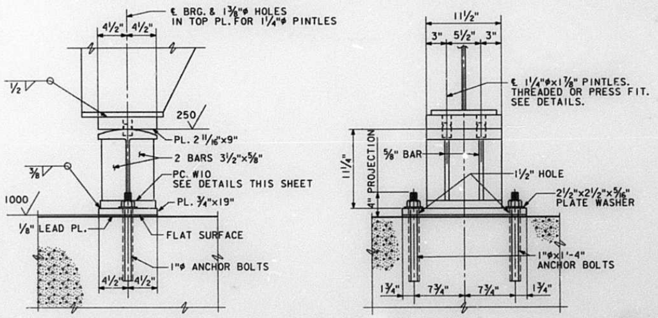
TYPE	NO. REQ'D	PROJ.	DIMENSIONS																								LBS. PER BEARING
			DEPTH	DIA.	A	B	C	D	E	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	
E1	4	6"	1'-3 1/4"	4"	1'-2"	2'-5"	8"	1'-0"	2 1/2"	3"	3 1/2"	7/16"	1 1/16"	3"	1 1/4"	8"	6"	3 1/2"	1 3/4"	3 1/4"	1"	4 1/2"	6 3/4"	1"	5 1/2"	3 3/4"	6 1/2"	444
E2	2	6"	1'-7 3/4"	4"	1'-2"	2'-7"	10"	1'-1"	2 1/2"	3"	3 1/2"	13/16"	11/16"	7"	1 3/4"	1'-0"	6"	3 1/4"	1 5/8"	3 1/4"	1 1/2"	4 3/4"	6 1/2"	1 1/2"	4 3/4"	3 7/8"	6 1/4"	705
E3	3	6"	1'-3 1/4"	4"	1'-4"	2'-7"	10"	1'-1"	2 1/2"	3"	3 1/2"	7/16"	1 1/16"	3"	1 1/4"	8"	6"	3 1/2"	1 3/4"	3 1/4"	1"	4 1/2"	7 3/4"	1"	6 1/2"	4 1/4"	7 1/2"	498
E4	2	7"	1'-8 1/4"	4 1/2"	1'-4"	2'-10"	10"	1'-2"	3"	3 1/2"	4"	13/16"	11/16"	6 1/2"	2 1/4"	1'-0"	6"	3 1/4"	1 5/8"	3 1/2"	1 1/2"	4 3/4"	7 3/8"	1 3/4"	5 3/8"	4 3/8"	7 1/4"	851
E5	1	7"	1'-8 1/4"	4"	1'-2"	2'-9"	10"	1'-2"	2 1/2"	3 1/2"	4"	13/16"	11/16"	6 1/2"	2 1/4"	1'-0"	6"	3 1/4"	1 5/8"	3 1/4"	1 1/2"	4 3/4"	6 3/8"	1 3/4"	4 3/8"	3 7/8"	6 1/4"	792
E6	1	7"	1'-9 1/4"	5"	1'-4"	2'-10"	1'-0"	1'-2"	3"	3 3/4"	4 1/4"	13/16"	11/16"	6 1/4"	2 3/4"	1'-0"	6 1/2"	3 1/4"	1 5/8"	3 3/4"	1 1/2"	4 3/4"	7 3/8"	1 3/4"	5 3/8"	4 3/8"	7 1/4"	987
E7	1	6"	1'-3 7/8"	4"	1'-2"	2'-5"	10"	1'-0"	2 [illegible]	3"	3 1/2"	7/16"	1 1/16"	3"	1 7/8"	8"	6"	3 1/2"	1 3/4"	3 1/4"	1"	4 1/2"	6 3/4"	1"	5 1/2"	3 3/4"	6 1/2"	517
F1	2	4 1/2"	1'-6"	4"	1'-2"	2'-7"	10"	1'-1"	2 1/2"	3"	3 1/2"	—	—	6 3/4"	1 3/4"	1'-0"	6"	3 1/4"	1 5/8"	3 1/4"	1 1/2"	4 3/4"	6 [illegible]	1 1/2"	4 3/4"	3 7/8"	6 1/4"	547
F2	2	4 1/2"	1'-8"	4 1/2"	1'-4"	2'-10"	1'-0"	1'-2"	3"	3 1/2"	4"	—	—	8"	2"	1'-2"	6"	3 1/4"	1 5/8"	3 1/2"	1 1/2"	4 3/4"	7 3/8"	1 3/4"	5 3/8"	4 3/8"	7 1/4"	748



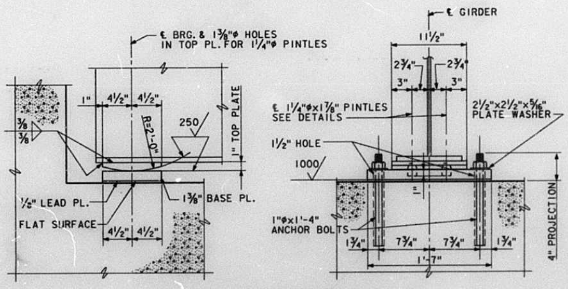
PC. W10x112 DETAILS



PINTLE DETAILS



BEARING AT PIERS 3C AND 4C (SPAN C4)
(4 REQUIRED)
(LBS. PER BEARING = 284)



BEARING AT NORTH ABUTMENT
(1 REQUIRED)
(LBS. PER BEARING = 110)

NOTES

FOR STRUCTURAL STEEL NOTES, SEE SHEET 22.

FOR MATERIAL OR PERMISSIBLE SUBSTITUTION OF BEARING ASSEMBLIES SEE GENERAL NOTES, SHEET 2.

FURNISHING OF STRUCTURAL STEEL, BEARING ASSEMBLIES AND ANCHOR BOLTS IS NOT PART OF THIS CONTRACT.

INSTALLATION AND SETTING OF BEARING ASSEMBLIES IS PART OF THIS CONTRACT. SEE SHOP DRAWINGS AND SPECIAL PROVISIONS.

SURFACE FINISHES SHOWN SHALL CONFORM TO SURFACE ROUGHNESS REQUIREMENTS AS DEFINED IN ANSI B46-1, SURFACE ROUGHNESS, WAVINESS AND LAY, PART 1.

FILLET OR PARTIAL PENETRATION WELD SHALL BE USED FOR WELDMENTS. MINIMUM WELD SIZE SHALL BE ONE-QUARTER THICKNESS OF PLATE BEING WELDED, EXCEPT MAXIMUM SIZE OF WELD NEED NOT EXCEED 3/4".

FOR ANCHOR BOLTS DETAIL SEE SHEET 28.

PINS SHALL CONFORM TO SAE 8620 MATERIAL.

R. NIEMIETZ	DESIGNED
T. DILLON	CHECKED
D. FRIERDICH	DRAWN
T. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88
REV. 8/3/87

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
BEARING DETAILS

STRUCTURE NO. 082-0011

STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 27 OF 47

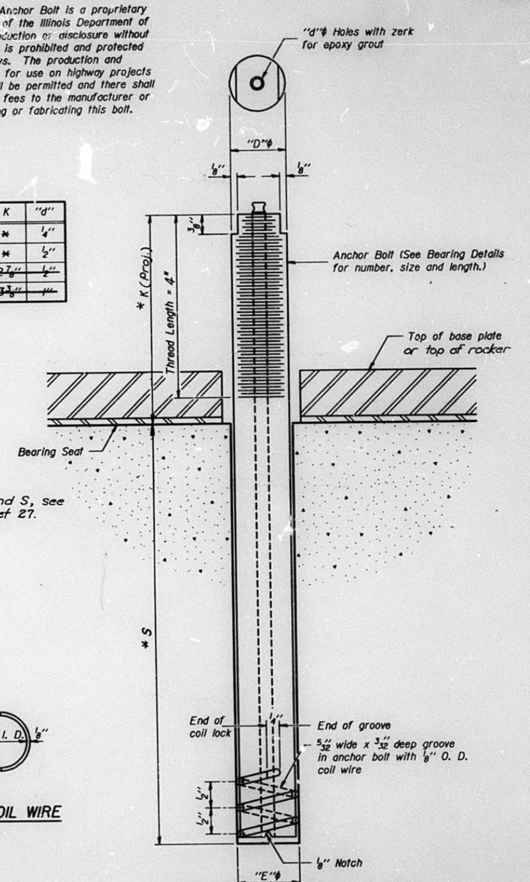
8TS593 PRF: DET73E

35 56 58 63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

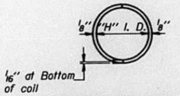
✱82-3HVB-2R-1

D	E	H	K	"d"
1"	1 1/8"	13/16"	*	1/4"
1 1/2"	1 5/8"	1 5/16"	*	1/2"
~~2"~~	~~2 1/8"~~	~~1 13/16"~~	~~2 7/8"~~	~~1/2"~~
~~2 1/2"~~	~~2 5/8"~~	~~2 5/16"~~	~~3 3/8"~~	~~1"~~



ILLINOIS COIL-LOCK ANCHOR BOLT

NOTES:
* For dimensions K and S, see Bearing Details on Sheet 27.



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 hexagonal nuts and cut washers as required.

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 comforming 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 and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat. For Expansion Bearings nut shall be finger tight.
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 on expansion bearings to obtain the required clearance between the nut and the rocker.

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 nuts 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. Combo
CHECKED	

ABB-1 12-1-83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ANCHOR BOLT DETAILS FOR BEARINGS

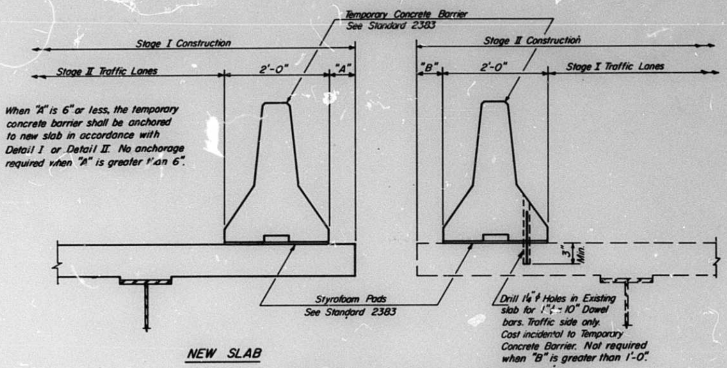
ROADWAY "C" STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 ROADWAY C
(FAI-70) ST. CLAIR CO.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	273
	ILLINOIS	PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

*82-3HVB-2R-1

When "A" is 6" or less, the temporary concrete barrier shall be anchored to new slab in accordance with Detail I or Detail II. No anchorage required when "A" is greater than 6".



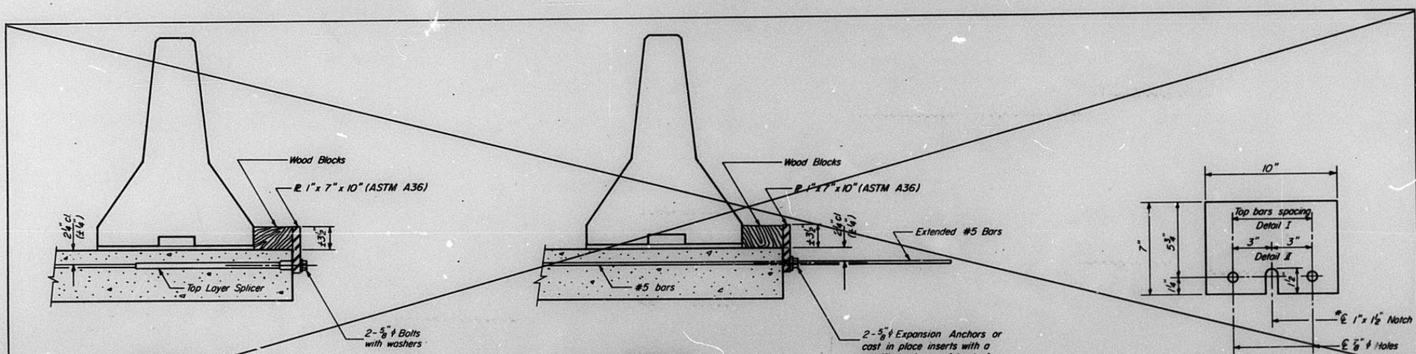
NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x 10" steel ℞ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each 10'-0" barrier panel.

Detail II - With Extended Reinforcement Bars
Connect one (1) 1" x 7" x 10" steel ℞ to the concrete slab with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each 10'-0" barrier panel.

Cost of anchorage is incidental to Temporary Concrete Barrier.

Note: For Pay Item "Temporary Concrete Barrier", see Roadway Plans.



DETAIL I

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.

DETAIL II

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

℞ 1" x 7" x 10"

* Required only with Detail II

DESIGNED	
CHECKED	
DRAWN	
CHECKED	F. A. Canba

R-27 6-15-83

7/14/83

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION

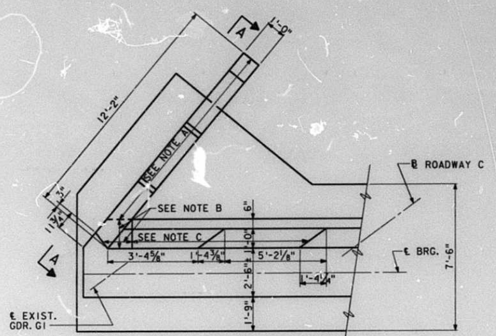
ROADWAY "B" STRUCTURE NO. 082-0010
ROADWAY "C" STRUCTURE NO. 082-0011
STA. 102+35.25 TO STA. 114+60.46 ROADWAY B
STA. 104+47.41 TO STA. 115+34.53 ROADWAY C
(FAI-70) ST. CLAIR CO.

SHEET NO. 29 OF 47

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	274

•82-3HVB-2R-1



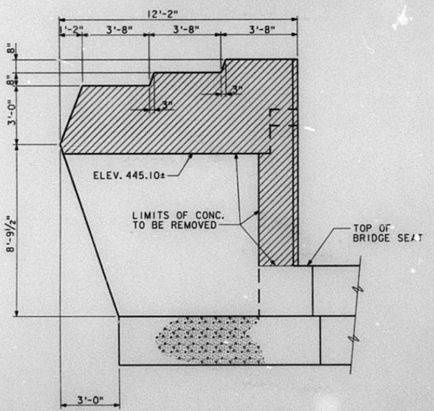
NOTE: REINF. IN CONCRETE TO BE REMOVED SHALL BE CUT OFF AT CONCRETE REMOVAL LINE EXCEPT AS OTHERWISE NOTED IN NOTES B & C. VERTICAL REINFORCEMENT IN NOTES B & C SHALL BE CUT OFF 3" BELOW TOP OF NEW BACKWALL.

PLAN - DEMOLITION

NOTE A: REMOVE WINGWALL TO BOTTOM OF APPROACH SLAB RECESS. (ELEV. 445.10±)

NOTE B: REMOVE WINGWALL AND BACKWALL TO TOP OF BRIDGE SEAT. VERTICAL & HORIZONTAL REINFORCEMENT TO REMAIN.

NOTE C: REMOVE BACKWALL TO BOTTOM OF APPROACH SLAB RECESS. VERTICAL & HORIZONTAL REINFORCEMENT TO REMAIN.



VIEW A-A

BILL OF MATERIAL	
SOUTH ABUTMENT	
CONCRETE REMOVAL	2.7 CU. YDS.

NOTES

WORK THIS SHEET WITH SHEETS 31 AND 32.

R. NIEMIETZ	DESIGNED
T.V.DILLON	CHECKED
S. KAEMMERER	DRAWN
T.V.DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SOUTH ABUTMENT MODIFICATIONS

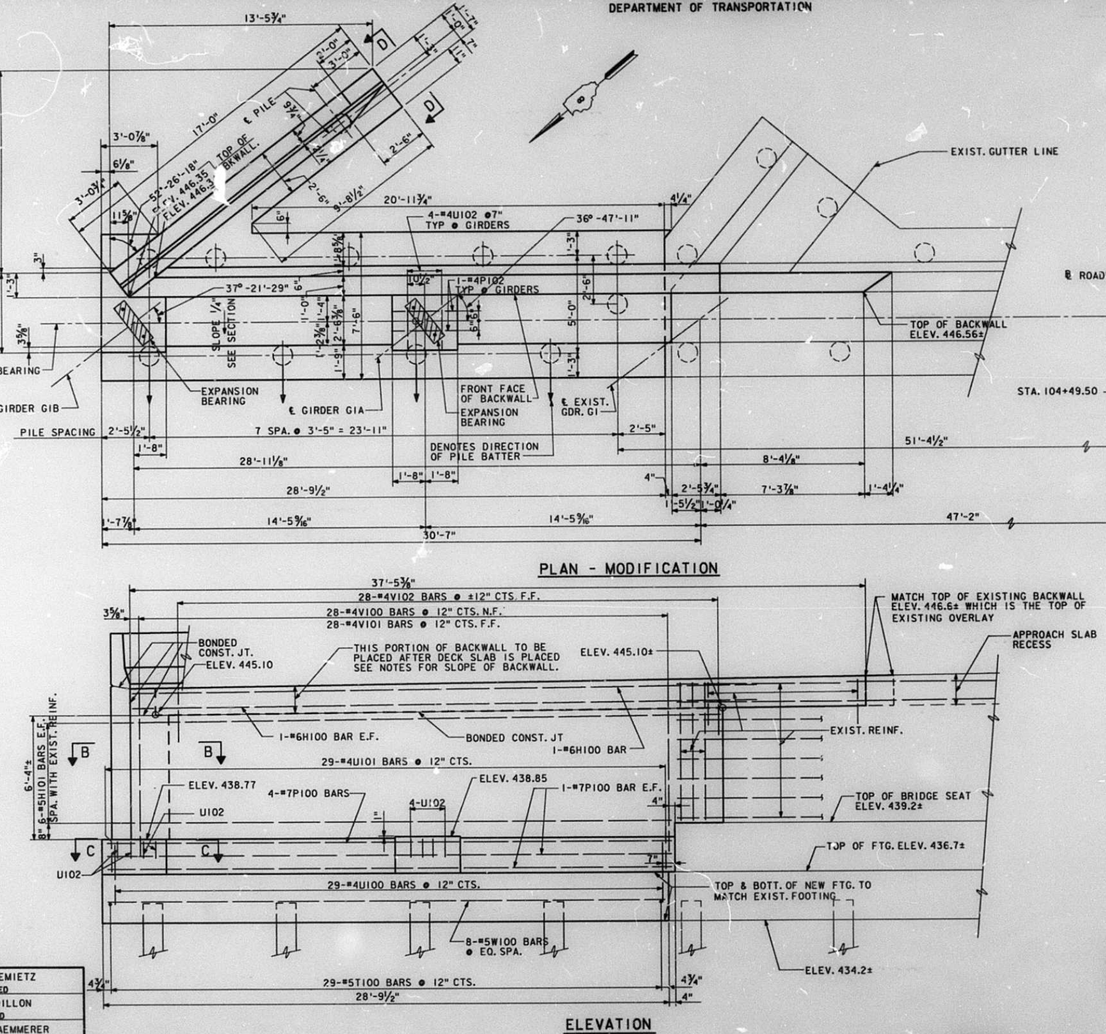
STRUCTURE NO. 082-0011

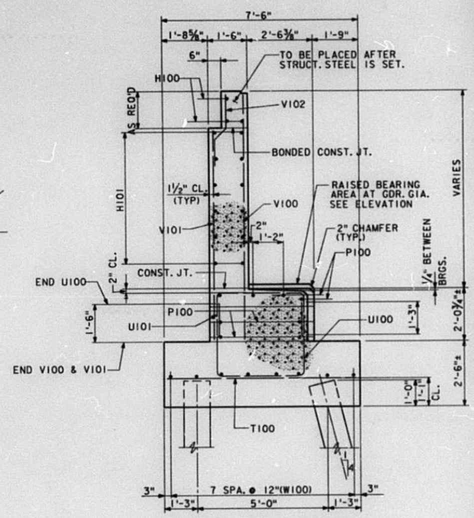
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	275

•82-3HVB-2R-1





SECTION THRU ABUTMENT

NOTES

WORK THIS SHEET WITH SHEET 32.
TOP OF BACKWALL SHALL CONFORM TO LONGITUDINAL GRADE AND CROSS SLOPE AT ROADWAY.
SPACE REINF. IN BRIDGE SEAT TO MISS DRILLED-IN ANCHOR BOLTS.
PLACE STEP MONOLITHICALLY WITH BRIDGE SEAT.
E.F. INDICATES EACH FACE.
F.F. INDICATES FAR FACE.
N.F. INDICATES NEAR FACE.

PILE DATA

TYPE: CONCRETE PILES
CAPACITY: 35 TONS
ESTIMATED LENGTH: 52 FEET
NO. REQUIRED: 11

R. NIEMIETZ	DESIGNED
T.V. DILLON	CHECKED
S. KAEMMERER	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
SOUTH ABUTMENT MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

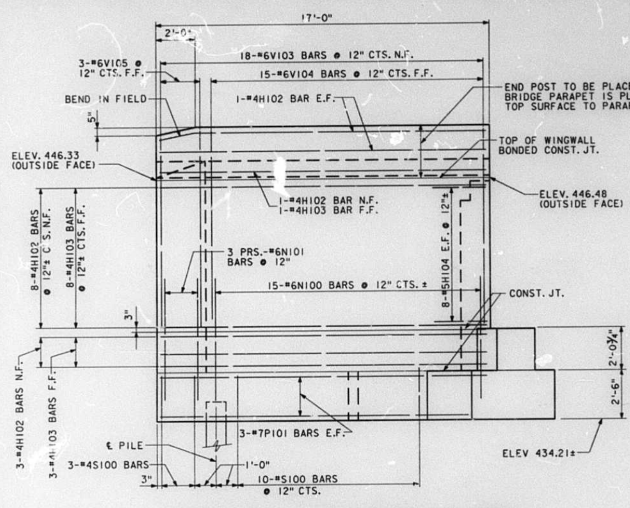
SHEET NO. 31 OF 47

87S701 PRF: DET184E 35 56 57 58 63

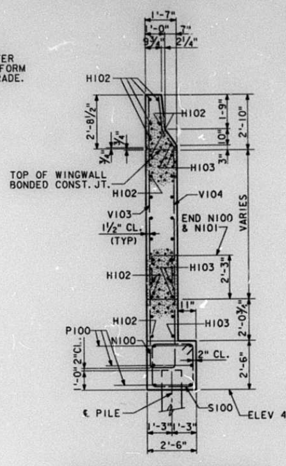
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	276
		ILLINOIS	PROJECT	

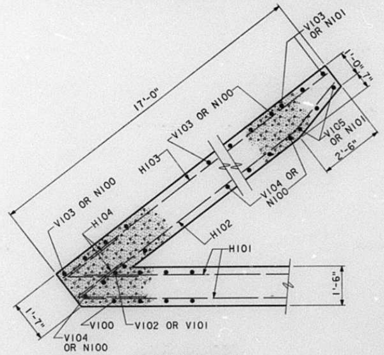
•02-3HVB-2R-1



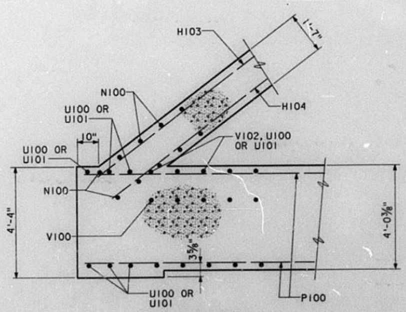
ELEVATION - OUTSIDE FACE OF WINGWALL



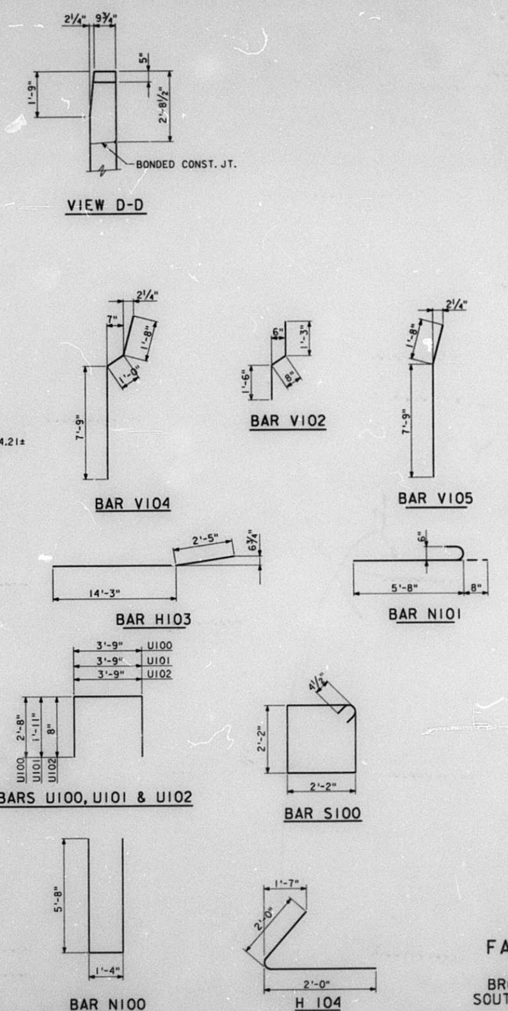
SECTION THRU WINGWALL



SECTION B-B



SECTION C-C



BILL OF MATERIAL

SOUTH ABUTMENT				
BAR	NO.	SIZE	LENGTH	SHAPE
H100	3	#5	32'-0"	
H101	12	#5	30'-0"	
H102	16	#4	16'-8"	
H103	12	#4	16'-8"	
H104	16	#5	4'-0"	
N100	15	#6	12'-8"	
N101	6	#6	6'-4"	
P100	8	#7	28'-10"	
P101	6	#7	15'-11"	
P102	4	#4	4'-0"	
S100	13	#4	9'-5"	
T100	29	#5	7'-0"	
U100	29	#4	9'-1"	
U101	29	#4	7'-7"	
U102	8	#4	5'-1"	
V100	28	#4	7'-4"	
V101	28	#4	6'-2"	
V102	28	#4	3'-5"	
V103	18	#6	9'-8"	
V104	15	#6	10'-5"	
V105	3	#6	9'-5"	
W100	8	#5	28'-3"	
CLASS X CONCRETE			CU. YDS.	54.7
REINFORCEMENT BARS			LBS.	3608
FURNISHING CONC. PILES			LIN. FT.	572
DRIVING CONC. PILES			LIN. FT.	572
STRUCTURE EXCAVATION			CU. YD.	149

NOTES

WORK THIS SHEET WITH SHEET 31.

R. NIEMIETZ
DESIGNED
T.V.DILLON
CHECKED
S. KAEMMERER
DRAWN
T.V.DILLON
CHECKED

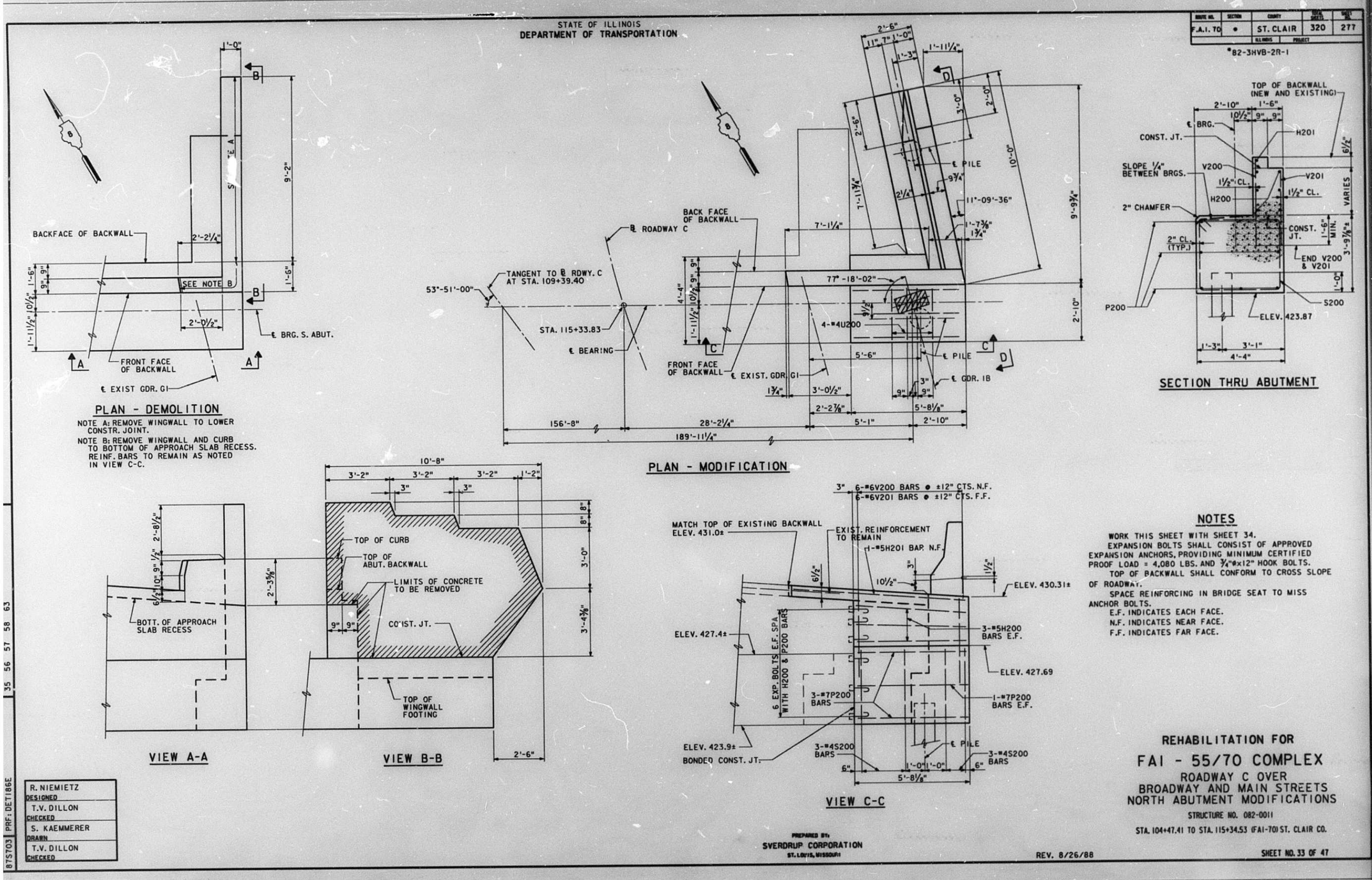
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX

ROADWAY C OVER
BROADWAY AND MAIN STREETS
SOUTH ABUTMENT MODIFICATIONS

STRUCTURE NO. 082-0011

STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

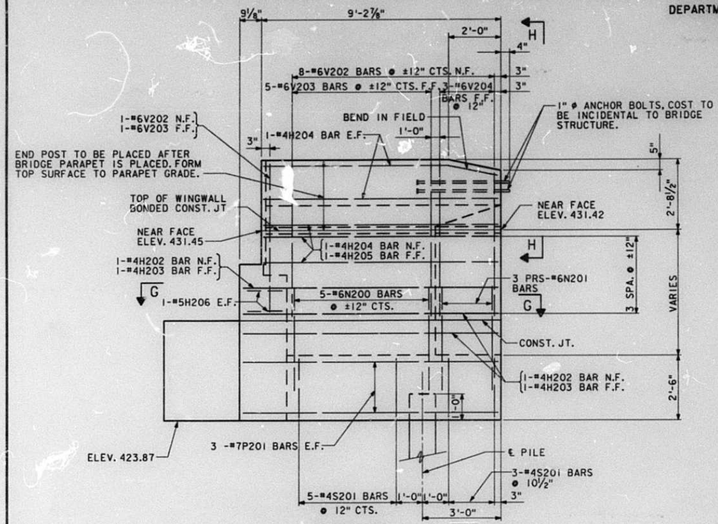


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70 | ST. CLAIR | 320 | 277
82-3HVB-2R-1
PLAN - DEMOLITION
NOTE A: REMOVE WINGWALL TO LOWER CONSTR. JOINT.
NOTE B: REMOVE WINGWALL AND CURB TO BOTTOM OF APPROACH SLAB RECESS. REINF. BARS TO REMAIN AS NOTED IN VIEW C-C.
BACKFACE OF BACKWALL
SEE NOTE B
FRONT FACE OF BACKWALL
℄ EXIST GDR. G1
℄ BRG. S. ABUT.
PLAN - MODIFICATION
TANGENT TO ℄ RDWY. C AT STA. 109+39.40
℄ ROADWAY C
STA. 115+33.83
℄ BEARING
BACK FACE OF BACKWALL
FRONT FACE OF BACKWALL
℄ EXIST. GDR. G1
℄ PILE
℄ GDR. 1B
4-#4U200
77°-18'-02"
11°-09'-36"
53°-51'-00"
156'-8"
28'-2 1/4"
189'-11 1/4"
SECTION THRU ABUTMENT
TOP OF BACKWALL (NEW AND EXISTING)
CONST. JT.
SLOPE 1/4" BETWEEN BRGS.
2" CHAMFER
2" CL. (TYP.)
END V200 & V201
ELEV. 423.87
VIEW A-A
BOTT. OF APPROACH SLAB RECESS
VIEW B-B
TOP OF CURB
TOP OF ABUT. BACKWALL
LIMITS OF CONCRETE TO BE REMOVED
CONST. JT.
TOP OF WINGWALL FOOTING
VIEW C-C
6-#6V200 BARS @ ±12" CTS. N.F.
6-#6V201 BARS @ ±12" CTS. F.F.
MATCH TOP OF EXISTING BACKWALL ELEV. 431.0±
EXIST. REINFORCEMENT TO REMAIN
1-#5H201 BAR N.F.
ELEV. 430.31±
ELEV. 427.4±
3-#5H200 BARS E.F.
ELEV. 427.69
6 EXP. BOLTS E.F. SPA. WITH H200 & P200 BARS
3-#7P200 BARS
1-#7P200 BARS E.F.
ELEV. 423.9±
BONDED CONST. JT.
3-#4S200 BARS
NOTES
WORK THIS SHEET WITH SHEET 34.
EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS. AND 3/4"⌀×12" HOOK BOLTS.
TOP OF BACKWALL SHALL CONFORM TO CROSS SLOPE OF ROADWAY.
SPACE REINFORCING IN BRIDGE SEAT TO MISS ANCHOR BOLTS.
E.F. INDICATES EACH FACE.
N.F. INDICATES NEAR FACE.
F.F. INDICATES FAR FACE.
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
NORTH ABUTMENT MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
REV. 8/26/88
SHEET NO. 33 OF 47
R. NIEMIETZ DESIGNED
T.V. DILLON CHECKED
S. KAEMMERER DRAWN
T.V. DILLON CHECKED
87S703 PRF: DET186E

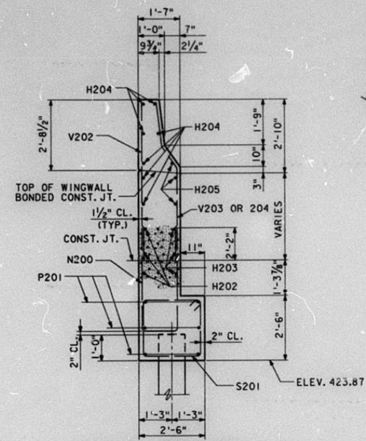
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	278
		ILLINOIS	PROJECT	

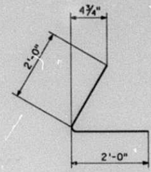
*82-3HVB-2R-1



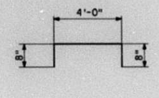
VIEW D-D



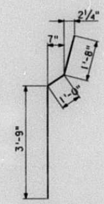
SECTION THRU WINGWALL



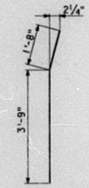
BAR H206



BAR V200



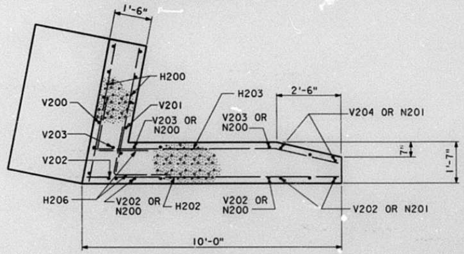
BAR V203



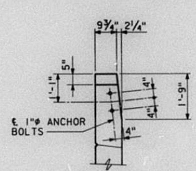
BAR V204

BILL OF MATERIAL

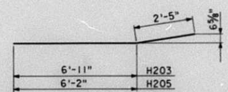
NORTH ABUTMENT				
BAR	NO.	SIZE	LENGTH	SHAPE
H200	6	#5	5'-5"	
H201	1	#5	8'-5"	
H202	3	#4	9'-8"	
H203	3	#4	9'-4"	
H204	7	#4	8'-9"	
H205	3	#4	8'-7"	
H206	4	#5	4'-0"	
N200	5	#6	11'-0"	
N201	6	#6	5'-6"	
P200	8	#7	5'-5"	
P201	6	#7	10'-0"	
S200	5	#4	15'-8"	
S201	8	#4	9'-5"	
V200	6	#6	4'-4"	
V201	6	#6	3'-10"	
V202	9	#6	6'-3"	
V203	6	#6	6'-5"	
V204	3	#6	5'-5"	
U200	4	#4	5'-4"	
CLASS X CONCRETE			CU. YDS.	10.0
REINFORCEMENT BARS			LBS.	857
CONCRETE REMOVAL			CU. YDS.	2.5
FURNISHING CONCRETE PILES			LIN. FT.	100
DRIVING CONCRETE PILES			LIN. FT.	100
EXPAN. BOLTS 3/4"ϕx12"			EACH	12
STRUCTURE EXCAVATION			CU.YDS.	29



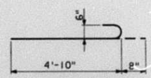
SECTION G-G



VIEW H-H



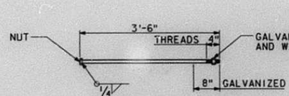
BARS H203 & H205



BAR N201

NOTES

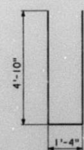
WORK THIS SHEET WITH SHEET 33.



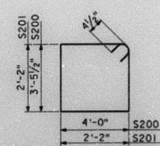
1" ϕ ANCHOR BOLT
(2 REQUIRED)

PILE DATA

TYPE: CONCRETE
REQUIRED CAPACITY: 35 TONS
ESTIMATE LENGTH: 50 FT.
NO. REQUIRED: 2



BAR N200



BARS S200 & S201

R. NIEMIETZ	DESIGNED
T.V.DILLON	CHECKED
S. KAEMMERER	DRAWN
T.V.DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
NORTH ABUTMENT MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 34 OF 47

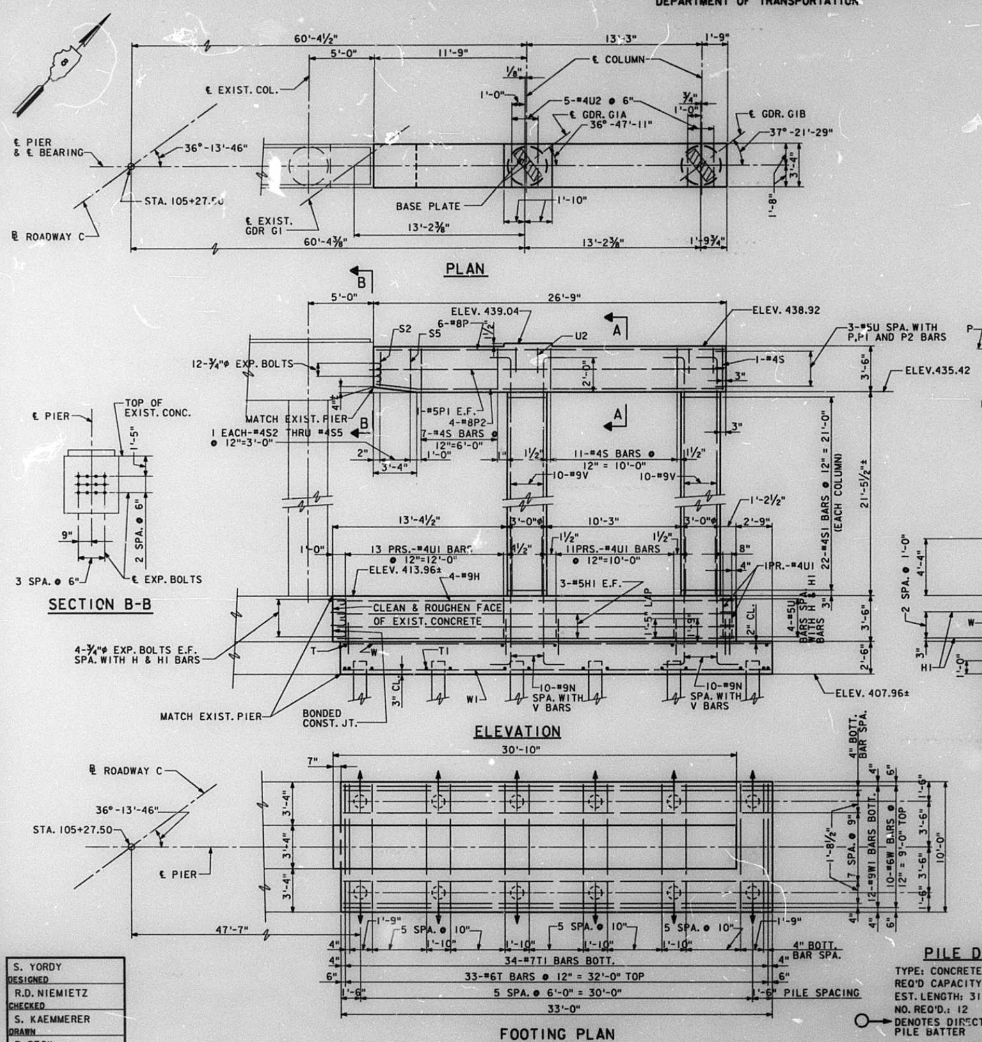
87S704 PRF: DET187E

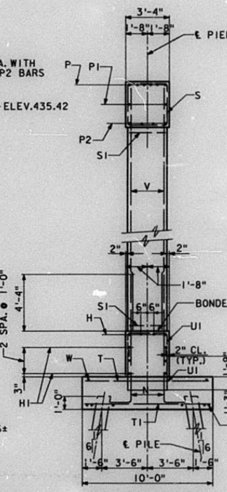
35 56 57 58 63

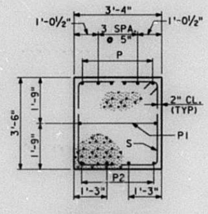
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

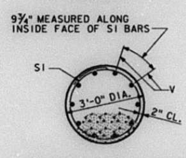
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	279
		ILLINOIS	PROJECT	

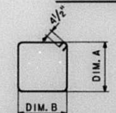
•82-3HVB-2R-1





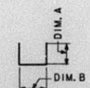






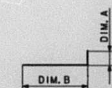
BAR	DIM. A	DIM. B
S	3'-2"	3'-0"
S2	2'-10¼"	3'-0"
S3	2'-11½"	3'-0"
S4	3'-0½"	3'-0"
S5	3'-1¾"	3'-0"

BARS S, S2, S3, S4 & S5



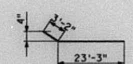
BARS U, U1 & U2

BAR	DIM. A	DIM. B
U	10"	2'-11"
U1	3'-0"	3'-0"
U2	1'-9"	3'-0"

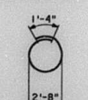


BARS N & V

BAR	DIM. A	DIM. B
N	1'-7"	9'-11"
V	1'-7"	23'-6"



BAR P2



BAR S1

BILL OF MATERIAL

PIER 1C				
BAR	NO.	SIZE	LENGTH	SHAPE
H	4	#9	30'-6"	
H1	6	#5	30'-6"	
N	20	#9	11'-6"	
P	6	#8	26'-5"	
P1	2	#5	26'-5"	
P2	4	#8	26'-5"	
S	19	#4	13'-1"	
S1	44	#4	9'-9"	
S2	1	#4	12'-6"	
S3	1	#4	12'-8"	
S4	1	#4	12'-10"	
S5	1	#4	13'-1"	
T	33	#6	9'-6"	
T1	34	#7	9'-6"	
U	7	#5	4'-7"	
U1	52	#4	9'-0"	
U2	10	#4	6'-6"	
V	20	#9	25'-1"	
W	10	#6	32'-6"	
W1	12	#9	32'-6"	

CLASS X CONCRETE	CU. YDS.	66.3
REINFORCEMENT BARS	LBS.	7675
STRUCTURE EXCAVATION	CU. YDS.	70
FURNISHING CONC. PILES	LIN. FT.	372
DRIVING CONCRETE PILES	LIN. FT.	372
EXPAN. BOLTS ¾"ϕx12"	EACH	20

PILE DATA

TYPE: CONCRETE
REQ'D CAPACITY: 45 TONS
EST. LENGTH: 31 FT.
NO. REQ'D.: 12
O→ DENOTES DIRECTION OF PILE BATTER

NOTES

E.F. INDICATES EACH FACE.
EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD =4,080 LBS. AND ¾" ϕx12" HOOKED BOLTS.
SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.
LOCATE HORIZONTAL LEG OF V BARS TO MAINTAIN A CLEARANCE OF 3" FROM FACE OF CONCRETE.

S. YORDY	DESIGNED
R.D. NIEMIETZ	CHECKED
S. KAEMMERER	DRAWN
R. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PIER 1C MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

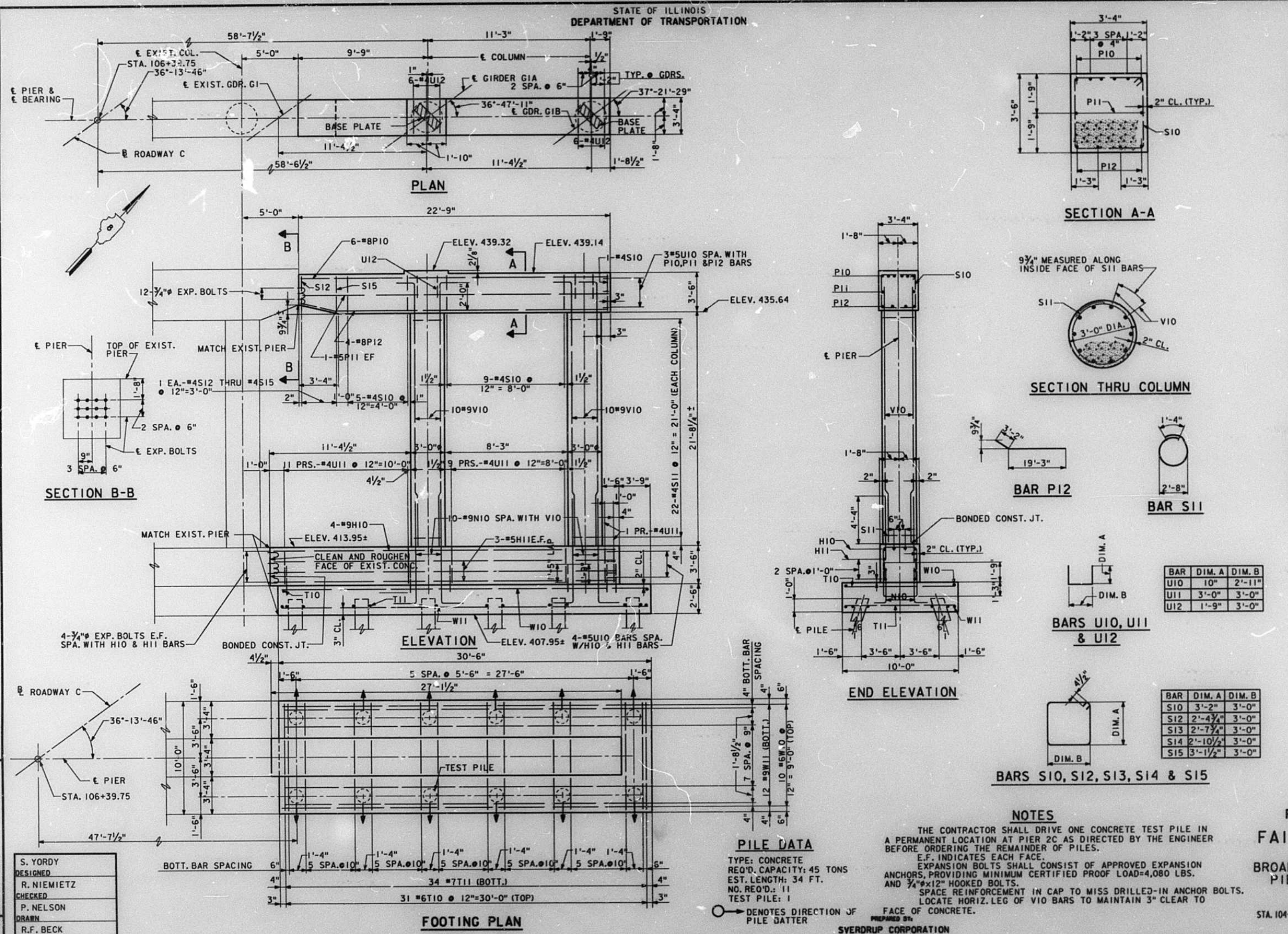
REV. 8/26/88

87S705 PRF: DET188E

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	280
		ILLINOIS	PROJECT	

•82-3HVB-2R-1



BILL OF MATERIAL

PIER 2C				
BAR	NO.	SIZE	LENGTH	SHAPE
H10	4	#9	26'-9"	
H11	6	#5	26'-9"	
N10	20	#9	11'-6"	
P10	6	#8	22'-5"	
P11	2	#5	22'-5"	
P12	4	#8	22'-5"	
S10	15	#4	13'-1"	
S11	44	#4	9'-9"	
S12	1	#4	11'-7"	
S13	1	#4	12'-1"	
S14	1	#4	12'-6"	
S15	1	#4	13'-0"	
T10	31	#6	9'-6"	
T11	34	#7	9'-6"	
U10	7	#5	4'-7"	
U11	44	#4	9'-0"	
U12	12	#4	6'-6"	
V10	20	#9	25'-3"	
W10	10	#6	30'-0"	
W11	12	#9	30'-0"	

CLASS X CONCRETE	CU. YDS.	60.7
REINFORCEMENT BARS	LBS.	7253
STRUCTURE EXCAVATION	CU. YDS.	65
FURNISHING CONC. PILES	LIN. FT.	374
DRIVING CONCRETE PILES	LIN. FT.	374
CONCRETE TEST PILE	EACH	1
EXPAN. BOLTS 3/4"φx12"	EACH	20

BARS U10, U11 & U12

BAR	DIM. A	DIM. B
U10	10"	2'-11"
U11	3'-0"	3'-0"
U12	1'-9"	3'-0"

BARS N10 & V10

BAR	DIM. A	DIM. B
N10	1'-7"	9'-11"
V10	1'-7"	23'-8"

BARS S10, S12, S13, S14 & S15

BAR	DIM. A	DIM. B
S10	3'-2"	3'-0"
S12	2'-4 3/4"	3'-0"
S13	2'-7 3/4"	3'-0"
S14	2'-10 1/2"	3'-0"
S15	3'-1 1/2"	3'-0"

PILE DATA

TYPE: CONCRETE
REQ'D. CAPACITY: 45 TONS
EST. LENGTH: 34 FT.
NO. REQ'D.: 11
TEST PILE: 1

⊙→ DENOTES DIRECTION OF PILE BATTER

NOTES

THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE IN A PERMANENT LOCATION AT PIER 2C AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

E.F. INDICATES EACH FACE.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD=4,080 LBS. AND 3/4"φx12" HOOKED BOLTS.

SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.

LOCATE HORIZ. LEG OF V10 BARS TO MAINTAIN 3" CLEAR TO FACE OF CONCRETE.

S. YORDY	DESIGNED
R. NIEMIETZ	CHECKED
P. NELSON	DRAWN
R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER BROADWAY AND MAIN STREETS PIER 2C MODIFICATIONS

STRUCTURE NO. 082-0011

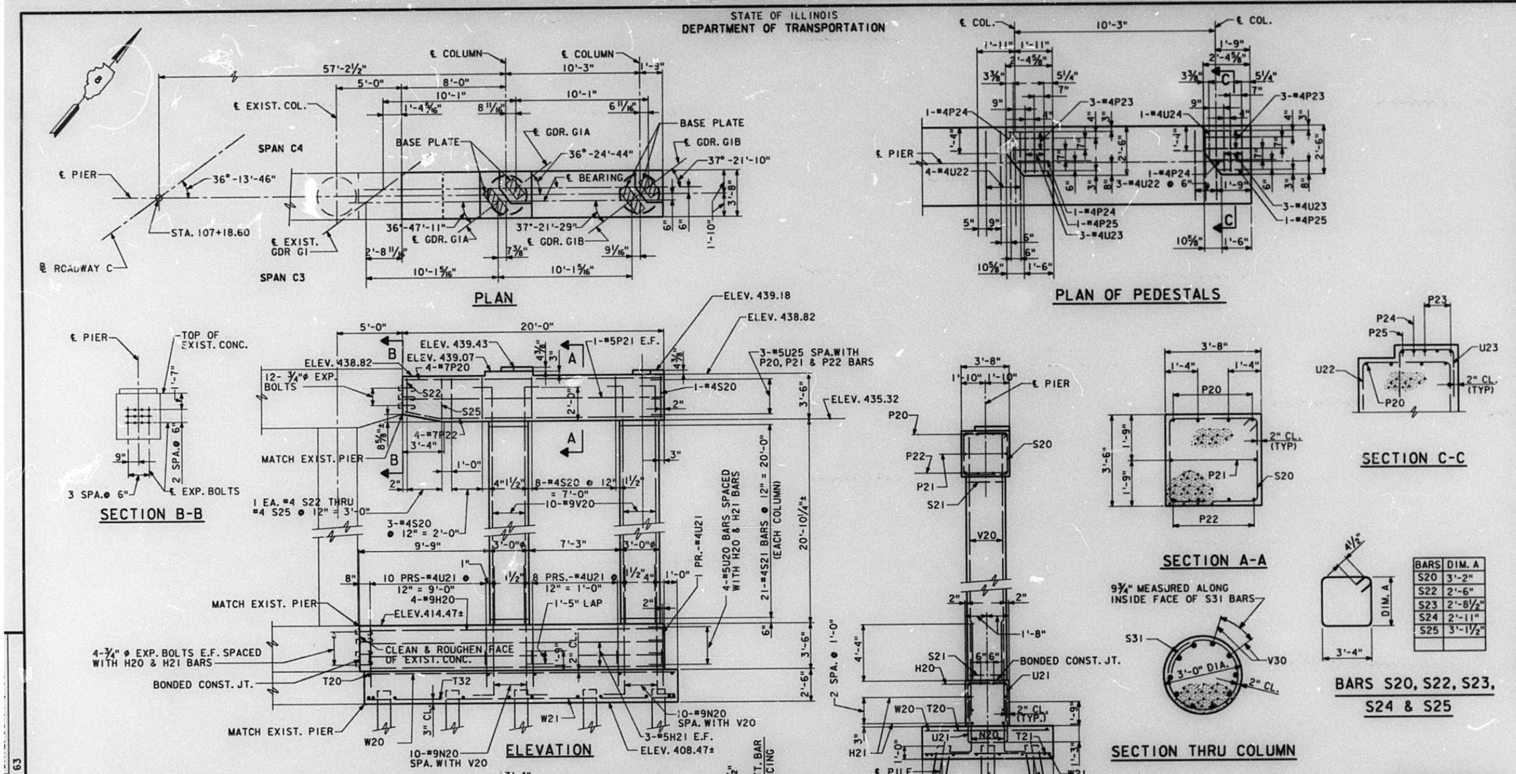
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

87S706 PRF: DET189E 35 56 57

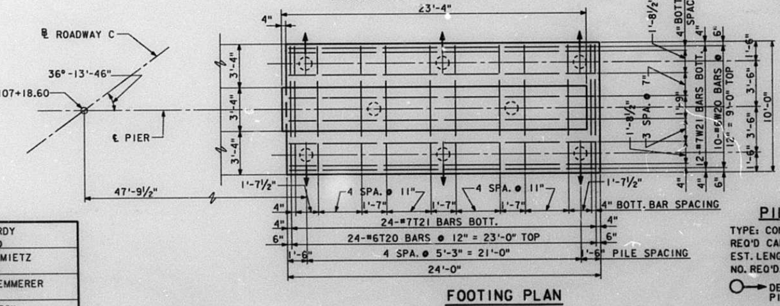
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	281
		ILLINOIS	PROJECT	

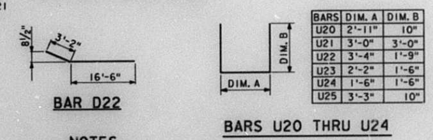
*E2-3HVB-2R-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BARS	DIM. A
S20	3'-2"
S22	2'-6"
S23	2'-8 1/2"
S24	2'-11"
S25	3'-1 1/2"



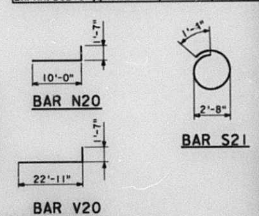


BARS	DIM. A	DIM. B
U20	2'-11"	10"
U21	3'-0"	3'-0"
U22	3'-4"	1'-9"
U23	2'-2"	1'-6"
U24	1'-6"	1'-6"
U25	3'-3"	10"

BILL OF MATERIAL

PIER 3C				
BAR	NO.	SIZE	LENGTH	SHAPE
H20	4	#9	23'-0"	
H21	6	#5	23'-0"	
N20	20	#9	11'-7"	
P20	4	#7	19'-8"	
P21	2	#5	19'-8"	
P22	4	#7	19'-8"	
P23	6	#4	2'-0"	
P24	2	#4	1'-10"	
P25	2	#4	1'-6"	
S20	12	#4	13'-9"	
S21	42	#4	9'-9"	
S22	1	#4	12'-5"	
S23	1	#4	12'-10"	
S24	1	#4	13'-3"	
S25	1	#4	13'-8"	
T20	24	#6	9'-6"	
T21	24	#7	9'-6"	
U20	4	#5	4'-7"	
U21	38	#4	9'-0"	
U22	7	#4	6'-10"	
U23	6	#4	5'-2"	
U24	2	#4	4'-6"	
U25	3	#5	4'-11"	
V20	20	#9	24'-6"	
W20	10	#6	23'-6"	
W21	12	#7	23'-6"	

CLASS X CONCRETE	CU. YDS.	53.3
REINFORCEMENT BARS	LBS.	5763
STRUCTURE EXCAVATION	CU. YDS.	41
FURNISHING CONCRETE PILES	LIN.FT.	272
DRIVING CONCRETE PILES	LIN.FT.	272
EXPAN. BOLTS 3/4"ϕx12"	EACH	20



PILE DATA

TYPE: CONCRETE
REQ'D CAPACITY: 45 TONS
EST. LENGTH: 34 FT.
NO. REQ'D.: 8

○→ DENOTES DIRECTION OF PILE BATTER

NOTES

E.F. INDICATES EACH FACE.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD=4,080 LBS. AND 3/4" ϕx12" HOOKED BOLTS.

SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.

LOCATE HORIZONTAL LEG OF V20 BARS TO MAINTAIN A CLEARANCE OF 3" FROM FACE OF CONCRETE

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PIER 3C MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

S. YORDY	DESIGNED
R. NIEMIETZ	CHECKED
S. KAEMMERER	DRAWN
R.F. BECK	CHECKED

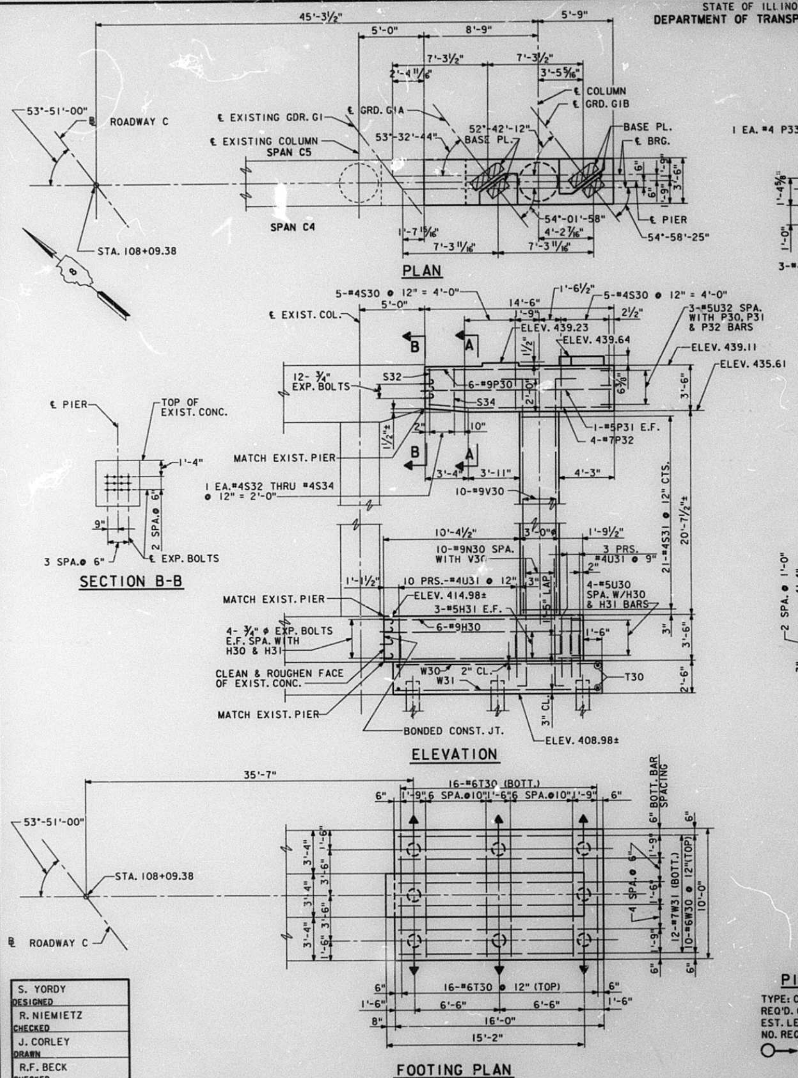
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	282
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

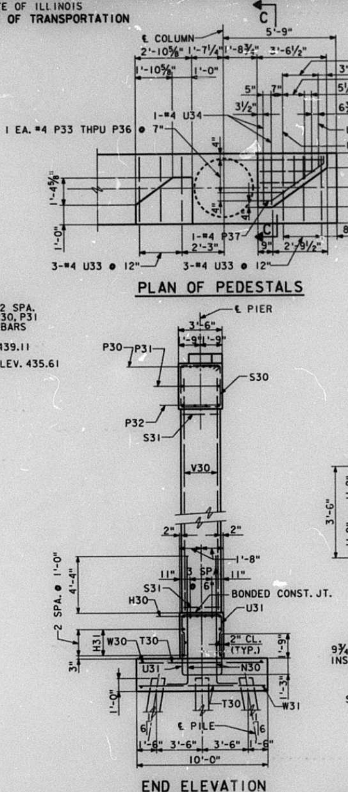


PLAN

ELEVATION

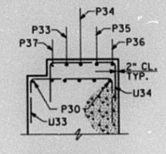
SECTION B-B

FOOTING PLAN

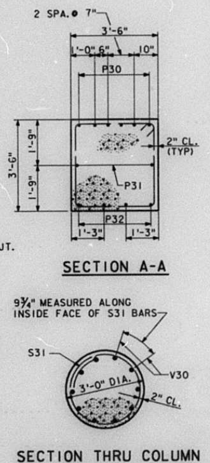


PLAN OF PEDESTALS

END ELEVATION

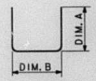


SECTION C-C



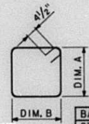
SECTION A-A

SECTION THRU COLUMN



BAR	DIM. A	DIM. B
U30	10"	2'-11"
U31	3'-0"	3'-0"
U32	10"	3'-1"
U33	1'-9"	3'-2"
U34	1'-6"	2'-5"
U35	1'-6"	2'-0¼"
U36	1'-6"	1'-8"
U37	1'-6"	1'-3¾"
U38	1'-6"	1'-0"
U39	1'-6"	7½"

BARS U30 THRU U39

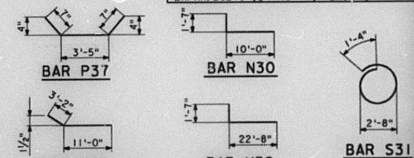


BAR	DIM. A	DIM. B
S30	3'-2"	3'-2"
S32	3'-0½"	3'-2"
S33	3'-1"	3'-2"
S34	3'-1½"	3'-2"

BARS S30,S32,S33 & S34

BILL OF MATERIAL

PIER 4C				
BAR	NO.	SIZE	LENGTH	SHAPE
H30	6	#9	14'-10"	
H31	6	#5	14'-10"	
N30	10	#9	11'-7"	
P30	6	#9	14'-2"	
P31	2	#5	14'-2"	
P32	4	#7	14'-2"	
P33	1	#4	1'-4"	
P34	1	#4	2'-2"	
P35	1	#4	3'-0"	
P36	1	#4	3'-3"	
P37	1	#4	4'-7"	
S30	10	#4	13'-5"	
S31	21	#4	9'-9"	
S32	1	#4	13'-2"	
S33	1	#4	13'-3"	
S34	1	#4	13'-4"	
T30	32	#6	9'-6"	
U30	4	#5	4'-7"	
U31	26	#4	9'-0"	
U32	3	#5	4'-9"	
U33	6	#4	6'-8"	
U34	2	#4	5'-5"	
U35	1	#4	5'-0"	
U36	1	#4	4'-8"	
U37	1	#4	4'-4"	
U38	1	#4	4'-0"	
U39	1	#4	3'-8"	
V30	10	#9	24'-3"	
W30	10	#6	15'-6"	
W31	12	#7	15'-6"	
CLASS X CONCRETE			CU. YDS.	33.2
REINFORCEMENT BARS			LBS.	3621
STRUCTURE EXCAVATION			CU. YDS.	26
FURNISHING CONC. PILES			LIN. FT.	216
DRIVING CONC. PILES			LIN. FT.	216
EXPAN. BOLTS ¾"φ×12"			EACH	20



BAR P37 BAR N30 BAR S31 BAR P32 BAR V30

PILE DATA

TYPE: CONCRETE
REQ'D. CAPACITY: 35 TONS
EST. LENGTH: 27 FEET
NO. REQ'D.: 8

○⟶ DENOTES DIRECTION OF PILE BATTER

NOTES

E.F. INDICATES EACH FACE.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED LOAD = 4,080 LBS. AND ¾" φ×12" HOOKED BOLTS.

SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.

LOCATE HORIZ. LEG OF V30 BARS TO MAINTAIN 3" CL. TO FACE OF CONCRETE.

S. YORDY
DESIGNED
R. NIEMIETZ
CHECKED
J. CORLEY
DRAWN
R.F. BECK
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

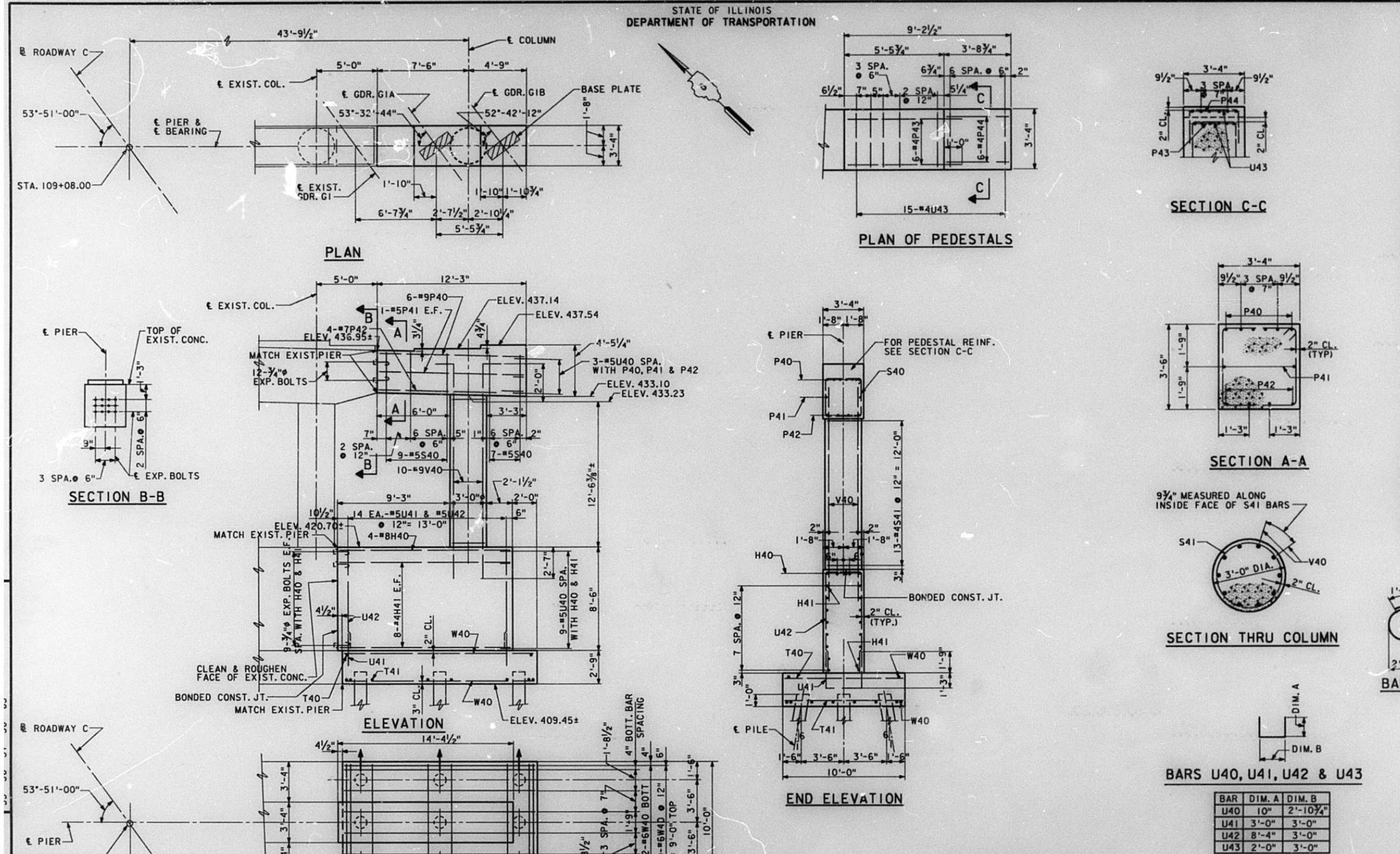
REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PIER 4C MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	283
		ILLINOIS	PROJECT	

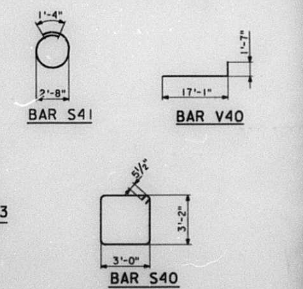
•82-3HVB-2R-1

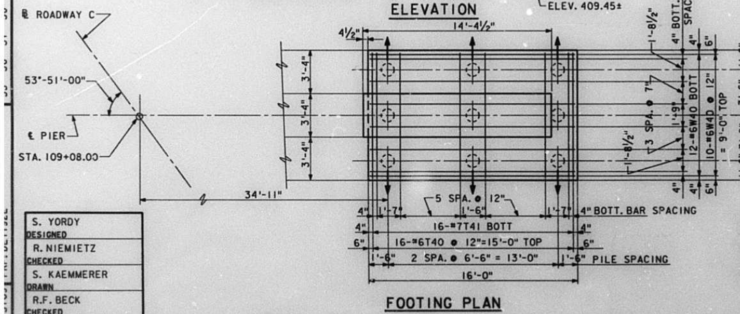


BAR	DIM. A	DIM. B
U40	10"	2'-10¾"
U41	3'-0"	3'-0"
U42	8'-4"	3'-0"
U43	2'-0"	3'-0"

BILL OF MATERIAL

PIER 5C				
BAR	NO.	SIZE	LENGTH	SHAPE
H40	4	#8	14'-0"	
H41	16	#4	14'-0"	
P40	6	#9	12'-0"	
P41	2	#5	12'-0"	
P42	4	#7	12'-0"	
P43	6	#4	6'-4"	
P44	6	#4	3'-5"	
S40	16	#5	13'-3"	
S41	13	#4	9'-9"	
T40	16	#6	9'-6"	
T41	16	#7	9'-6"	
U40	12	#5	4'-7"	
U41	14	#5	9'-0"	
U42	14	#5	19'-8"	
U43	15	#4	7'-0"	
V40	10	#9	18'-8"	
W40	22	#6	15'-6"	
CLASS X CONCRETE			CU. YDS.	40.3
REINFORCEMENT BARS			LBS.	3244
STRUCTURE EXCAVATION			CU. YDS.	32
FURNISHING CONCRETE PILES			LIN.FT.	288
DRIVING CONCRETE PILES			LIN.FT.	288
EXPAN. BOLTS ¾"φx12"			EACH	30





PILE DATA
TYPE: CONCRETE
REQ'D CAPACITY: 45 TONS
EST. LENGTH: 32 FT.
NO. REQ'D.: 9
→ DENOTES DIRECTION OF PILE BATTER

NOTES

E.F. INDICATES EACH FACE.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD=4,080 LBS. AND ¾" φx12" HOOKED BOLTS.

SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.

LOCATE HORIZONTAL LEG OF V40 BARS TO MAINTAIN A CLEARANCE OF 3" FROM FACE OF CONCRETE.

S. YORDY	DESIGNED
R. NIEMIETZ	CHECKED
S. KAEMMERER	DRAWN
R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

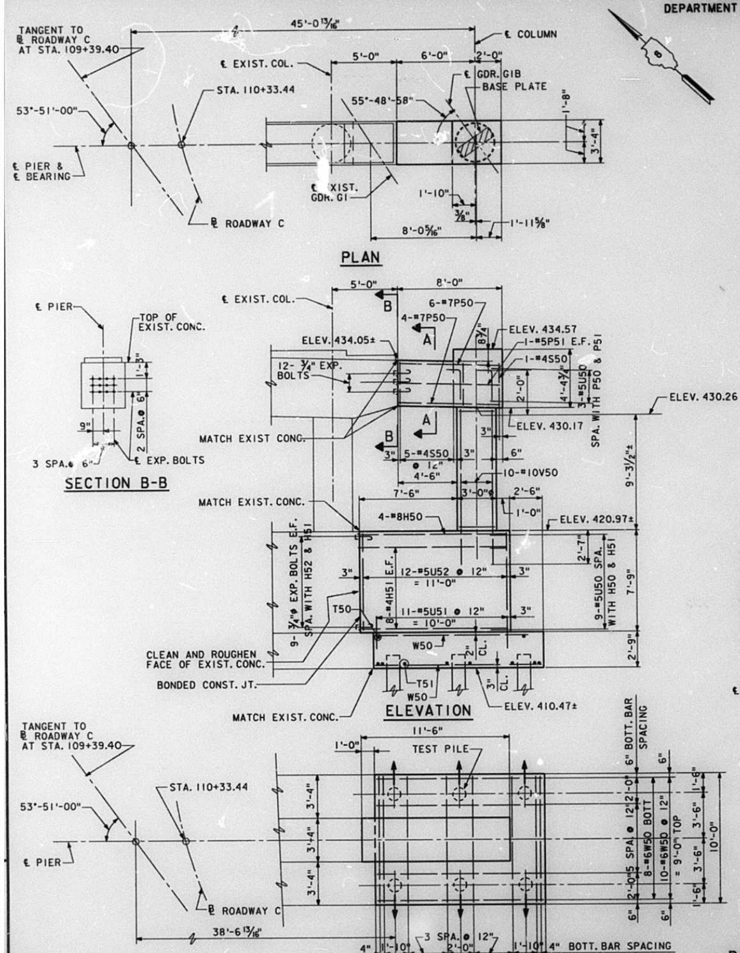
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PIER 5C MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

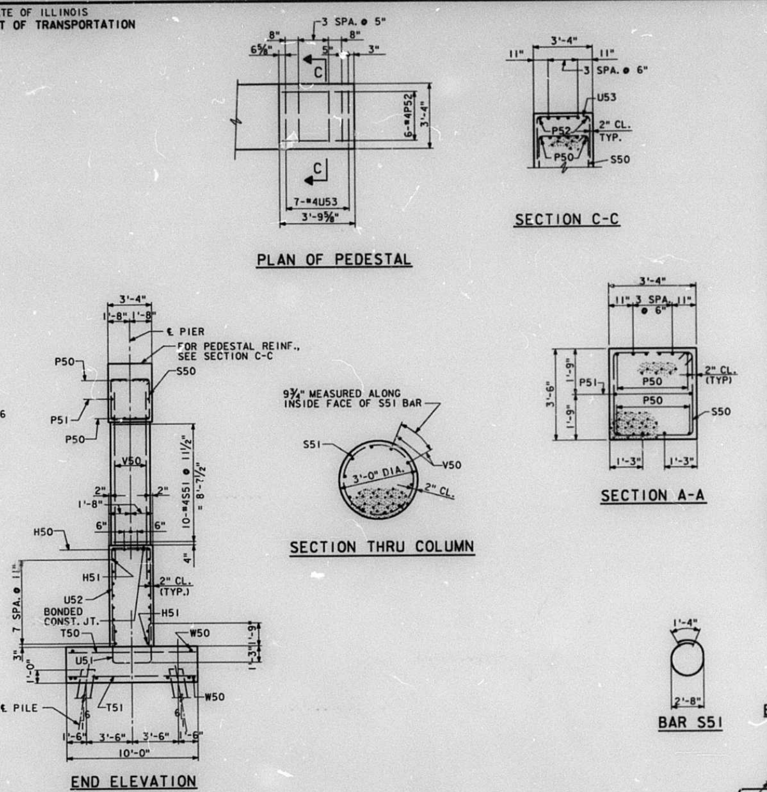
SHEET NO. 39 OF 47

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	284
		ILLINOIS	PROJECT	

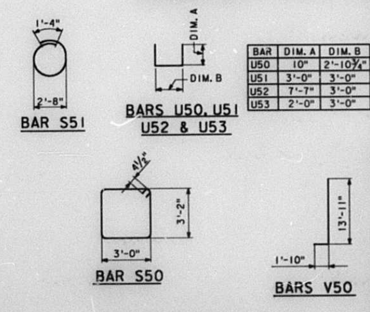
*82-3HVB-2R-1





BILL OF MATERIAL

PIER 6C				
BAR	NO.	SIZE	LENGTH	SHAPE
H50	4	#8	11'-2"	
H51	16	#4	11'-2"	
P50	10	#7	7'-8"	
P51	2	#5	7'-8"	
P52	6	#4	3'-5"	
S50	6	#4	13'-1"	
S51	10	#4	9'-9"	
T50	13	#6	9'-6"	
T51	12	#8	9'-6"	
U50	12	#5	4'-7"	
U51	11	#5	9'-0"	
U52	12	#5	18'-2"	
U53	7	#4	7'-0"	
V50	10	#10	15'-9"	
W50	18	#6	12'-6"	
CLASS X CONCRETE			CU. YDS.	30.3
REINFORCEMENT BARS			LBS.	2467
STRUCTURE EXCAVATION			CU. YDS.	21
FURNISHING CONCRETE PILES			LIN.FT.	180
DRIVING CONCRETE PILES			LIN.FT.	180
CONCRETE TEST PILE			EACH	1
EXPAN. BOLTS 3/4"φx12"			EACH	30



BAR	DIM. A	DIM. B
U50	10"	2'-10¾"
U51	3'-0"	3'-0"
U52	7'-7"	3'-0"
U53	2'-0"	3'-0"

PILE DATA

TYPE: CONCRETE
REQ'D. CAPACITY: 45 TONS
EST. LENGTH: 36 FT.
NO. REQ'D.: 5
TEST PILE: 1
○→ DENOTES DIRECTION OF PILE BATTER

NOTES

THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE IN A PERMANENT LOCATION AT PIER 6C AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

E.F. INDICATES EACH FACE.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD=4,080 LBS. AND ¾"φx12" HOOKED BOLTS.

SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.

LOCATE HORIZ. LEG OF V50 BARS TO MAINTAIN 3" CLEAR TO FACE OF CONCRETE.

S. YORDY	DESIGNED
R. NIEMIETZ	CHECKED
S. KAEMMERER	DRAWN
R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER BROADWAY AND MAIN STREETS PIER 6C MODIFICATIONS

STRUCTURE NO. 082-0011

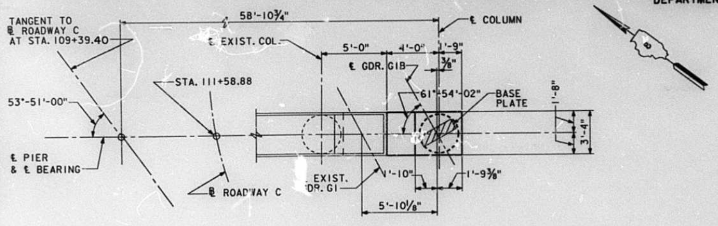
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 40 OF 47

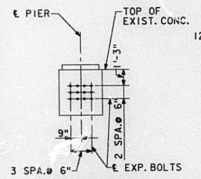
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	285
		ILLINOIS	PROJECT	

*82-3HVB-2R-1

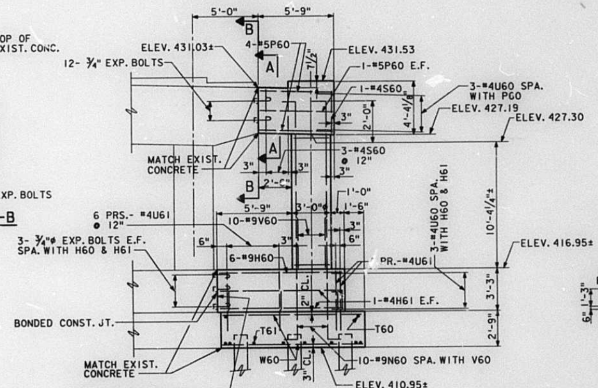
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



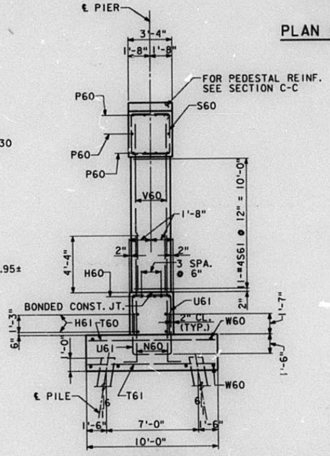
PLAN



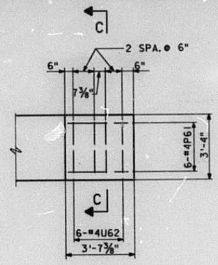
SECTION B-B



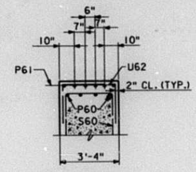
ELEVATION



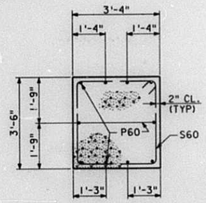
END ELEVATION



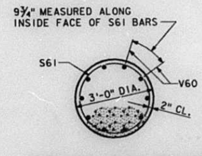
PLAN OF PEDESTAL



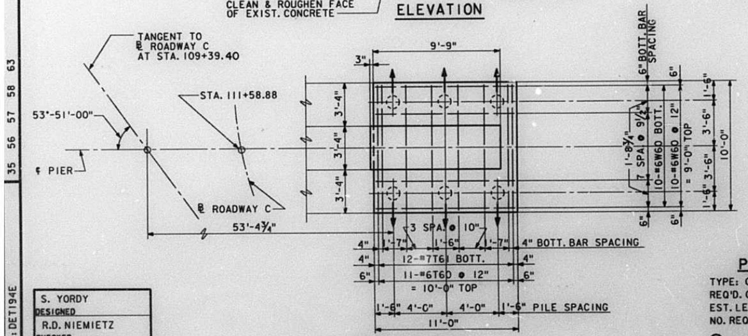
SECTION C-C



SECTION A-A



SECTION THRU COLUMN

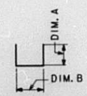


FOOTING PLAN

BILL OF MATERIAL

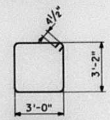
PIER 7C				
BAR	NO.	SIZE	LENGTH	SHAPE
H60	6	#9	9'-5"	
H61	4	#4	9'-5"	
N60	10	#9	11'-7"	
P60	10	#5	5'-5"	
P61	6	#4	3'-3"	
S60	4	#4	13'-1"	
S61	11	#4	9'-9"	
T60	11	#6	9'-6"	
T61	12	#7	9'-6"	
U60	6	#4	4'-7"	
U61	16	#4	9'-2"	
U62	6	#4	7'-0"	
V60	10	#9	14'-0"	
W60	20	#6	10'-6"	

CLASS X CONCRETE	CU. YDS.	20.5
REINFORCEMENT BARS	LBS.	2112
STRUCTURE EXCAVATION	CU. YDS.	19
FURNISHING CONC. PILES	LIN. FT.	204
DRIVING CONCRETE PILES	LIN. FT.	204
EXPAN. BOLTS ¾"ϕx12"	EACH	18

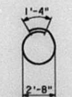


BARS U60, U61 & U62

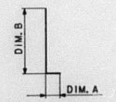
BAR	DIM. A	DIM. B
U60	10"	2'-11"
U61	3'-1"	3'-0"
U62	2'-0"	3'-0"



BAR S60



BAR S61



BARS N60 & V60

BAR	DIM. A	DIM. B
N60	1'-7"	10'-0"
V60	1'-7"	12'-5"

PILE DATA

TYPE: CONCRETE
REQ'D. CAPACITY: 35 TONS
EST. LENGTH: 34 FT.
NO. REQ'D.: 6

○→ DENOTES DIRECTION OF PILE BATTER

NOTES

E.F. INDICATES EACH FACE.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD=4,080 LBS. AND ¾" ϕx12" HOOKED BOLTS.

SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.

LOCATE HORIZONTAL LEG OF V60 BARS TO MAINTAIN A CLEARANCE OF 3" FROM FACE OF CONCRETE.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PIER 7C MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

S. YORDY	DESIGNED
R.D. NIEMIETZ	CHECKED
S. KAEMMERER	DRAWN
R.F. BECK	CHECKED

8TST11 PRF: DET194E

35 56 57 58 63

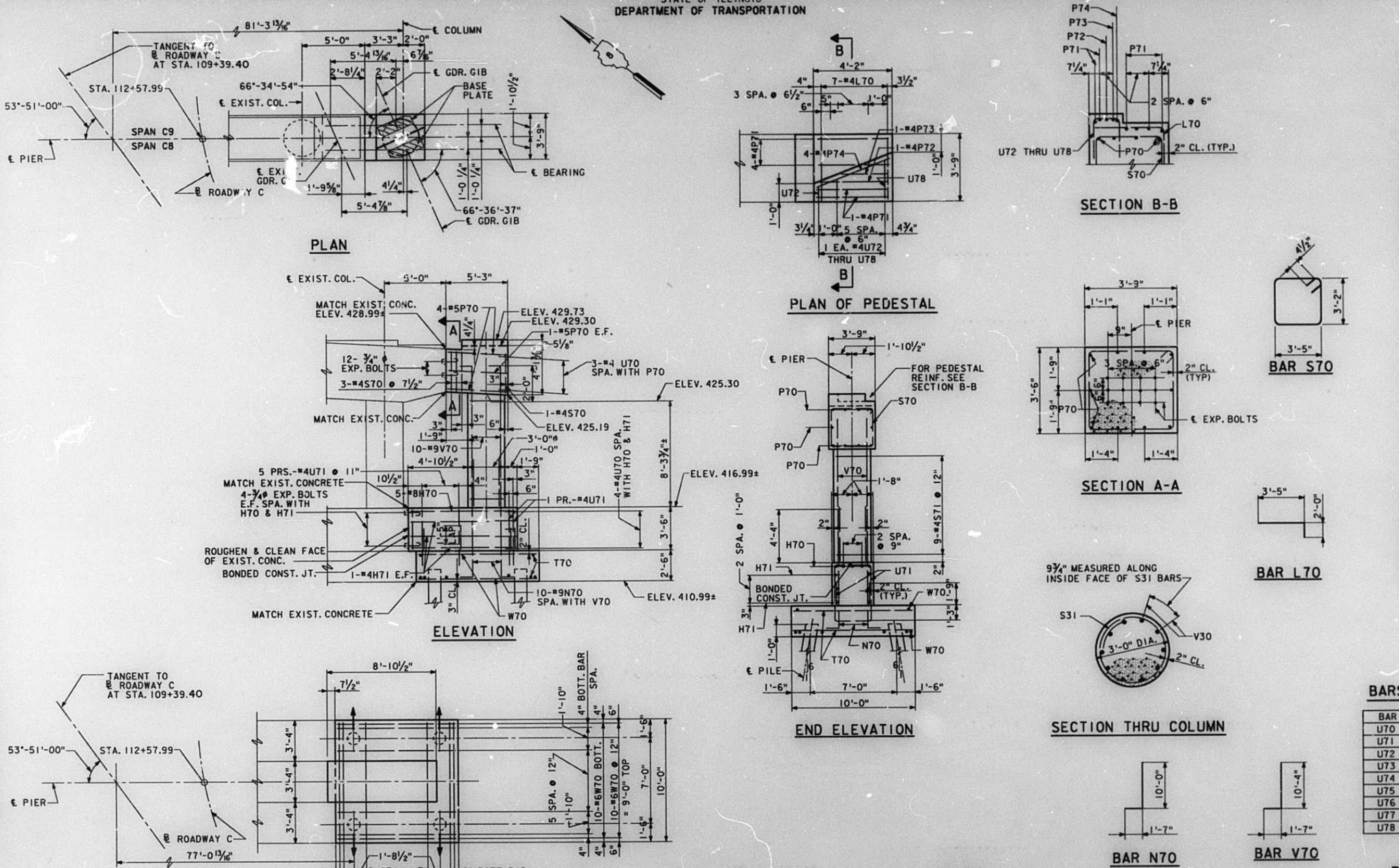
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

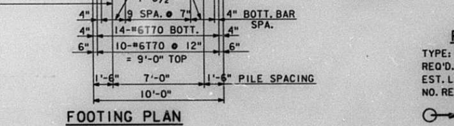
REV. 8/26/88

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	286
		ILLINOIS	PROJECT	

•82-3HVB-2R-1

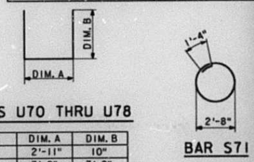




BILL OF MATERIAL

PIER 8C				
BAR	NO.	SIZE	LENGTH	SHAPE
H70	5	#8	8'-6"	
H71	4	#4	8'-6"	
L70	7	#4	5'-5"	
N70	10	#9	11'-7"	
P70	10	#5	4'-11"	
P71	6	#4	3'-10"	
P72	1	#4	3'-7"	
P73	1	#4	2'-5"	
P74	1	#4	4'-2"	
S70	4	#4	13'-11"	
S71	9	#4	9'-9"	
T70	24	#6	9'-6"	
U70	7	#4	4'-7"	
U71	14	#4	9'-0"	
U72	1	#4	4'-9"	
U73	1	#4	5'-2"	
U74	1	#4	5'-5"	
U75	1	#4	5'-7"	
U76	1	#4	5'-10"	
U77	1	#4	6'-0"	
U78	1	#4	6'-3"	
V70	10	#9	11'-11"	
W70	20	#6	9'-6"	

CLASS X CONCRETE	CU. YDS.	18.1
REINFORCEMENT BARS	LBS.	1887
STRUCTURE EXCAVATION	CU. YDS.	23
FURNISHING CONC. PILES	LIN. FT.	164
DRIVING CONC. PILES	LIN. FT.	164
EXPAN. BOLTS ¾"φx12"	EACH	20



BARS U70 THRU U78

BAR	DIM. A	DIM. B
U70	2'-11"	10"
U71	3'-0"	3'-0"
U72	9"	2'-0"
U73	1'-2"	2'-0"
U74	1'-4½"	2'-0"
U75	1'-7"	2'-0"
U76	1'-9½"	2'-0"
U77	2'-0"	2'-0"
U78	2'-2½"	2'-0"

PILE DATA

TYPE: CONCRETE
REQ'D. CAPACITY: 45 TONS
EST. LENGTH: 41 FT.
NO. REQ'D.: 4

DENOTES DIRECTION OF PILE BATTER

NOTES

E.F. INDICATES EACH FACE.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD=4,080 LBS. AND ¾" φx12" HOOKED BOLTS.

SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.

LOCATE HORIZONTAL LEG OF V70 BARS TO MAINTAIN A CLEARANCE OF 3" FROM FACE OF CONCRETE.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

S. YORDY	DESIGNED
R. NIEMIETZ	CHECKED
S. KAEMMERER	DRAWN
R.F. BECK	CHECKED

REV. 8/26/88

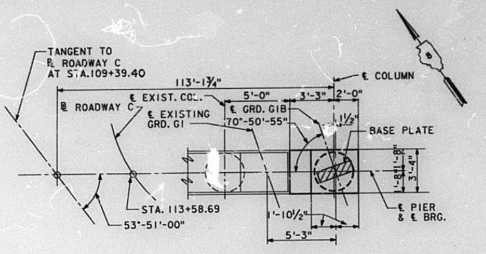
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PIER 8C MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 42 OF 47

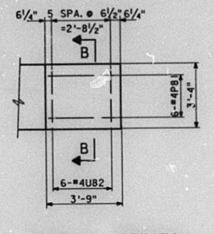
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	287
		ILLINOIS	PROJECT	

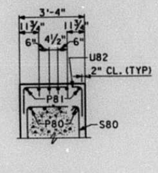
•82-34VB-2R-1



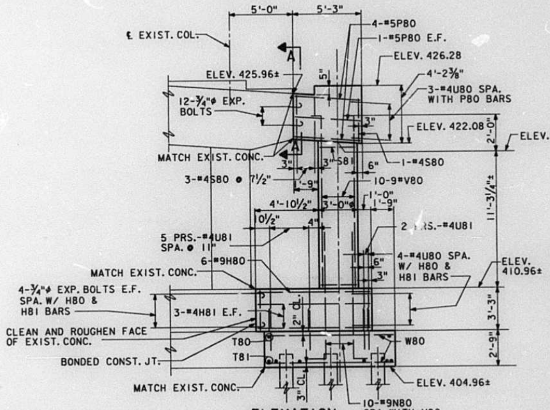
PLAN



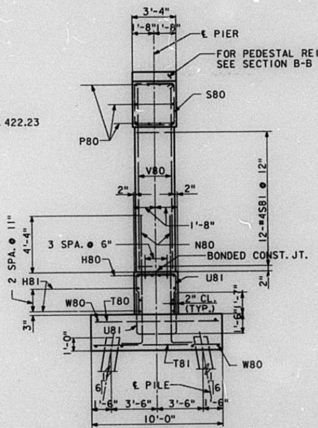
PLAN OF PEDESTAL



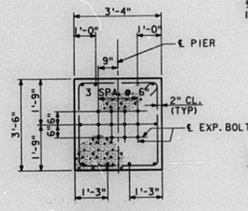
SECTION B-B



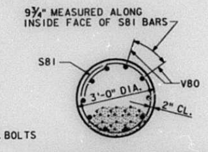
ELEVATION



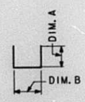
END ELEVATION



SECTION A-A

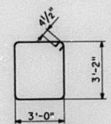


SECTION THRU COLUMN



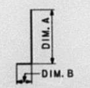
BARS U80, U81 & U82

BAR	DIM. A	DIM. B
U80	10"	2'-11"
U81	3'-1"	3'-0"
U82	2'-0"	3'-0"



BAR S80

BAR S81



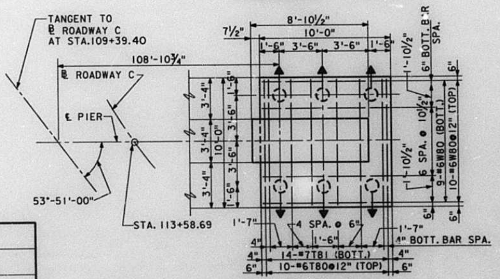
BARS N80 & V80

BAR	DIM. A	DIM. B
N80	10'-0"	1'-7"
V80	13'-4"	1'-7"

BILL OF MATERIAL

PIER 9C				
BAR	NO.	SIZE	LENGTH	SHAPE
H80	6	#9	8'-7"	
H81	6	#4	8'-7"	
N80	10	#9	11'-7"	
P80	10	#5	4'-11"	
P81	6	#4	3'-5"	
S80	4	#4	13'-1"	
S81	12	#4	9'-9"	
T80	10	#6	9'-6"	
T81	14	#7	9'-6"	
U80	7	#4	4'-7"	
U81	14	#4	9'-2"	
U82	6	#4	7'-0"	
V80	10	#9	14'-11"	
W80	19	#6	9'-6"	

CLASS X CONCRETE	CU. YDS.	18.7
REINFORCEMENT BARS	LBS.	2109
STRUCTURE EXCAVATION	CU. YDS.	56
FURNISHING CONCRETE PILES	LIN.FT.	258
DRIVING CONCRETE PILES	LIN.FT.	258
EXPANSION BOLTS ¾"φx12"	EACH	20



FOOTING PLAN

PILE DATA

TYPE : CONCRETE
REQ'D. CAPACITY : 45 TONS
EST. LENGTH : 43 FT.
NO. REQ'D. : 6

⊖→ DENOTES DIRECTION OF PILE BATTER

NOTES

E.F. INDICATES EACH FACE.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD=4,080 LBS., AND ¾" φx12" HOOKED BOLTS.

SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.

LOCATE HORIZONTAL LEG OF V80 BAR TO MAINTAIN A CLEARANCE OF 3" FROM FACE OF CONCRETE.

S. YORDY	DESIGNED
R. NIEMIETZ	CHECKED
J. CORLEY	DRAWN
R.F.BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PIER 9C MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 43 OF 47

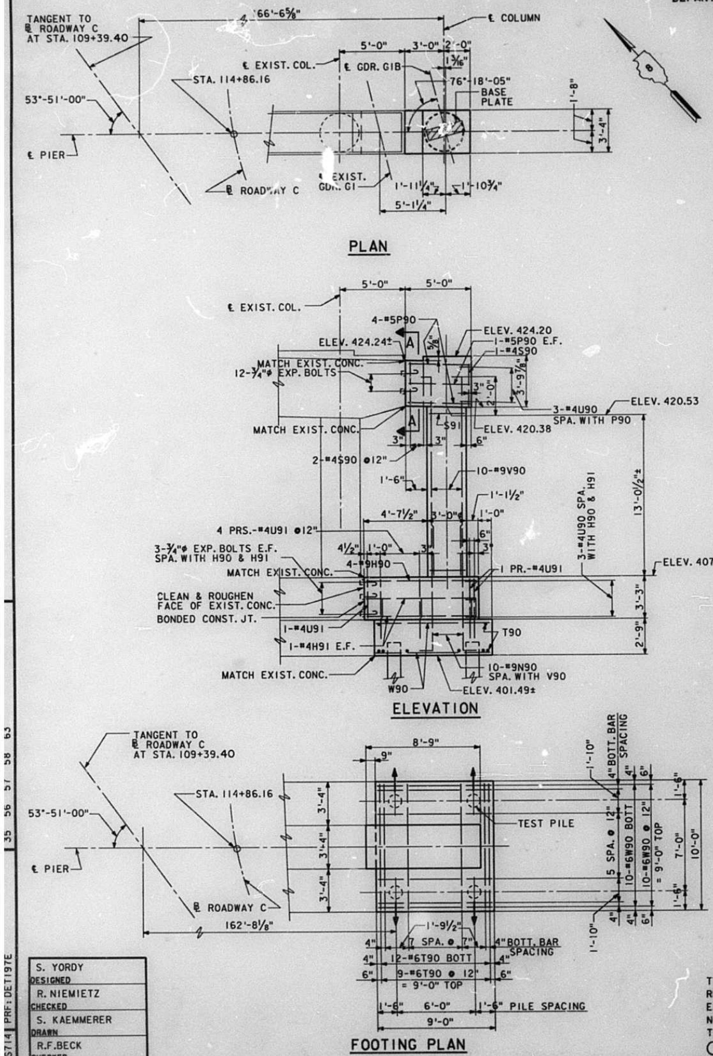
87ST13 PRF.DET196E

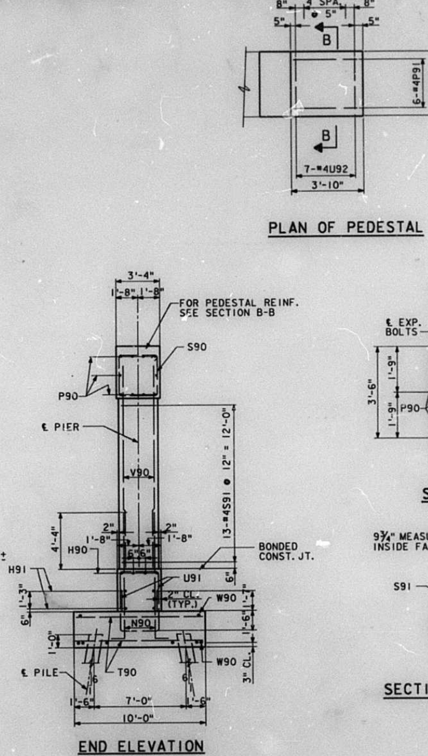
35 56 57 58 63

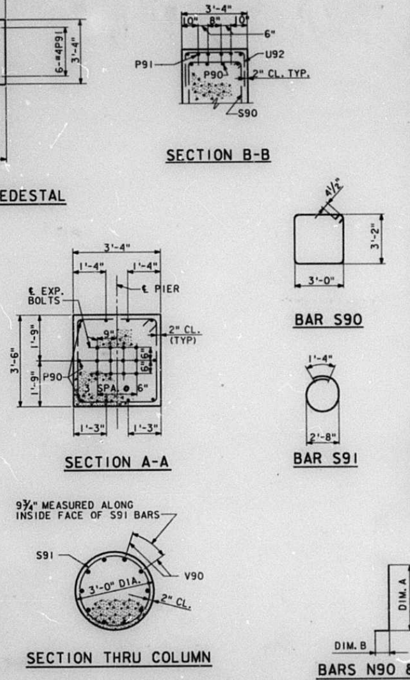
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

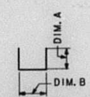
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	288
		ILLINOIS	PROJECT	

•82-3KVB-2R-1









BILL OF MATERIAL

PIER 10C				
BAR	NO.	SIZE	LENGTH	SHAPE
H90	4	#9	8'-5"	
H91	4	#4	8'-5"	
N90	10	#9	11'-7"	
P90	10	#5	4'-8"	
P91	6	#4	3'-6"	
S90	3	#4	13'-1"	
S91	13	#4	9'-9"	
T90	21	#6	9'-6"	
U90	6	#4	4'-7"	
U91	13	#4	9'-2"	
U92	7	#4	7'-0"	
V90	10	#9	16'-7"	
W90	20	#6	8'-6"	

CLASS X CONCRETE	CU. YDS.	18.2
REINFORCEMENT BARS	LBS.	1954
STRUCTURE EXCAVATION	CU. YDS.	68
FURNISHING CONCRETE PILES	LIN.FT.	87
DRIVING CONCRETE PILES	LIN.FT.	87
CONCRETE TEST PILE	EACH	1
EXPAN. BOLTS ¾"φx12"	EACH	18

BAR	DIM. A	DIM. B
N90	10'-0"	1'-7"
V90	15'-0"	1'-7"

BARS U90, U91 & U92

BAR	DIM. A	DIM. B
U90	10"	2'-11"
U91	3'-1"	3'-0"
U92	2'-0"	3'-0"

NOTES

THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE IN A PERMANENT LOCATION AT PIER 10C AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

E.F. INDICATES EACH FACE.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD=4,080 LBS. AND ¾"φx12" HOOKED BOLTS.

SPACE REINFORCEMENT IN CAP TO MISS DRILLED-IN ANCHOR BOLTS.

LOCATE HORIZ. LEG OF V90 BARS TO MAINTAIN 3" CLEAR TO FACE OF CONCRETE.

PILE DATA

TYPE: CONCRETE
REQ'D. CAPACITY: 45 TONS
EST. LENGTH: 29 FT.
NO. REQ'D.: 3
TEST PILE: 1
DENOTES DIRECTION OF PILE BATTER

S. YORDY
DESIGNED
R. NIEMIETZ
CHECKED
S. KAEMMERER
DRAWN
R.F. BECK
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 8/26/88

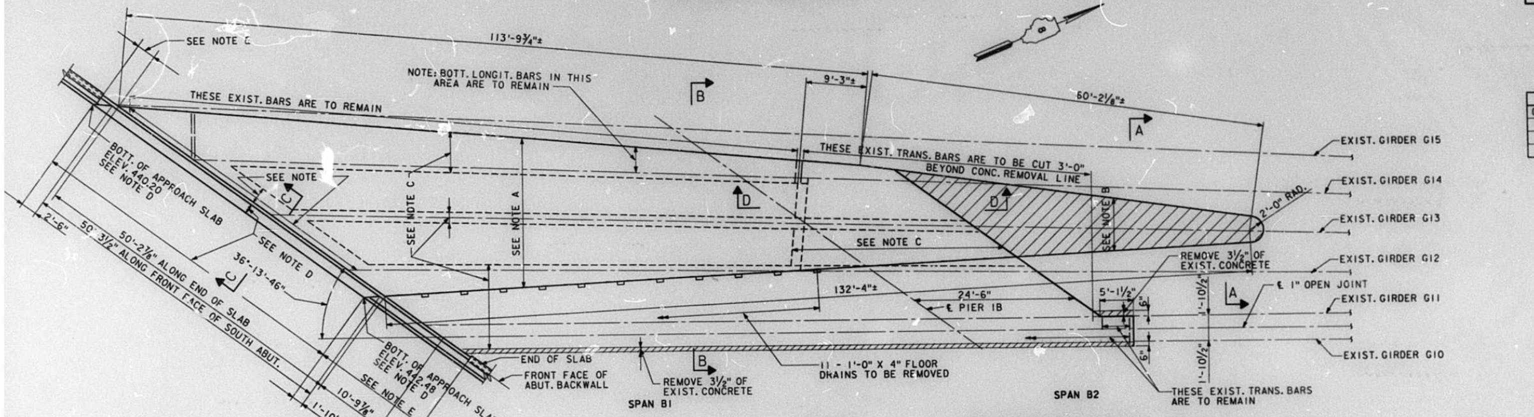
REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY C OVER
BROADWAY AND MAIN STREETS
PIER 10C MODIFICATIONS
STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 (FAI-70) ST. CLAIR CO.

SHEET NO. 44 OF 47

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	ST. CLAIR	320	289

*82-3HVB-2R-1



PLAN

BILL OF MATERIAL

SPANS B1 AND B2		
CONCRETE REMOVAL	CU.YDS.	136

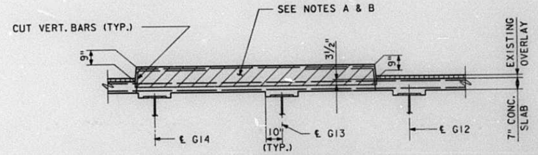
NOTE A: REMOVE EXISTING MEDIAN

NOTE: B REMOVE 3½" OF EXISTING CONCRETE SLAB AND CUT OFF VERTICAL BARS EXTENDING INTO MEDIAN.

NOTE C: REMOVE EXISTING SLAB TO TOP OF GIRDERS AND END DIAPHRAGM.

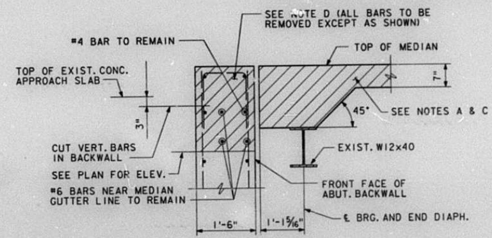
NOTE D: REMOVE MEDIAN AND ABUTMENT BACKWALL TO ELEVATION SHOWN ON PLAN.

NOTE E: REMOVE ABUTMENT BACKWALL TO ELEVATION SHOWN ON PLAN AND NEOPRENE EXPANSION JOINT TO FIRST FULL SECTION OUSIDE THE LIMITS OF SLAB REMOVAL.



SECTION A-A

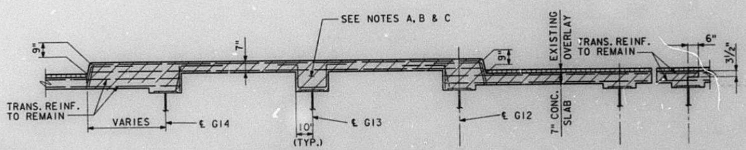
NOTE: LONGIT. REINF. NOT SHOWN. LONGIT. AND TRANS. REINF. IN SLAB SHALL REMAIN.



SECTION C-C

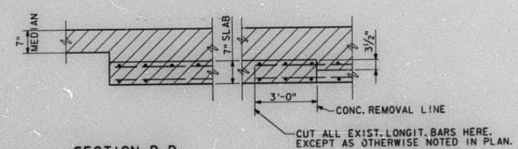
NOTES

WORK THIS SHEET WITH SHEET 46.



SECTION B-B

NOTE: LONGIT. REINF. NOT SHOWN. LONGIT. AND TRANS. REINF. SHALL BE REMOVED UNLESS OTHERWISE NOTED.



SECTION D-D

NOTE: FOR REMOVAL OF TRANS. BARS SEE PLAN.

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
S. STEGMAN	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY B OVER
BROADWAY AND MAIN STREETS
DEMOLITION-SPANS B1 AND B2

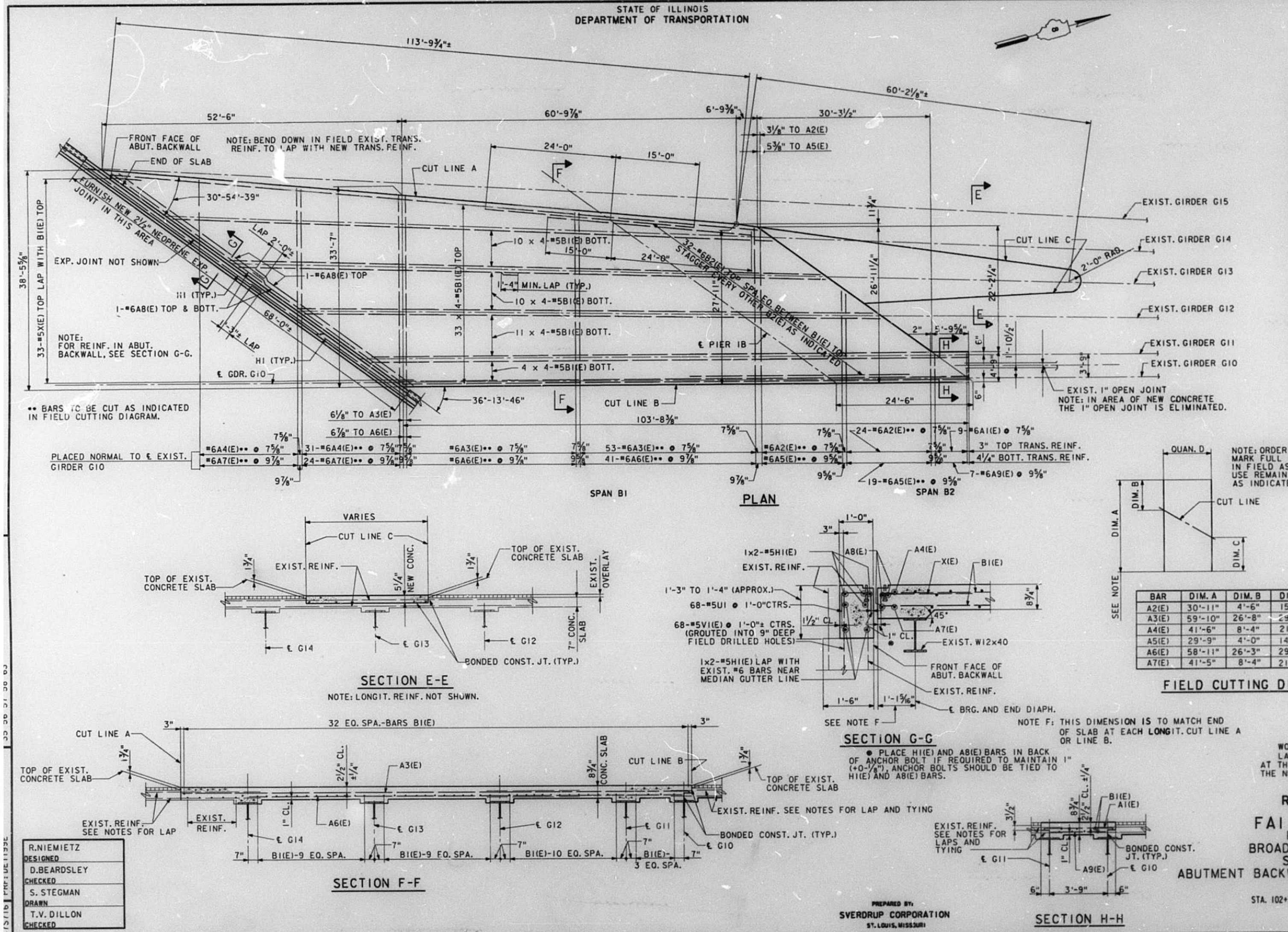
STRUCTURE NO. 082-0010
STA. 102+35.25 TO STA. 114+60.46 (FAI-70) ST. CLAIR CO.

SHEET NO. 45 OF 47

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	290
		ILLINOIS	PROJECT	

•82-3?IVB-2R-1



BILL OF MATERIAL

ROADWAY B				
BAR	NO.	SIZE	LENGTH	SHAPE
A1(E)	9	#6	4'-6"	
A2(E)	24	#6	30'-11"	
A3(E)	53	#6	59'-10"	
A4(E)	31	#6	41'-6"	
A5(E)	19	#6	29'-9"	
A6(E)	41	#6	58'-11"	
A7(E)	24	#6	41'-5"	
A8(E)	6	#6	33'-4"	
A9(E)	7	#6	3'-6"	
B1(E)	272	#5	31'-0"	
B2(E)	32	#6	39'-0"	
X(E)	33	#5	4'-1"	
U1	68	#5	2'-5"	
V1	68	#5	1'-10"	
H1	12	#5	35'-0"	
CLASS X CONC. SUPRSTR.			CU. YDS.	105.0
REINFORCEMENT BARS (EPOXY COATED)			LBS.	25,727

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A2(E)	30'-11"	4'-6"	15'-8"	24
A3(E)	59'-10"	26'-8"	29'-11"	53
A4(E)	41'-6"	8'-4"	21'-0"	31
A5(E)	29'-9"	4'-0"	14'-7"	19
A6(E)	58'-11"	26'-3"	29'-6"	41
A7(E)	41'-5"	8'-4"	21'-0"	24

FIELD CUTTING DIAGRAM

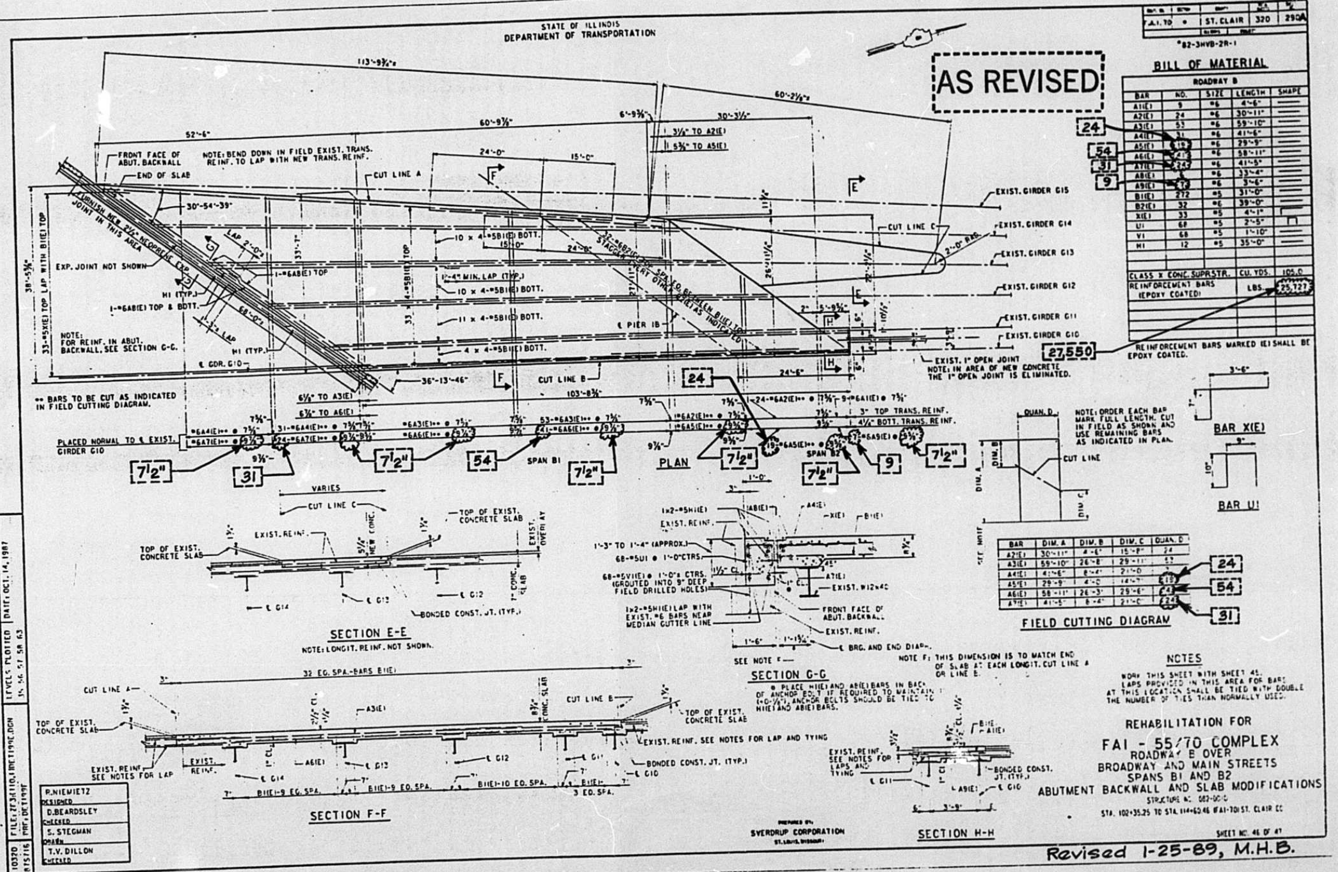
NOTES

WORK THIS SHEET WITH SHEET 45.
LAPS PROVIDED IN THIS AREA FOR BARS AT THIS LOCATION SHALL BE TIED WITH DOUBLE THE NUMBER OF TIES THAN NORMALLY USED.

R. NIEMIETZ	DESIGNED
D. BEARDSLEY	CHECKED
S. STEGMAN	DRAWN
T.V. DILLON	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY B OVER
BROADWAY AND MAIN STREETS
SPANS B1 AND B2
ABUTMENT BACKWALL AND SLAB MODIFICATIONS
STRUCTURE NO. 082-0010
STA. 102+35.25 TO STA. 114+60.46 (FAI-70) ST. CLAIR CO.



BILL OF MATERIAL

ROADWAY B				
BAR	NO.	SIZE	LENGTH	SHAPE
A1(E)	9	#6	4'-6"	
A2(E)	24	#6	30'-11"	
A3(E)	53	#6	59'-10"	
A4(E)	31	#6	41'-6"	
A5(E)	19	#6	29'-9"	
A6(E)	41	#6	58'-11"	
A7(E)	24	#6	41'-5"	
A8(E)	5	#6	33'-4"	
A9(E)	7	#6	3'-6"	
B1(E)	272	#5	31'-0"	
B2(E)	32	#6	39'-0"	
X(E)	33	#5	4'-1"	
U1	68	#5	2'-5"	
V1	68	#5	1'-10"	
H1	12	#5	35'-0"	
CLASS X CONC. SUPRSTR.			CU. YDS.	105.0
REINFORCEMENT BARS (EPOXY COATED)			LBS.	25,727

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A2(E)	30'-11"	4'-6"	15'-8"	24
A3(E)	59'-10"	26'-8"	29'-11"	53
A4(E)	41'-6"	8'-4"	21'-0	[illegible]
A5(E)	29'-9"	4'-0	14'-7"	19
A6(E)	58'-11"	26'-3"	29'-6"	41
A7(E)	41'-5"	8'-4"	21'-0"	24

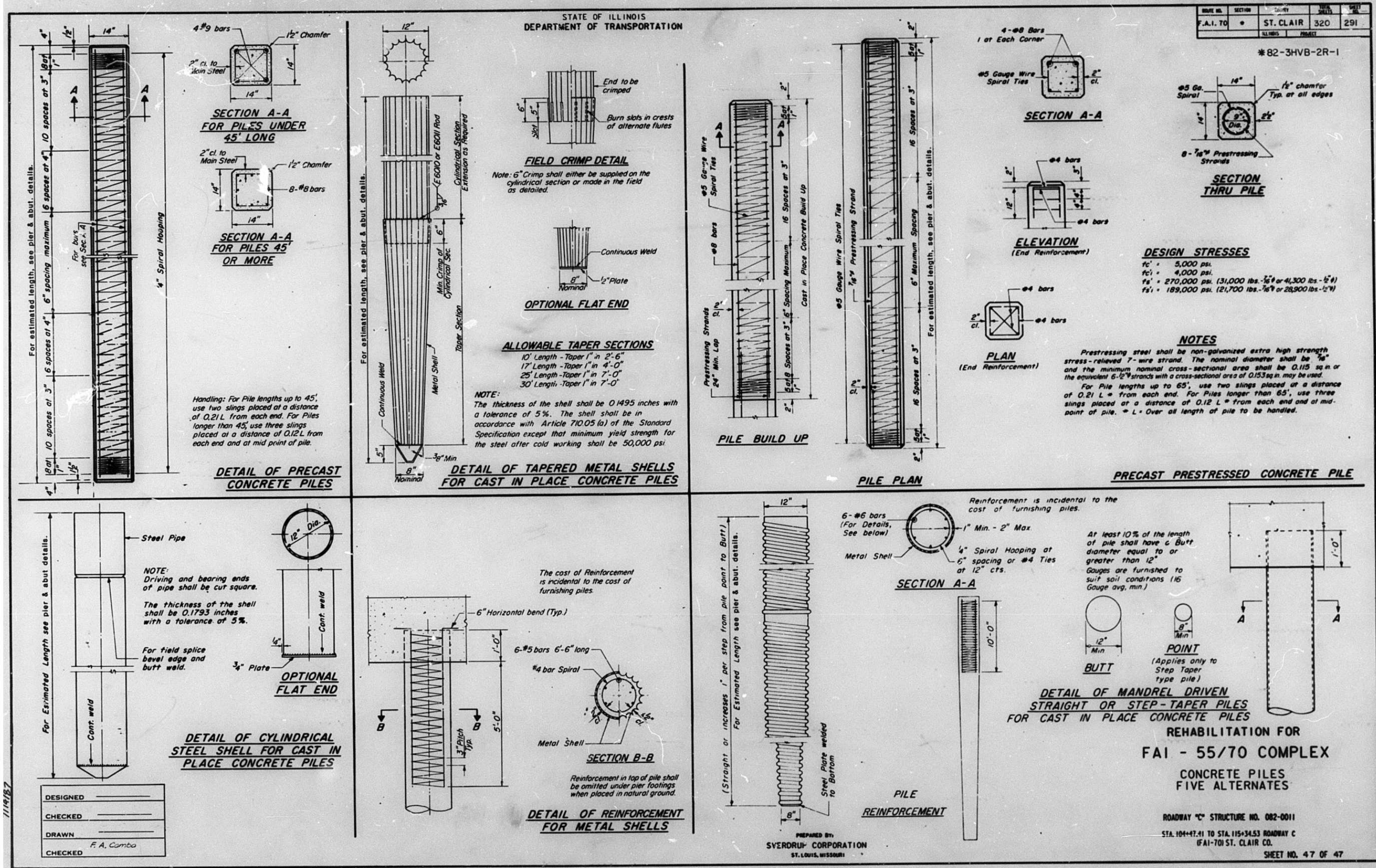
FIELD CUTTING DIAGRAM

NOTES

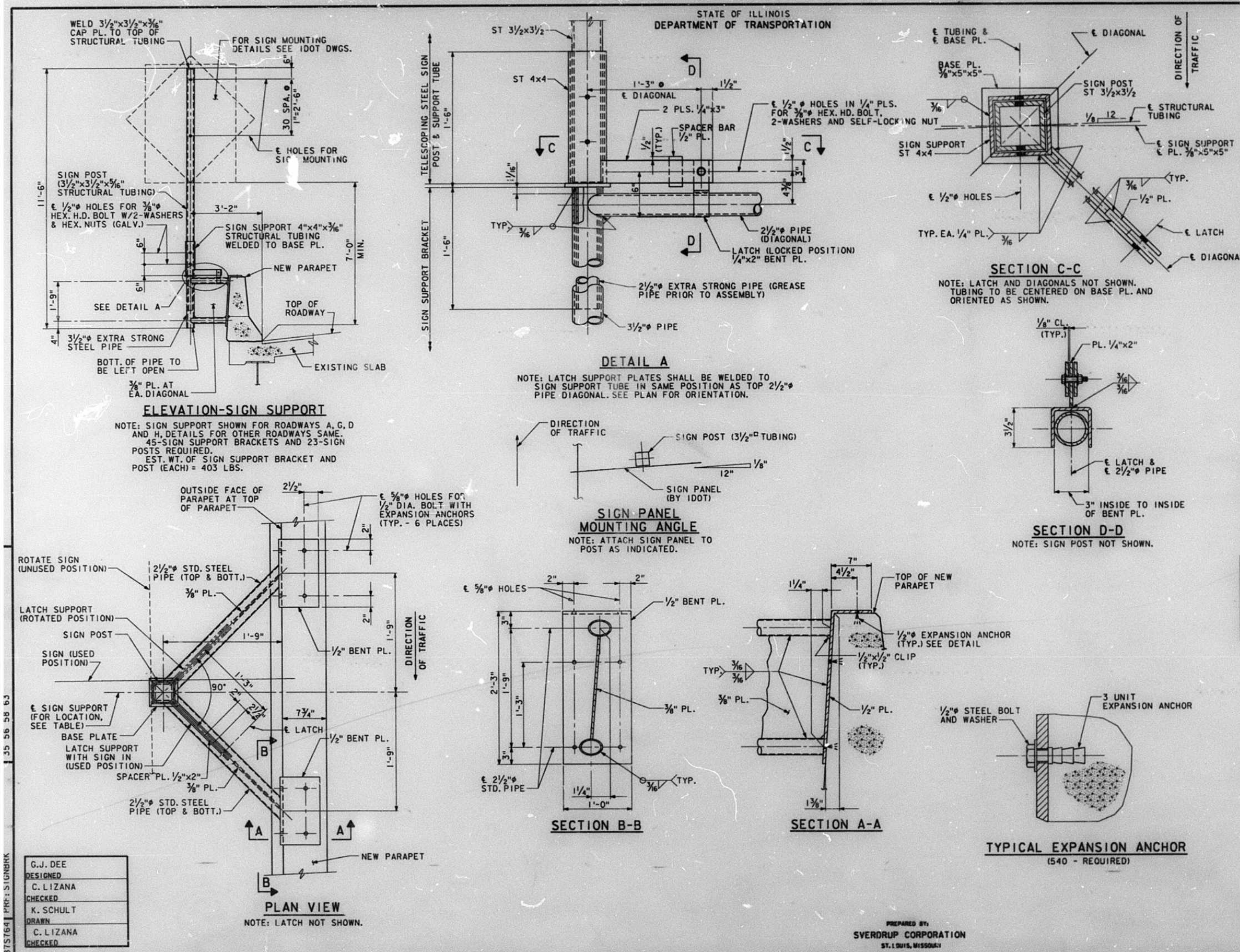
WORK THIS SHEET WITH SHEET 45.
LAPS PROVIDED IN THIS AREA FOR BARS AT THIS LOCATION SHALL BE TIED WITH DOUBLE THE NUMBER OF TIES THAN NORMALLY USED.

REHABILITATION FOR
FAI - 55/70 COMPLEX
ROADWAY E OVER
BROADWAY AND MAIN STREETS
SPANS B1 AND B2
ABUTMENT BACKWALL AND SLAB MODIFICATIONS
STRUCTURE NO. 082-0010
STA. 102+35.25 TO STA. 114+60.46 (FAI-70) ST. CLAIR CO.
SHEET NO. 46 OF 47

Revised 1-25-89, M.H.B.



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
F.A.I. 70
ST. CLAIR
320
291
*82-3HVB-2R-1
4-#9 bars
1/2" Chamfer
2" cl. to Main Steel
14"
SECTION A-A
FOR PILES UNDER 45' LONG
8-#8 bars
SECTION A-A
FOR PILES 45' OR MORE
For estimated length, see pier & abut. details.
10 spaces at 3"
6 spaces at 4"
6" spacing maximum
1/4" Spiral Hooping
Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.
DETAIL OF PRECAST CONCRETE PILES
12"
End to be crimped
Burn slots in crests of alternate flutes
FIELD CRIMP DETAIL
Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.
Cylindrical Section Extension as Required
Min. Crimp of Cylindrical Sec.
Taper Section
Metal Shell
Continuous Weld
Continuous Weld
1/2" Plate
8" Nominal
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 shell 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.
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES
#5 Gauge Wire Spiral Ties
#8 bars
16 Spaces at 3"
6" Spacing Maximum
Cast in Place Concrete Build Up
Prestressing Strands 24" Min. Lap
PILE BUILD UP
#5 Gauge Wire Spiral Ties
7/16"Ø Prestressing Strand
6" Maximum Spacing
For estimated length, see pier & abut. details.
PILE PLAN
4-#8 Bars 1 at Each Corner
#5 Gauge Wire Spiral Ties
SECTION A-A
#4 bars
ELEVATION
(End Reinforcement)
PLAN
(End Reinforcement)
#5 Ga. Spiral
1/2" chamfer Typ. at all edges
8-7/16"Ø Prestressing Strands
SECTION THRU PILE
DESIGN STRESSES
f'c = 5,000 psi.
f'ci = 4,000 psi.
f's = 270,000 psi. (31,000 lbs.-7/16"Ø or 41,300 lbs.-1/2"Ø)
fsi = 189,000 psi. (21,700 lbs.-7/16"Ø or 28,900 lbs.-1/2"Ø)
NOTES
Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.115 sq. in. or the equivalent 6-1/2"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
Steel Pipe
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.
12" Dia.
Cont. weld
3/4" Plate
OPTIONAL FLAT END
For Estimated Length see pier & abut details.
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES
The cost of Reinforcement is incidental to the cost of furnishing piles.
6" Horizontal bend (Typ.)
6-#5 bars 6'-6" long
#4 bar Spiral
3" Pitch Typ.
Metal Shell
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
(Straight or increases 1" per step from pile point to Butt)
For Estimated Length see pier & abut. details.
Steel Plate welded to Bottom
6-#6 bars (For Details, See below)
Reinforcement is incidental to the cost of furnishing piles.
1" Min. - 2" Max.
1/4" Spiral Hooping at 6" spacing or #4 Ties at 12" cts.
Metal Shell
SECTION A-A
10'-0"
PILE REINFORCEMENT
At least 10% of the length of pile shall have ℄ Butt diameter equal to or greater than 12"
Gauges are furnished to suit soil conditions (16 Gauge avg. min.)
12" Min
BUTT
8" Min
POINT
(Applies only to Step Taper type pile)
DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES
1'-0"
REHABILITATION FOR
FAI - 55/70 COMPLEX
CONCRETE PILES
FIVE ALTERNATES
ROADWAY "C" STRUCTURE NO. 082-0011
STA. 104+47.41 TO STA. 115+34.53 ROADWAY C
(FAI-70) ST. CLAIR CO.
SHEET NO. 47 OF 47
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI
DESIGNED
CHECKED
DRAWN F. A. Combo
CHECKED



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	•	ST. CLAIR	320	292

•82-3HVB-2R-1

SIGN BRACKET LOCATIONS

	STATION	LEFT PARAPET	RIGHT PARAPET
RDWY. A	51+40 (℄ RDWY.)	•	—
	55+00 (℄ RDWY.)	•	•
	58+87 (℄ RDWY.)	•	•
	62+85 (℄ RDWY.)	•	•
	66+92 (℄ RDWY.)	•	•
	70+92 (℄ RDWY.)	•	•
RDWY. G	75+72 (℄ RDWY.)	•	•
	79+64 (℄ RDWY.)	•	•
	83+68 (℄ RDWY.)	•	•
	87+30 (℄ RDWY.)	•	•
RDWY. D	60+69 (℄ RDWY.)	•	•
	64+67 (℄ RDWY.)	•	•
	69+08 (℄ RDWY.)	•	•
	72+54 (℄ RDWY.)	•	•
	75+33 (℄ RDWY.)	•	•
	79+14 (℄ RDWY.)	•	•
RAMP R	69+74 (℄ RAMP)	•	•
	73+45 (℄ RAMP)	•	•
RDWY. H	77+64 (℄ RDWY.)	•	•
	80+73 (℄ RDWY.)	•	•
RAMP G OVER 4TH	13+35 (℄ RAMP)	•	—
	14+50 (℄ RAMP)	—	•
RDWY. C OVER 4TH	99+60 (℄ RDWY.)	—	•
RDWY. C OVER BROADWAY & MAIN STREETS	105+95 (℄ RDWY.)	—	•
	109+95 (℄ RDWY.)	—	•
	113+40 (℄ RDWY.)	—	•

NOTE: LEFT AND RIGHT PARAPETS ARE ORIENTED LOOKING AHEAD STATIONING.

NOTES

SIGNS SHALL BE FURNISHED BY IDOT.

EXPANSION ANCHORS SHALL BE APPROVED EXPANSION ANCHORS PROVIDING A MINIMUM CERTIFIED PROOF LOAD OF 4,080 LBS.

ALL STRUCTURAL STEEL SHAPES AND PLATES SHALL BE M183.

PIPE STEEL SHALL CONFORM WITH ASTM A501.

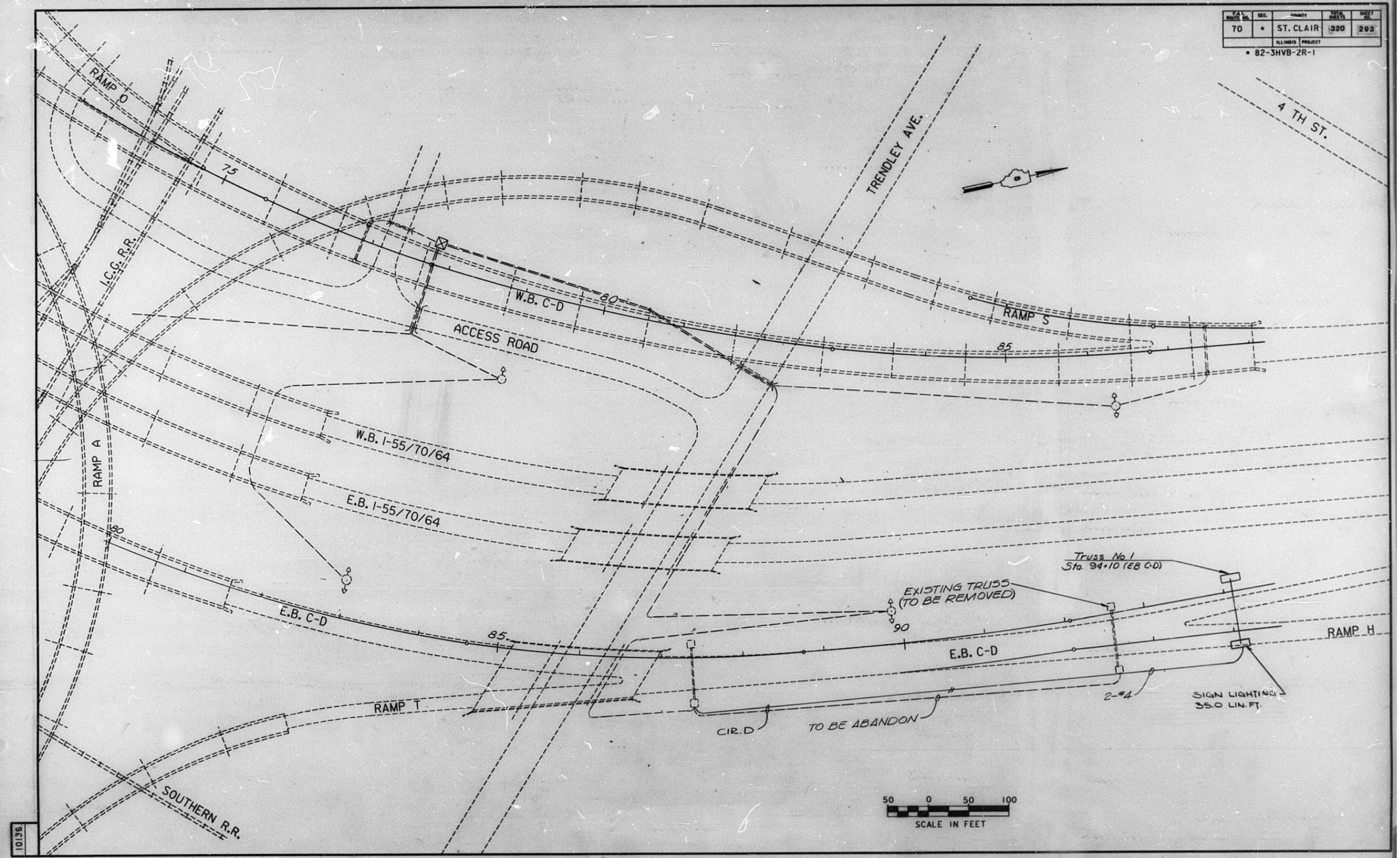
ALL STEEL SHALL BE PAID FOR UNDER THE LUMP SUM PRICE FOR FURNISHING AND ERECTING STRUCTURAL STEEL.

REHABILITATION FOR FAI - 55/70 COMPLEX

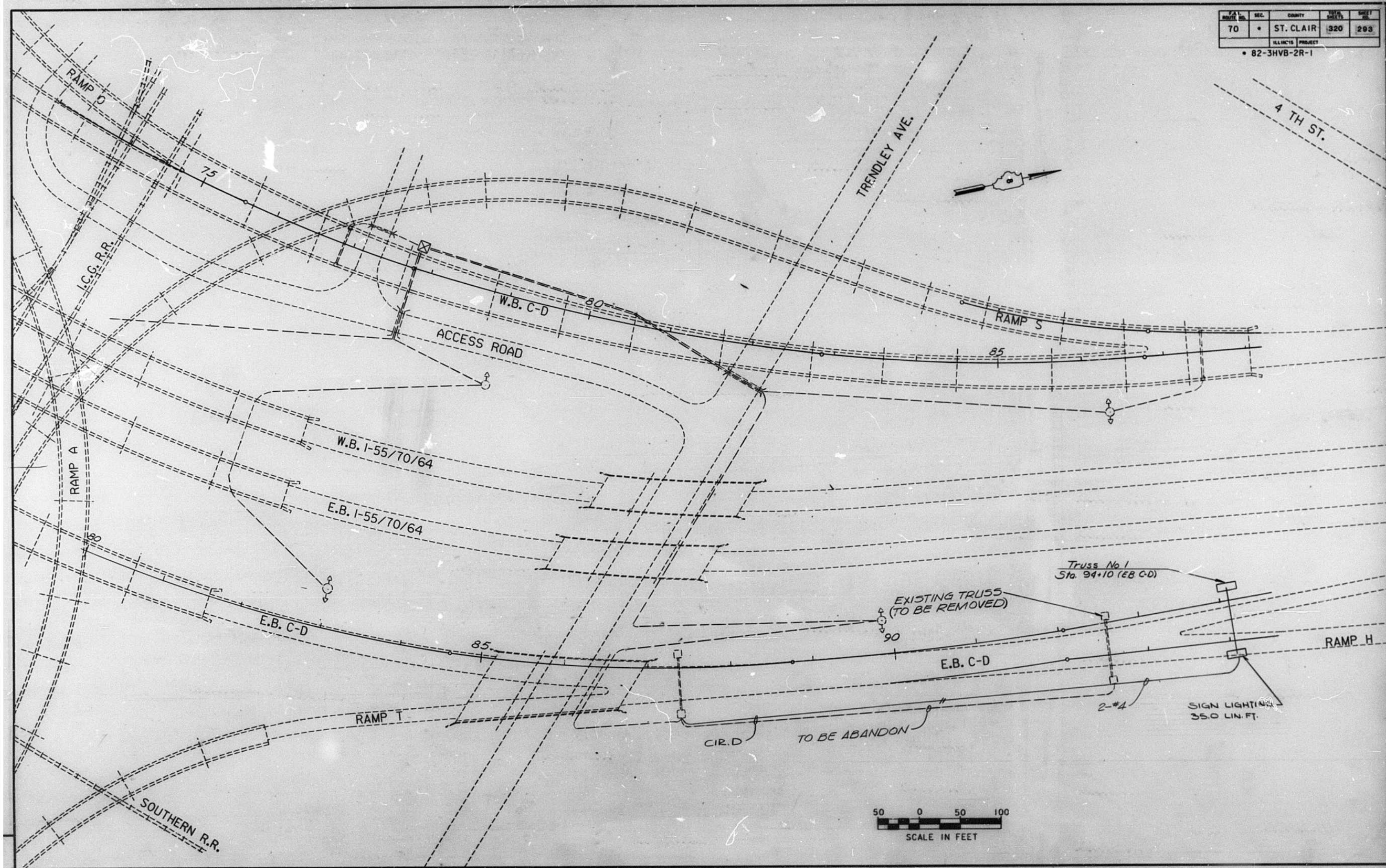
MAINTENANCE AND CONSTRUCTION SIGN SUPPORT BRACKETS

(FAI-70) ST. CLAIR CO.

SHEET NO. 1 OF 1



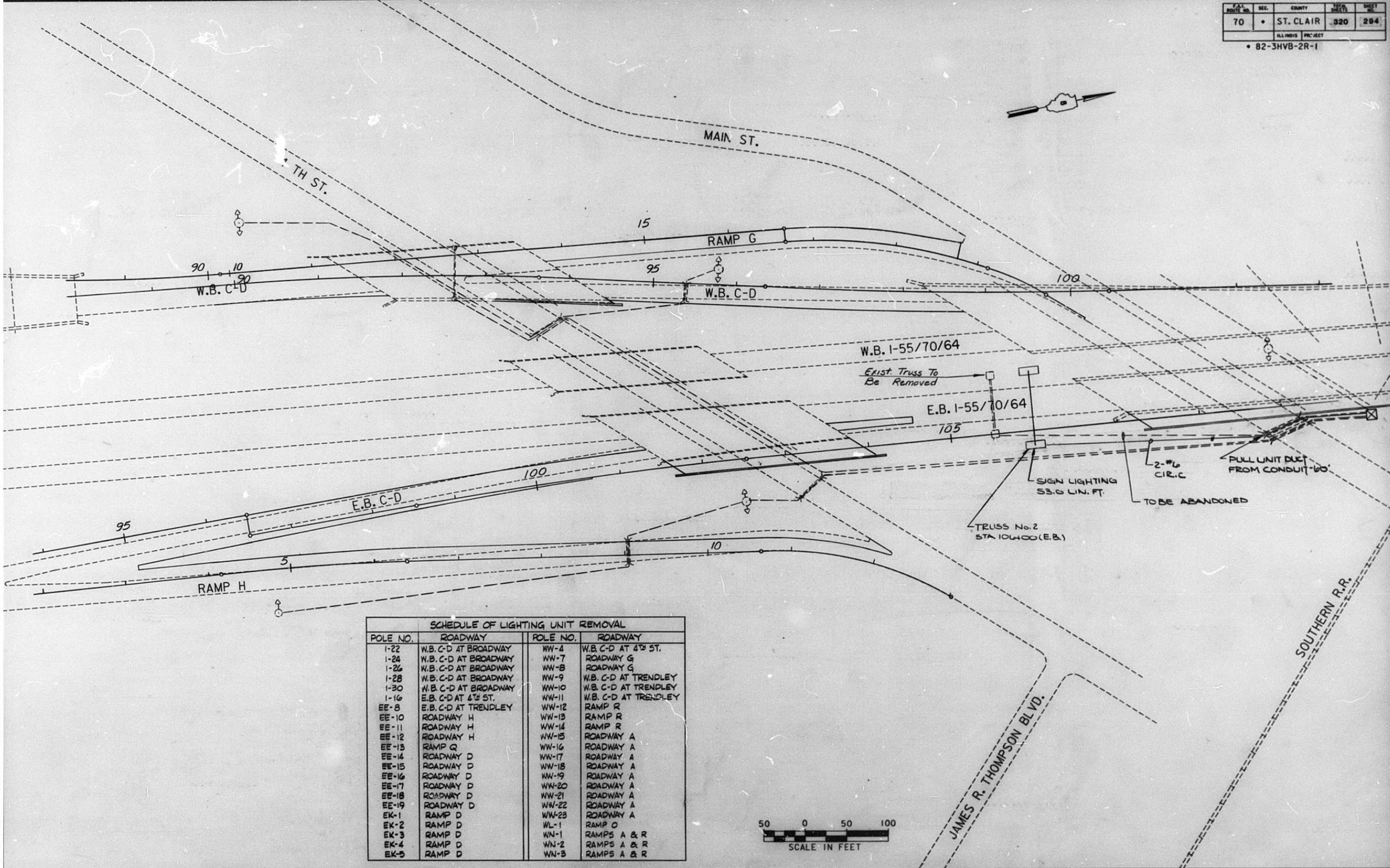
70
ST. CLAIR
320
293
ILLINOIS PROJECT
• 82-3HVB-2R-1
4 TH ST.
TRENDLEY AVE.
RAMP O
75
I.C.G. R.R.
W.B. C-D
80
RAMP S
85
ACCESS ROAD
W.B. I-55/70/64
E.B. I-55/70/64
RAMP A
80
E.B. C-D
85
Truss No. 1
Sta. 94+10 (EB C-D)
EXISTING TRUSS
(TO BE REMOVED)
90
RAMP H
E.B. C-D
2-#4
SIGN LIGHTING
35.0 LIN. FT.
RAMP T
CIR. D
TO BE ABANDON
50 0 50 100
SCALE IN FEET
SOUTHERN R.R.
10136



F.A.I. ROUTE NO.
SEC.
COUNTY
TOTAL SHEETS
SHEET NO.
70
•
ST. CLAIR
320
293
ILLINOIS
PROJECT
• 82-3HVB-2R-1
4 TH ST.
TRENDLEY AVE.
RAMP D
I.C.G. R.R.
75
W.B. C-D
80
ACCESS ROAD
RAMP S
85
W.B. I-55/70/64
E.B. I-55/70/64
RAMP A
80
E.B. C-D
85
Truss No 1
Sta. 94+10 (EB C-D)
EXISTING TRUSS
(TO BE REMOVED)
90
E.B. C-D
RAMP H
RAMP T
2-#4
SIGN LIGHTING
35.0 LIN. FT.
CIR. D
TO BE ABANDON
SOUTHERN R.R.
50 0 50 100
SCALE IN FEET

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	294
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1



SCHEDULE OF LIGHTING UNIT REMOVAL

POLE NO.	ROADWAY	POLE NO.	ROADWAY
1-22	W.B. C-D AT BROADWAY	WW-4	W.B. C-D AT 4TH ST.
1-24	W.B. C-D AT BROADWAY	WW-7	ROADWAY G
1-26	W.B. C-D AT BROADWAY	WW-8	ROADWAY G
1-28	W.B. C-D AT BROADWAY	WW-9	W.B. C-D AT TRENDLEY
1-30	W.B. C-D AT BROADWAY	WW-10	W.B. C-D AT TRENDLEY
1-16	E.B. C-D AT 4TH ST.	WW-11	W.B. C-D AT TRENDLEY
EE-8	E.B. C-D AT TRENDLEY	WW-12	RAMP R
EE-10	ROADWAY H	WW-13	RAMP R
EE-11	ROADWAY H	WW-14	RAMP R
EE-12	ROADWAY H	WW-15	ROADWAY A
EE-13	RAMP Q	WW-16	ROADWAY A
EE-14	ROADWAY D	WW-17	ROADWAY A
EE-15	ROADWAY D	WW-18	ROADWAY A
EE-16	ROADWAY D	WW-19	ROADWAY A
EE-17	ROADWAY D	WW-20	ROADWAY A
EE-18	ROADWAY D	WW-21	ROADWAY A
EE-19	ROADWAY D	WW-22	ROADWAY A
EK-1	RAMP D	WW-23	ROADWAY A
EK-2	RAMP D	WL-1	RAMP O
EK-3	RAMP D	WN-1	RAMPS A & R
EK-4	RAMP D	WN-2	RAMPS A & R
EK-5	RAMP D	WN-3	RAMPS A & R

FAI ROUTE NO.				
70	*	St Clair	320	295

* 82-3HVB-2R-1

PS-1 TRUSS 1 STA 94+10 EB C-D

SHIELD STANDARD(S)
M1 - 1 - 3636
M1 - 1 - 3636

BORDER WIDTH IS 2.00 INCHES

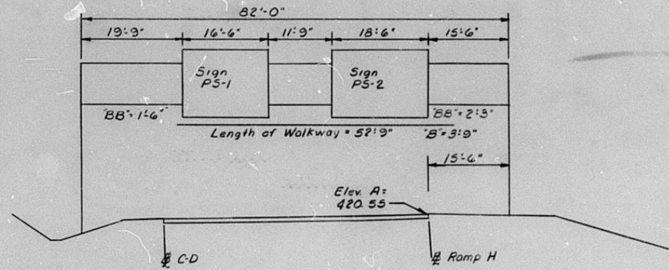
CORNER RADIUS IS 12.0 INCHES

TOTAL WIDTH IS 16.5 FEET
TOTAL HEIGHT IS 13.0 FEET
TOTAL AREA IS 214.50 SQ. FT.

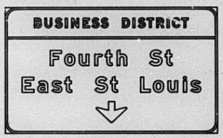
ARROW SIZE(S)
32 X 22
32 X 22

BACKGROUND/LEGEND COLOR IS GREEN/WHITE

LINE	VERTICAL SPACING	LEGEND HEIGHT	LETTER HEIGHT	LEFT BORDER	WORD 1 WIDTH	HORIZ. SPACING	WORD 2 WIDTH	HORIZ. SPACING	WORD 3 WIDTH	HORIZ. SPACING	WORD 4 WIDTH	HORIZ. SPACING	WORD 5 WIDTH	RIGHT BORDER	LEGEND WIDTH
TOP EDGE															
	16/0														
1		36/0	12/0- 0/0	42/0	36/0	42/0	36/0							42/0	114/0
	11/5														
2		16/0	16/0-12/0	51/0	96/7									50/0	96/7
	12/0														
3		16/0	16/0-12/0	35/3	128/3									34/1	128/3
	10/4														
4		22/0	0/0- 0/0	13/0	32/0	108/0	32/0							13/0	172/0
	15/7														
5															
6															
7															
8															
BOTTOM EDGE															



TRUSS NO. 1
STA 94+10 (E.B. C-D)



PS-2 TRUSS 1 STA 94+10 EB C-D

SHIELD STANDARD(S)

BORDER WIDTH IS 2.00 INCHES

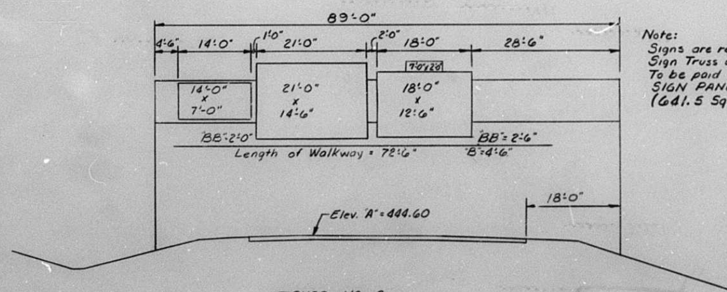
CORNER RADIUS IS 12.0 INCHES

TOTAL WIDTH IS 18.5 FEET
TOTAL HEIGHT IS 13.0 FEET
TOTAL AREA IS 240.50 SQ. FT.

ARROW SIZE(S)
32 X 22

BACKGROUND/LEGEND COLOR IS GREEN/WHITE

LINE	VERTICAL SPACING	LEGEND HEIGHT	LETTER HEIGHT	LEFT BORDER	WORD 1 WIDTH	HORIZ. SPACING	WORD 2 WIDTH	HORIZ. SPACING	WORD 3 WIDTH	HORIZ. SPACING	WORD 4 WIDTH	HORIZ. SPACING	WORD 5 WIDTH	RIGHT BORDER	LEGEND WIDTH
TOP EDGE															
	11/2														
1		10/0	10/0- 0/0	31/0	77/4	15/0	68/6							29/5	151/2
	9/6														
2		2/0	0/0- 0/0	2/0	218/0									2/0	218/0
	36/0														
3		16/0	16/0-12/0	48/1	80/1	24/0	23/7							45/6	128/0
	12/0														
4		16/0	16/0-12/0	18/5	52/2	24/0	23/7	24/0	62/7					16/2	187/0
	9/6														
5		22/0	0/0- 0/0	95/0	32/0									95/0	32/0
	11/2														
6															
7															
8															
BOTTOM EDGE															



Note:
Signs are relocated from Sign Truss at Sta 103+00. To be paid for as RELOCATE SIGN PANEL - TYPE 3, (641.5 Sq. Ft. Total)

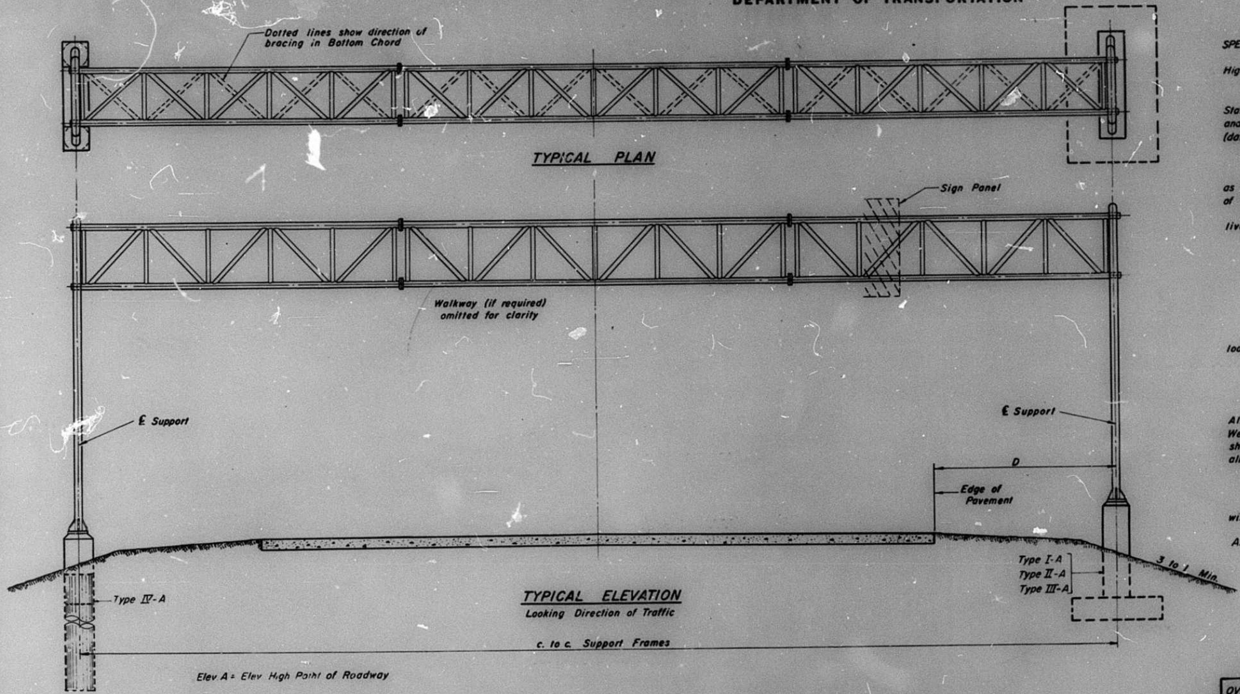
TRUSS NO. 2
STA. 106+00 (E.B.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	*	St. Clair	320	296

SHEET NO. / SHEETS

* 82-3HVB-2R-1



GENERAL NOTES

SPECIFICATIONS:

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals _ dated 1975.

CONSTRUCTION: Standard Specifications for Road and Bridge Construction, State of Illinois, (dated October 1, 1983), Supplemental Specifications for Road and Bridge Construction, Standard Specifications for Traffic Control Items (dated Feb. 1, 1984) and Special Provisions.

LOADING: 80 M.P.H. WIND VELOCITY PLUS 30 % GUST FACTOR
WIND LOADING: 35 p.s.f. normal to Sign Panel Area as shown below in Wind Loading Diagram plus 10 p.s.f. normal to remainder of sign truss area.
WALKWAY LOADING: Dead Load + 500 # concentrated liveload

UNIT STRESSES:
Structural Steel - 20,000 p.s.i.
Reinforcing Steel - 20,000 p.s.i.
Class X Concrete - 1,400 p.s.i.
Footing Soil Pressure - 2,500 p.s.f. max.
Structural Aluminum - per AASHTO Standard Specifications for Structural Supports for Highway Signs........1975.
Allowable unit stresses due to wind load in combination with other forces, are increased 1.45.

MINIMUM CLEARANCE: Vertical Roadway Clearance = 17'-3" (All Obstructions)

SIGN TRUSS UNITS shall be all welded construction.

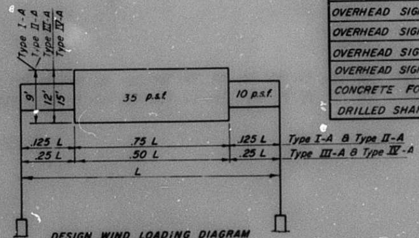
WELDING: All welding to be continuous unless otherwise shown. All welding to be made in accordance with current AWS Specifications. Welding on AASHTO M-183 Plates and Shapes or ASTM A-53 Grade B Pipe shall be done with electrodes E 7016, E 7018 or E 7028. Aluminum alloy filler wire for welding aluminum shall conform to ASTM B-285 ER 5356.

MATERIALS: Aluminum Alloys as shown throughout plans.
All Structural Steel Pipe shall be ASTM A-53 Grade B with a minimum yield of 35,000 p.s.i.
All Structural Steel Plates and Shapes shall conform to AASHTO M-183.

TOTAL BILL of MATERIAL

OVERHEAD SIGN STRUCTURE TYPE I-A (4'-0" x 4'-6")	Lin. Ft.	
OVERHEAD SIGN STRUCTURE TYPE II-A (4'-6" x 5'-3")	Lin. Ft.	
OVERHEAD SIGN STRUCTURE TYPE III-A (5'-0" x 7'-0")	Lin. Ft.	
OVERHEAD SIGN STRUCTURE TYPE IV-A (6'-0" x 8'-0")	Lin. Ft.	171.0
OVERHEAD SIGN WALKWAY TYPE A	Lin. Ft.	125.25
CONCRETE FOUNDATIONS	Cu. Yds.	
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	35.5

Truss No.	Station	c. to c. Support	Elev. A	Dim. D
1	94+10	82'-0"	420.55	15'-6"
2	106+00	89'-0"	444.60	18'-0"



DESIGN WIND LOADING DIAGRAM

OVERHEAD SIGN STRUCTURES
GENERAL PLAN & ELEVATION
ALUMINUM TRUSS & STEEL SUPPORTS

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

DESIGNED	
CHECKED	
DRAWN	Wm. M. Best
CHECKED	

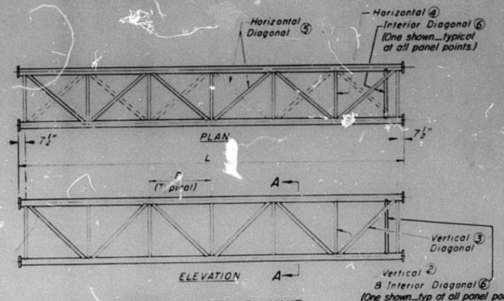
EXAMINED ______ 19__ ENGINEER OF BRIDGE DESIGN
PASSED ______ ENGINEER OF BRIDGES AND STRUCTURES
APPROVED ______ DIRECTOR OF HIGHWAYS

OS-A-1 2-8-68 2-7-69 4-26-71 4-3-72 4-26-74 2-6-76

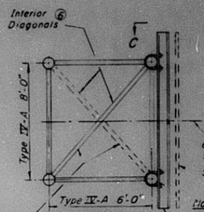
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

70	*	St. Clair	320	297	SHEET NO. / SHEETS

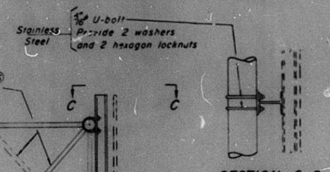
* 82-3HVB-2R-1



TYPICAL INTERIOR UNIT



SECTION A-A



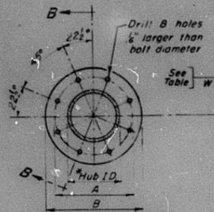
SECTION C-C

℄ Truss & ℄ Sign—except with exit number sign as shown on sheet OS4-A-9.

Sign Panel—See Sign Panel Sheet for Details.

Note: Sign Panel shall be attached to truss as close to panel joints as possible.

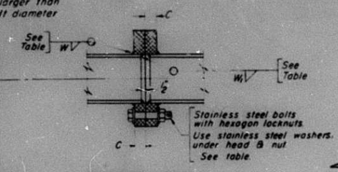
4 WF 1.79
ASTM B-308, Alloy 6061 T6
Sign Width—0'-10' Incl.—2 Req'd
10'-16' Incl.—3 Req'd
16'-22' Incl.—4 Req'd
22'-28' Incl.—5 Req'd
28'-34' Incl.—6 Req'd



SPLICING FLANGE

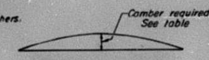
ASTM B-221, Alloy 6061-T6
or
ASTM B-209, Alloy 6061-T651

*To fit O.D. of Chord

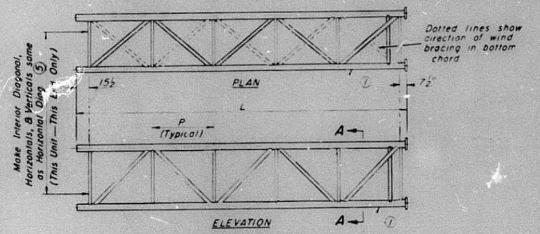


SECTION B-B

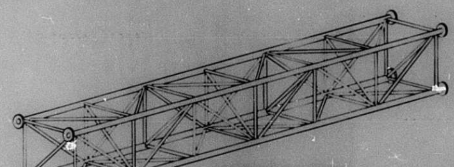
Note: Splicing Flanges shall be attached to the truss unit with the truss shop assembled to proper camber. They may be attached by welding while assembled or tack welded and then welded when disassembled. They shall be in proper alignment and contact surfaces shall be in full contact before welding. Flanges shall be "match marked" before welding into place.



CAMBER DIAGRAM



TYPICAL END UNIT

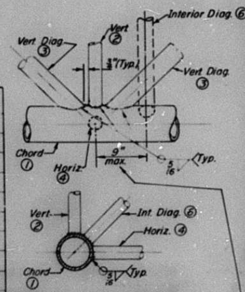


ISOMETRIC VIEW
TYPICAL TRUSS UNIT
ASTM B-221 Alloy 6061 Temper T6

NOTE: UNITS SHALL BE SHIPPED UNASSEMBLED

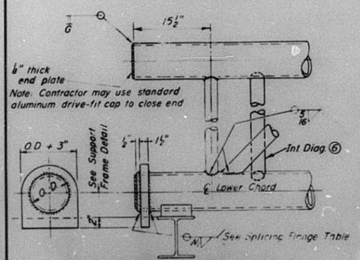
SPLICING FLANGE TABLE

Truss Number	Bolts No.	Bolts Size	W	W1	A	B	C
1	64	7/8"	5/16"	1/4"	9 1/4"	12 1/4"	1 3/8"
2	64	7/8"	5/16"	1/4"	9 1/4"	12 1/4"	1 3/8"



TYPICAL JOINT DETAILS

Interior Diagonal ⑥ shall be detailed for minimum offset from the panel point based on the following: Offset shall be such as to provide a minimum 1/2" clearance between diagonal and any horizontal or vertical member or to provide clearance for u-bolt connections of signs or walkway brackets.



END DETAIL for END UNIT

TRUSS UNIT TABLE

Truss Number	Station	Truss Type	End Units (2) No. Panels per Unit	End Units Unit Lgth (L)	End Units Panel Lgth (P)	Interior Unit No. Req'd	Interior Unit No. Panels per Unit	Interior Unit Unit Lgth (L)	Interior Unit Panel Lgth (P)	Top & Btm. Chord ① O.D.	Wall	Vertical ② O.D.	Wall	Vertical Diag. ③ O.D.	Wall	Horizontal ④ O.D.	Wall	Horizontal Diag. ⑤ O.D.	Wall	Interior Diag. ⑥ O.D.	Wall	Camber at ℄
1	94+10	IV	6	28'-0 1/2"	4'-4 1/4"	1	6	27'-4 1/2"	4'-4 1/4"	5 1/2"	1/4"	2 1/4"	3/16"	3 1/4"	1/4"	2 1/4"	3/16"	3 1/4"	1/4"	2 1/2"	3/16"	1 1/2"
2	106+00	IV	7	31'-8 7/8"	4'-3 1/8"	1	6	26'-9 3/4"	4'-3 1/8"	5 1/2"	1/4"	2 1/4"	3/16"	3 1/4"	1/4"	2 1/4"	3/16"	3 1/4"	1/4"	2 1/2"	3/16"	1 1/2"

OVERHEAD SIGN STRUCTURES
ALUMINUM TRUSS DETAILS
for TYPE IV-A TRUSS ONLY

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

DESIGNED
CHECKED
DRAWN Wm. M. Best
CHECKED

EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

OS4-A-2 2-6-76 1-16-79 6-18-82 7-17-84

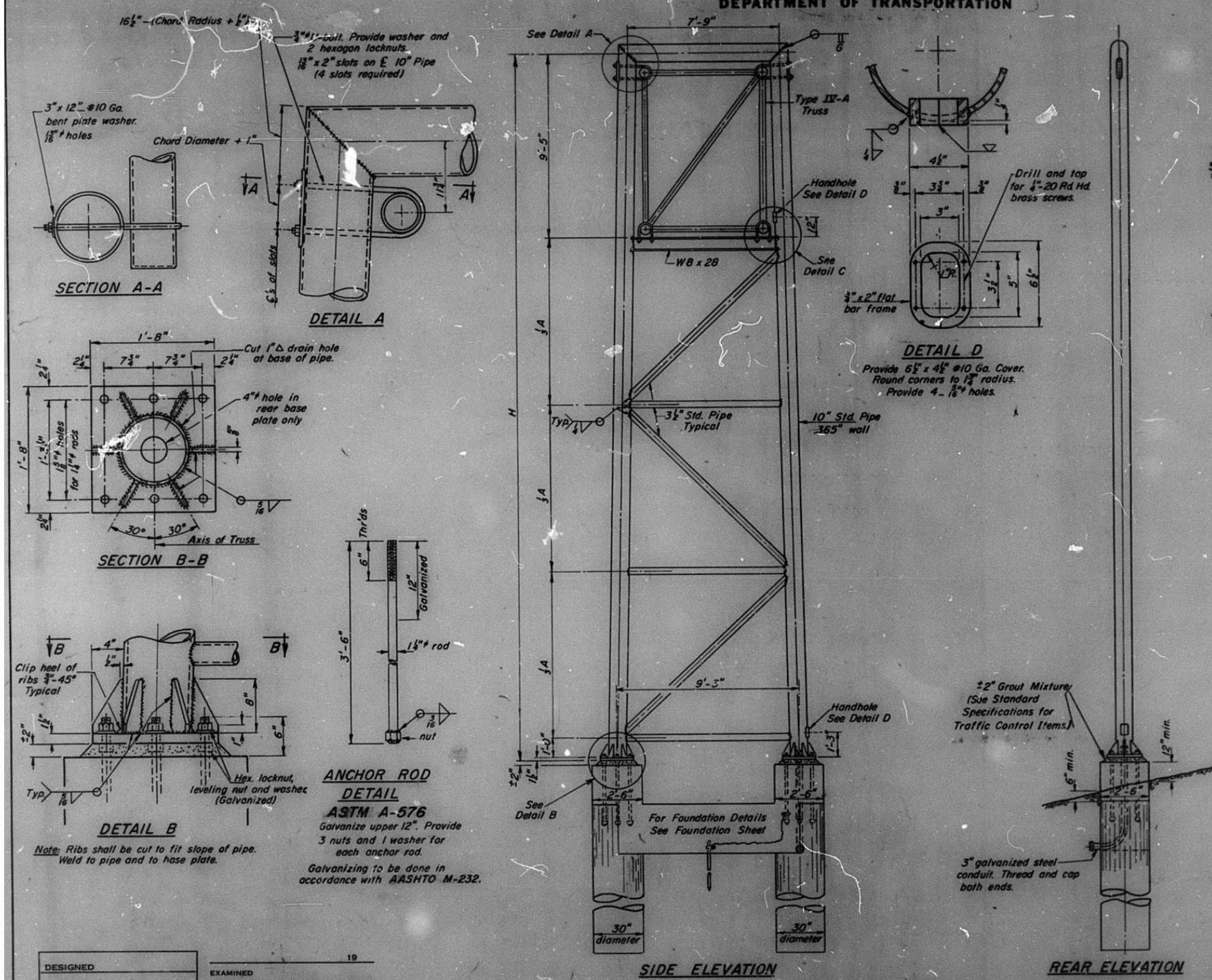
Rev. 1-13-87 DD

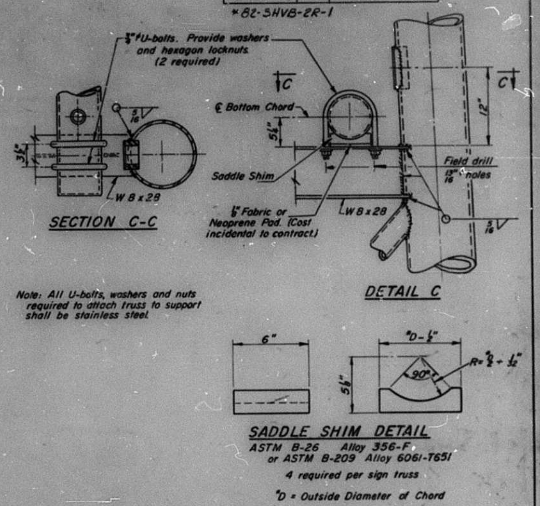
BAD COPY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Route No.	Section	County	Total Sheets	Sheet No.
70	*	St Clair	320	298

*82-3HVB-2R-1





Truss No.	Left Supp't	Right Supp't	Station	H	A
1	✓		94+10	31'-11"	21'-4½"
1		✓	94+10	29'-2"	18'-7½"

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME for ALUMINUM TRUSS

FAI ROUTE 70
SECTION 82-3HVB-2R-3
ST. CLAIR COUNTY

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

EXAMINED 19 — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

TRUSS SUPPORT DETAILS
(10" Std. Pipe - Type IV-A Truss)

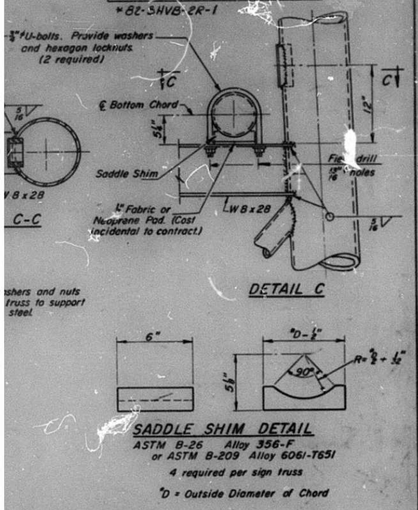
OS4-A-8 4-26-71 4-3-72 7-31-73 4-26-74 2-6-76 5-1-78

Rev. 1-13-87 D.D.

BADCOPY

Route No.	Section	County	Total Sheets	Sheet No.
70	*	St Clair	320	298

*82-3HVB-2R-1

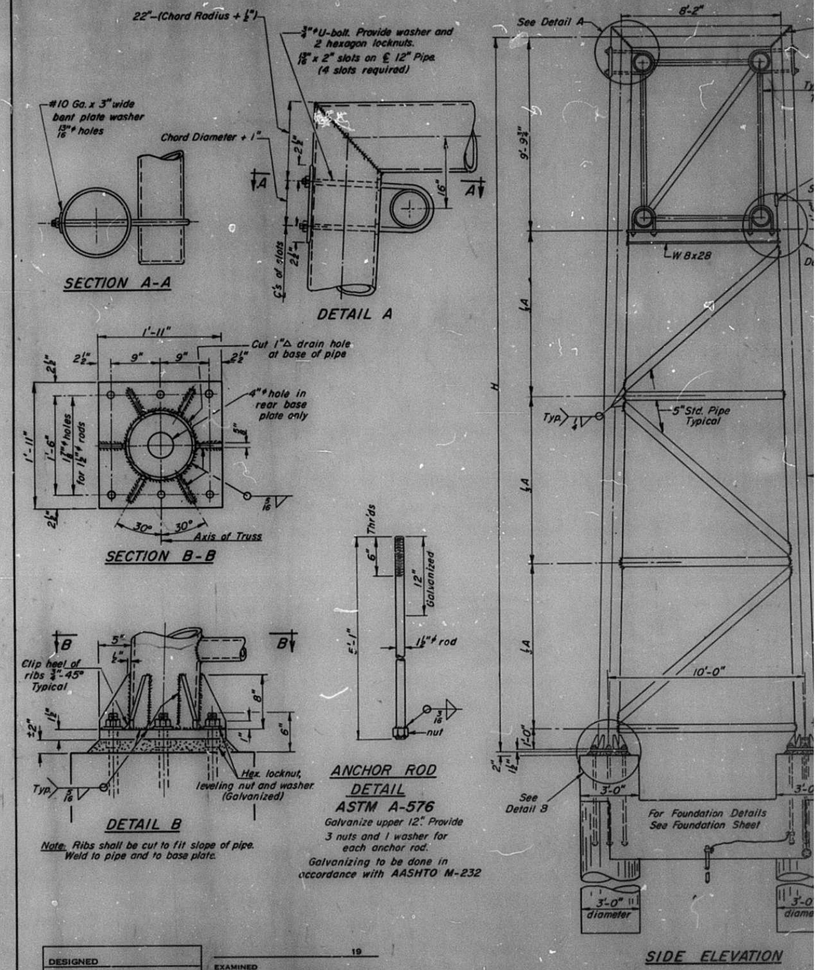


Truss No.	Left Supp't	Right Supp't	Station	H	A
1	✓		94+10	31'-11"	21'-4 1/2"
1		✓	94+10	29'-2"	18'-7 1/2"

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME for ALUMINUM TRUSS

FAI ROUTE 70
SECTION 82-3HVB-2R-3
ST. CLAIR COUNTY

Rev. 1-13-87 D.D.



DESIGNED	EXAMINED	19
CHECKED	PASSED	ENGINEER OF BRIDGE DESIGN
DRAWN	APPROVED	ENGINEER OF BRIDGES AND STRUCTURES
CHECKED		DIRECTOR OF HIGHWAYS

OS4-A-8a 4-26-71 4-3-72 7-31-73 4-26-74 3-6-76 5-1-78

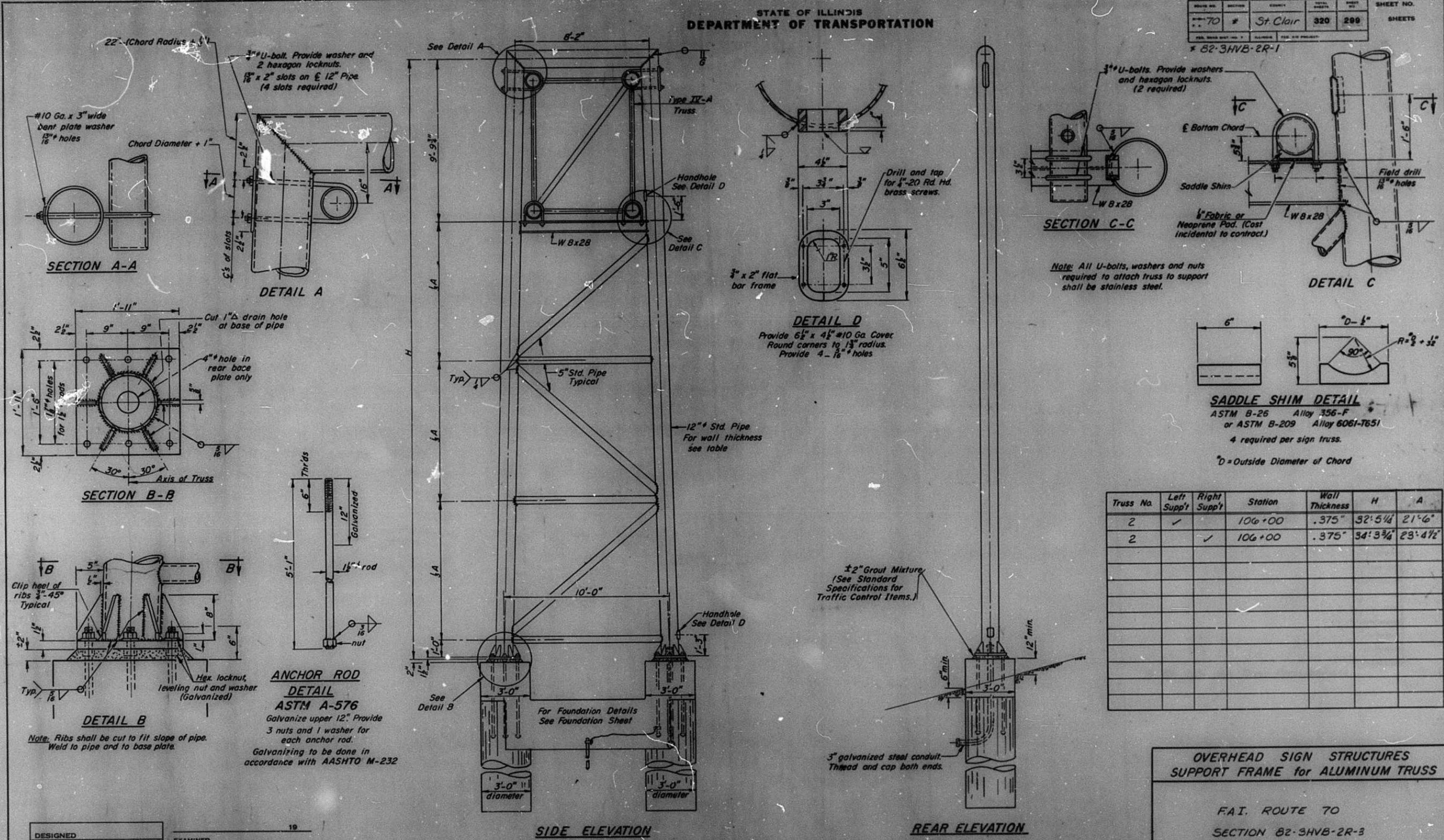
TR
(12"

BA

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	St. Clair	320	299

* 82-3HVB-2R-1



Truss No.	Left Supp't	Right Supp't	Station	Wall Thickness	H	A
2	✓		106+00	.375"	32'-5 1/4"	21'-6"
2		✓	106+00	.375"	34'-3 3/4"	23'-4 1/2"

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME for ALUMINUM TRUSS

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

TRUSS SUPPORT DETAILS
(12" Std. Pipe - Type IV-A Truss)

DESIGNED	EXAMINED ... 19 ... ENGINEER OF BRIDGE DESIGN
CHECKED	PASSED ... ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	APPROVED ... DIRECTOR OF HIGHWAYS
CHECKED	

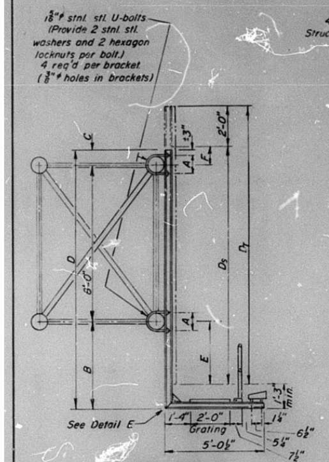
OS4-A-8a 4-26-71 4-3-72 7-31-73 4-26-74 2-6-76 5-1-78

BAD COPY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

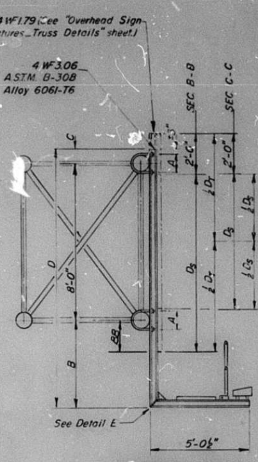
* 82-3HVB-2R-1

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	St. Clair	320	300

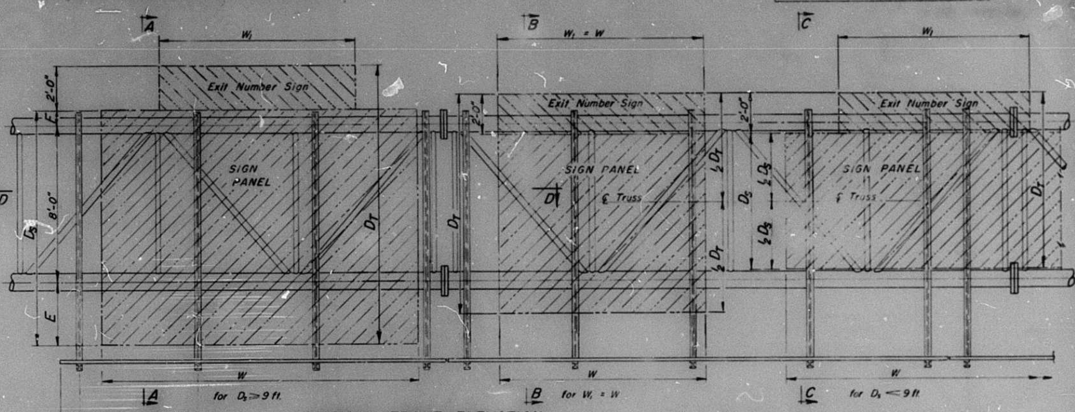


SECTION A-A

For details of handrail, grating tie-downs and light fixture supports, see sheet OS-A-10.



SECTION B-B
SECTION C-C



TYPICAL FRONT ELEVATION

(with Lights and Handrail omitted for clarity)

W = width of sign panel.
W_1 = width of exit number sign.
D_S = depth of sign panel.
D_T = total depth of sign panel and exit number sign.

Note: If exit number sign is not used, sign panel shall be centered on truss.

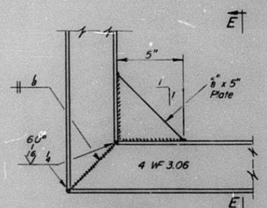
For location and data of sign panels see other sheets.

Truss No	Station	A	B	C	D	BB
1	94+10	5 15/16"	3'-9"	6"	12'-3"	*
2	106+00	5 15/16"	4'-6"	6"	13'-0"	*

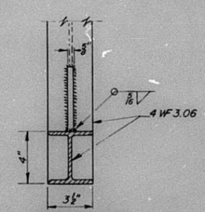
* For BB see Truss Cross-Sections

Note: Handrail and Grating shall span a minimum of three brackets. Place all sign and walkway brackets as close to panel points as possible.

Use this sheet with sheet OS-A-10.



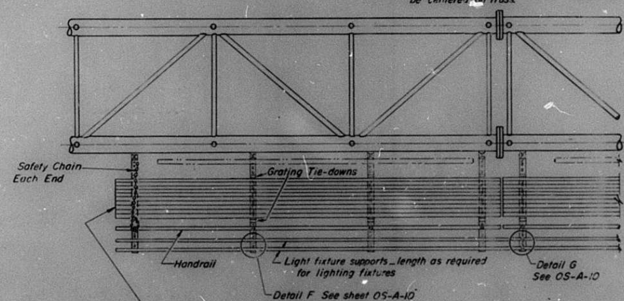
DETAIL E



SECTION E-E

BRACKET DETAILS

A.S.T.M. B-308, Alloy 6061-T6



SECTION D-D

Standard Aluminum Grating
Main Bearing Bars $\frac{3}{16}$" x 1½" on $1\frac{3}{16}$" centers.
Main Bearing Bars shall conform to ASTM B-211 alloy 6061-T6.
Cross bars on 4" centers shall conform to ASTM B-221 alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with Modified "I" Sections for main bearing bars shall meet the following requirements:
Main bearing bars shall conform to ASTM B-221 alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.^{3} per bar, a depth of 1½", spaced on $1\frac{3}{16}$" centers.
Cross bars shall conform to ASTM B-221 alloy 6063-T5 or T-42 and spaced on 4" centers.

D_S (Sign Depth)	E	F
9'-0"	6"	6"
9'-6"	9"	9"
10'-0"	1'-0"	1'-0"
10'-6"	1'-3"	1'-3"
11'-0"	1'-9"	1'-3"
11'-6"	2'-0"	1'-6"
12'-0"	2'-6"	1'-6"
12'-6"	3'-0"	1'-6"
13'-0"	3'-3"	1'-9"

OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS
TYPE IV TRUSS ONLY

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

DESIGNED	EXAMINED 19 ENGINEER OF BRIDGE DESIGN
CHECKED	PASSED ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	APPROVED DIRECTOR OF HIGHWAYS
CHECKED	

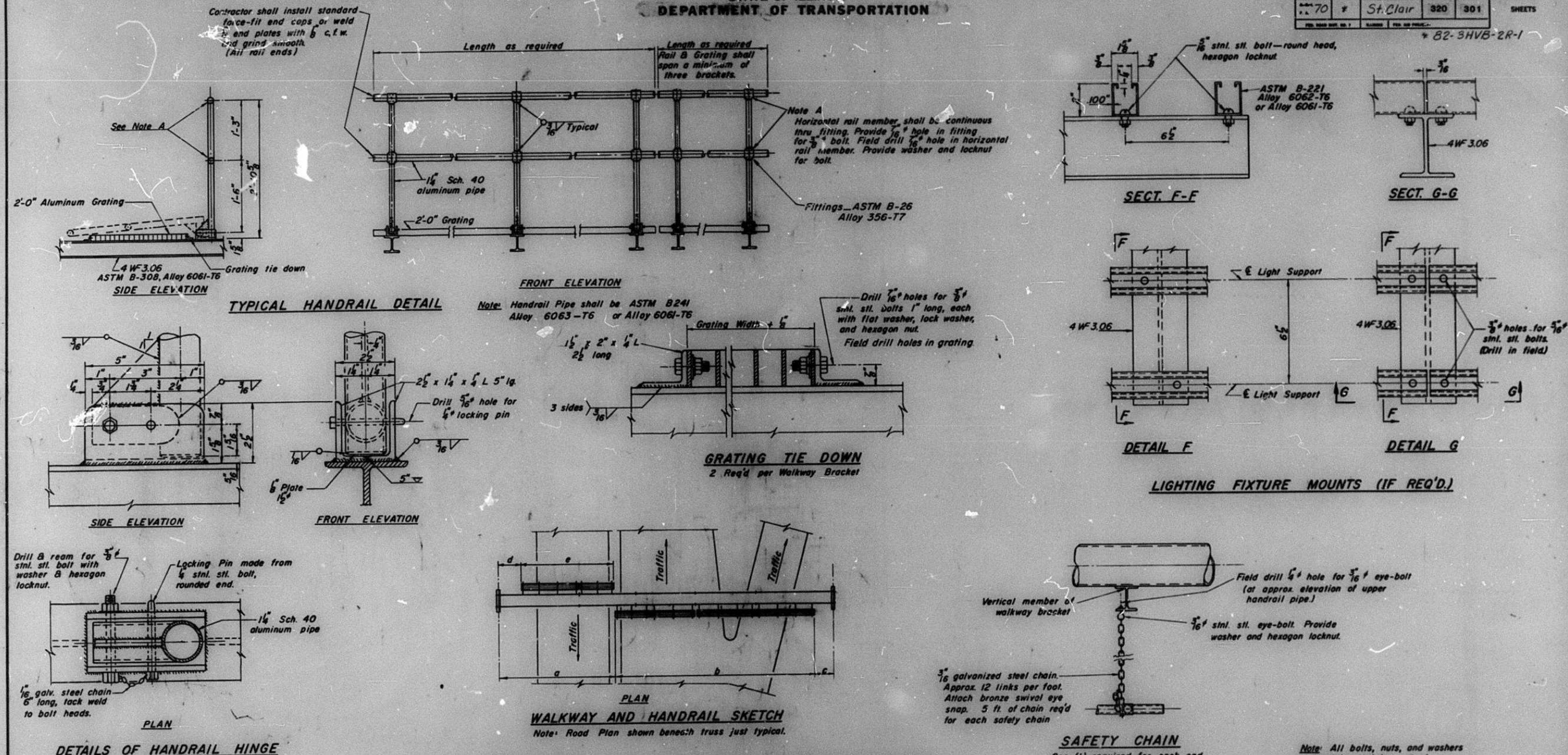
OS4-A-9 4-26-71 4-3-72 1-16-79

BAD COPY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

70	*	St. Clair	320	301	SHEET NO. / SHEETS

* 82-3HVB-2R-1



Truss Number	Station	a	b	c	d	e	Grating & Handrail Lengths
1	94+10	18'-9"	52'-9"	10'-6"			52'-9"
2	106+00	3'-6"	72'-6"	13'-0"			72'-6"

OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS

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

DESIGNED
CHECKED
DRAWN Wm. M. Best
CHECKED
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

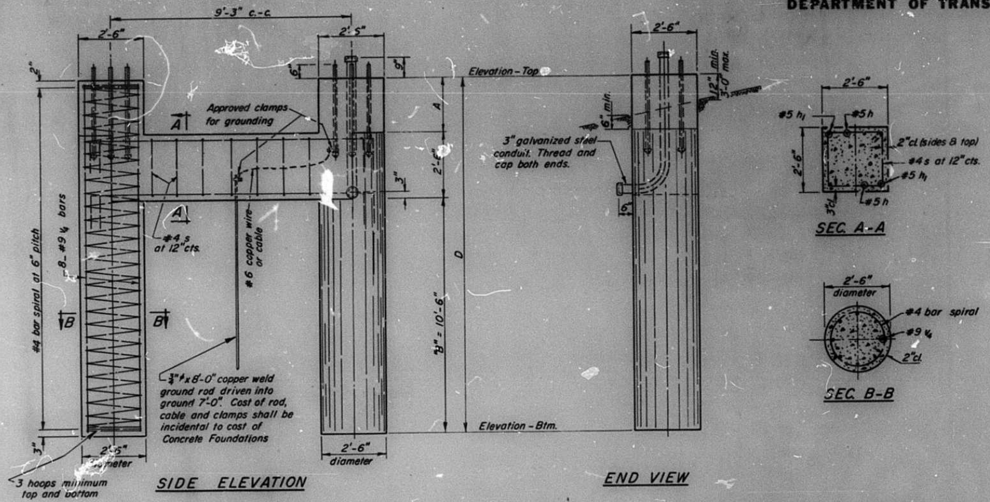
OS-A-10 2-8-68 4-3-72 9-20-73 2-6-76

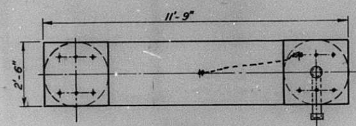
BADCOPY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

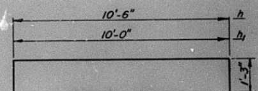
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	St. Clair	320	302

* 82-3HVB-2R-1





PLAN



BARS h and h_1

Note:

The foundation details shown are for Average Cohesive Soil Conditions (stiff clays, sandy clays) and with minimum Qu = 1.25 Ton/Sq.Ft. "Qu" – being the average value of hand penetrometer readings at various depths of the shaft as determined by the Engineer at time of drilling operations or previous soil investigation.

For weaker clay soils or granular soil conditions, dimension "B" shall be increased.

See Standard Specifications for Traffic Control Items, Sec. T 312.

Truss No.	Station	Left Foundation				Right Foundation				Class X Concrete
		Elev. Top	Elev. Btm.	A	D*	Elev. Top	Elev. Btm.	A	D*	
1	94+10	418.45	403.86	1.59'	14.59'	421.20	407.20	1.0'	14.0'	14.4

*D = A + 2'-6" + B

BAR LIST – EACH FOUNDATION

Bar	No.	Size	Lgth.	Shape
h	4	#5	13'-0"	
h_1	4	#5	12'-6"	
s	7	#4	9'-3"	
v_4	16	#9	D less 5"	
#4 bar spiral – see Side Elevation				

DRILLED SHAFT
FOUNDATION DETAILS
for 10" Std. PIPE SUPPORT
(Type IV Truss)

OVERHEAD SIGN STRUCTURES
FOUNDATION DETAILS

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

DESIGNED	EXAMINED ________ 19
CHECKED	ENGINEER OF BRIDGE DESIGN
DRAWN	PASSED
CHECKED	ENGINEER OF BRIDGES AND STRUCTURES
	APPROVED
	DIRECTOR OF HIGHWAYS

OS4-F 4-26-71 4-3-72 2-6-76 1-16-79

BAD COPY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

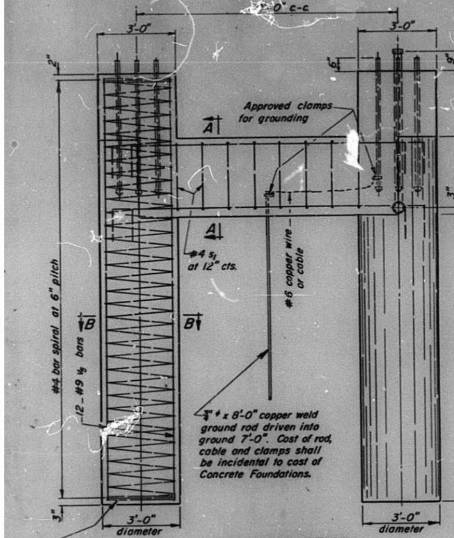
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	St. Clair	320	303

* 82-3HVB-2R-1

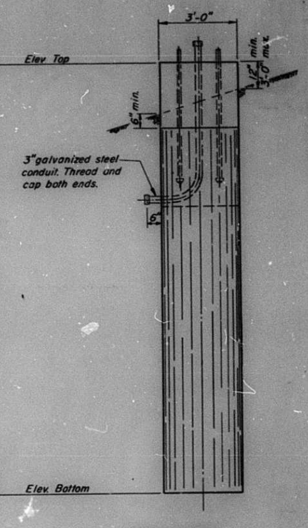
Note: *The foundation details shown are for Average Cohesive Soil Conditions (stiff clays, sandy clays) and with minimum Qu=1.25 Ton/Sq.Ft "Qu"—being the average value of hand penetrometer readings at various depths of the shaft as determined by the Engineer at time of drilling operations or previous soil investigation.*

For weaker clay soils or granular soil conditions, dimension "B" shall be increased.

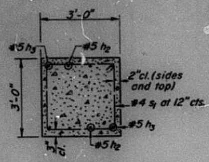
See Standard Specifications for Traffic Control Items, Sec. T312.



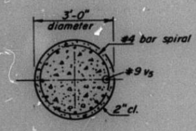
SIDE ELEVATION



END VIEW



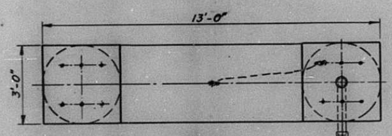
SEC. A-A



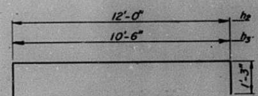
SEC. B-B

Truss No.	Station	B	Left Foundation Elev. Top	Left Foundation Elev. Btm.	Left Foundation A	Left Foundation D*	Right Foundation Elev. Top	Right Foundation Elev. Btm.	Right Foundation A	Right Foundation D*	Class X Concrete
2	106+00	11'-0"	443.08	428.06	1.02'	15.02'	441.20	426.20	1.0'	15.0'	21.1

*Dim. "D" = A + 3'-0" + B



PLAN



BARS h_2 and h_3

BAR LIST—EACH FOUNDATION

Bar	No.	Size	Lgth.	Shape
h_2	4	#5	14'-6"	
h_3	4	#5	13'-0"	
s_1	8	#4	11'-3"	
v_3	24	#9	D less 5"	
#4 bar spiral — see Side Elevation				

TABLE I

12" Pipe Supp't Frame

Wall Thickness	B (min.)
.330"	9'-6"
.375"	11'-0"
.438"	12'-6"
.500"	14'-6"

DRILLED SHAFT FOUNDATION DETAILS for 12" Std. PIPE SUPPORT (Type IV Truss)

OVERHEAD SIGN STRUCTURES FOUNDATION DETAILS

F.A.I. ROUTE 70

SECTION 82-3HVB-2R-3

ST. CLAIR COUNTY

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

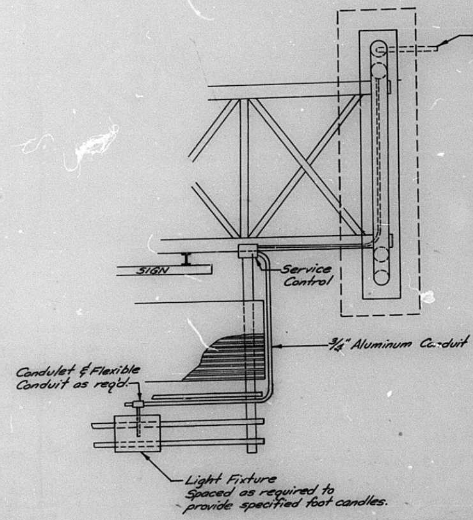
19

EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

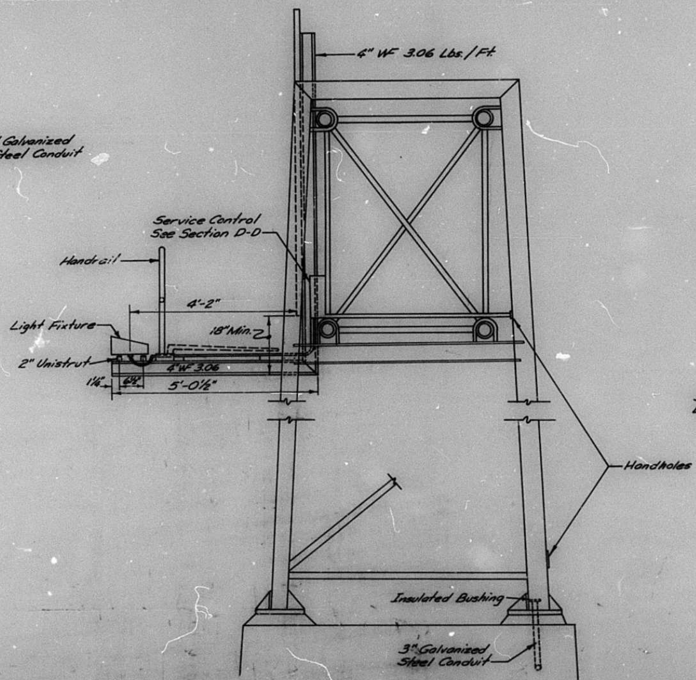
OS4-Fa 4-26-71 4-3-72 2-6-76 1-16-79

BADCOPY

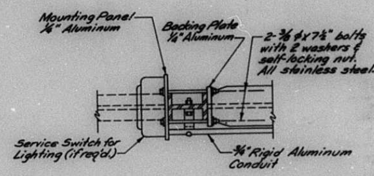
FAI ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST.CLAIR	320	204
* 82-3HVB-2R-				
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT-		



TRUSS MOUNTED SIGN (Top View)



TRUSS MOUNTED SIGN (Side Elevation)



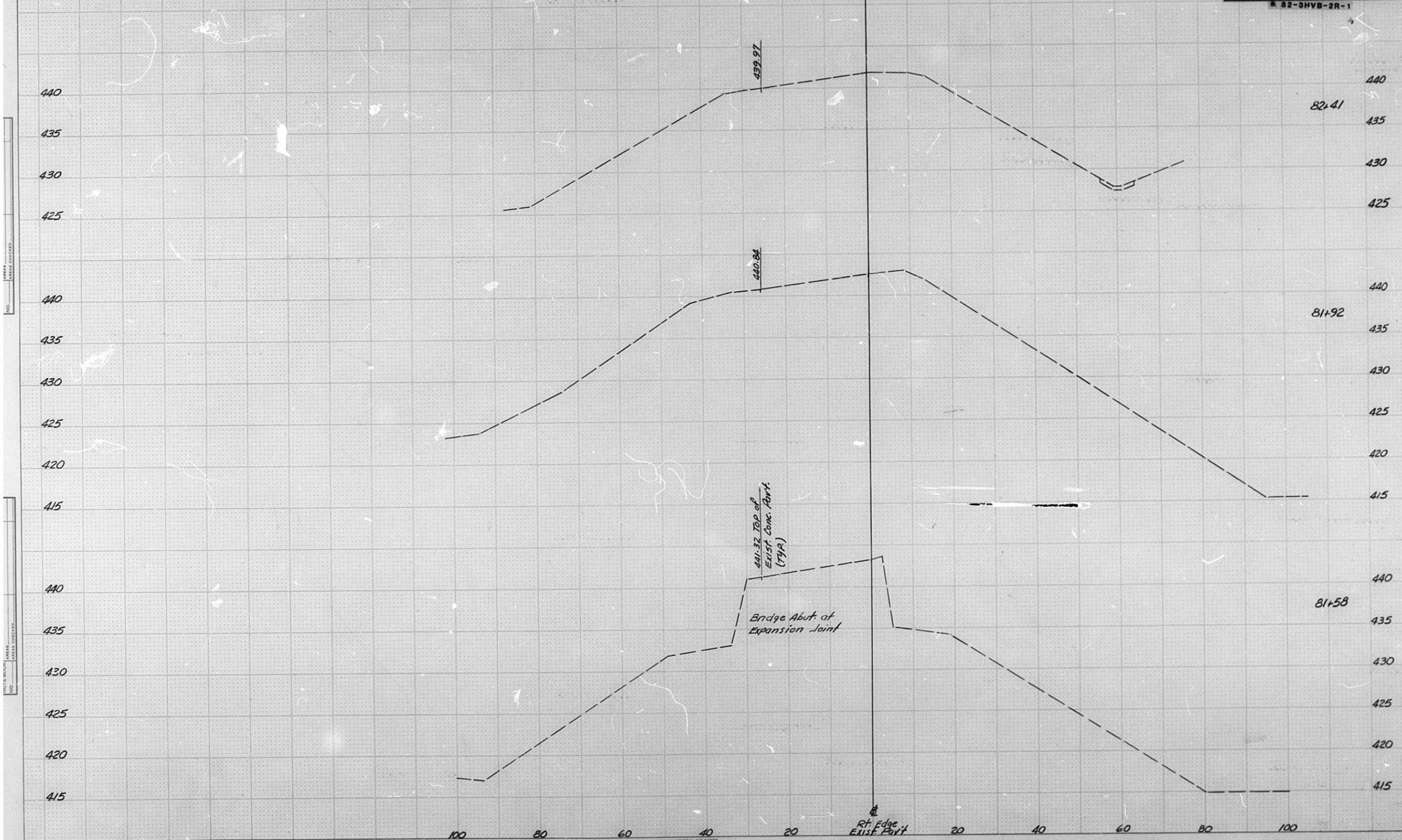
SECTION D-D

SIGN LIGHTING DETAILS

BAD COPY

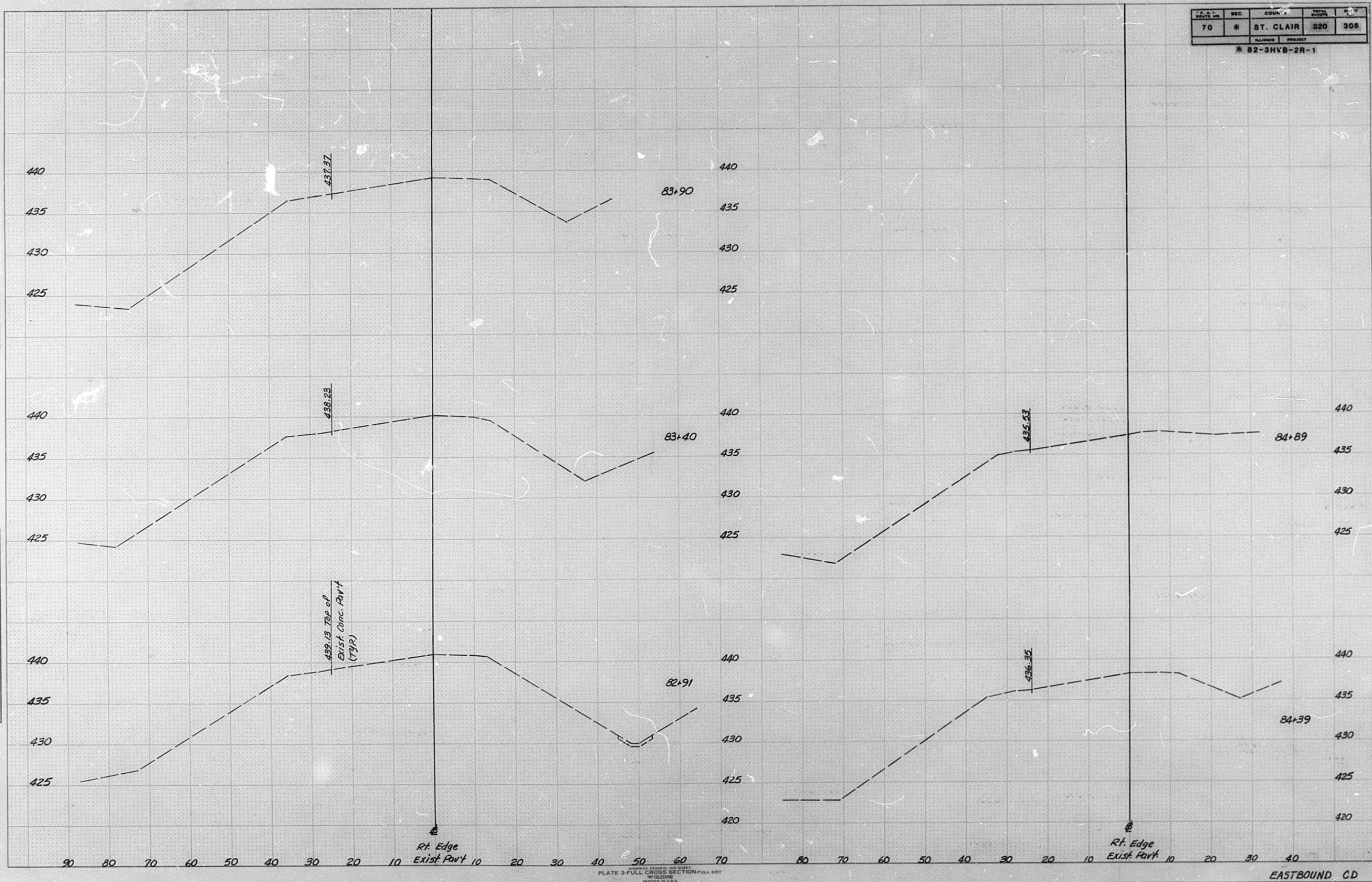
F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	ST. CLAIR	320	305

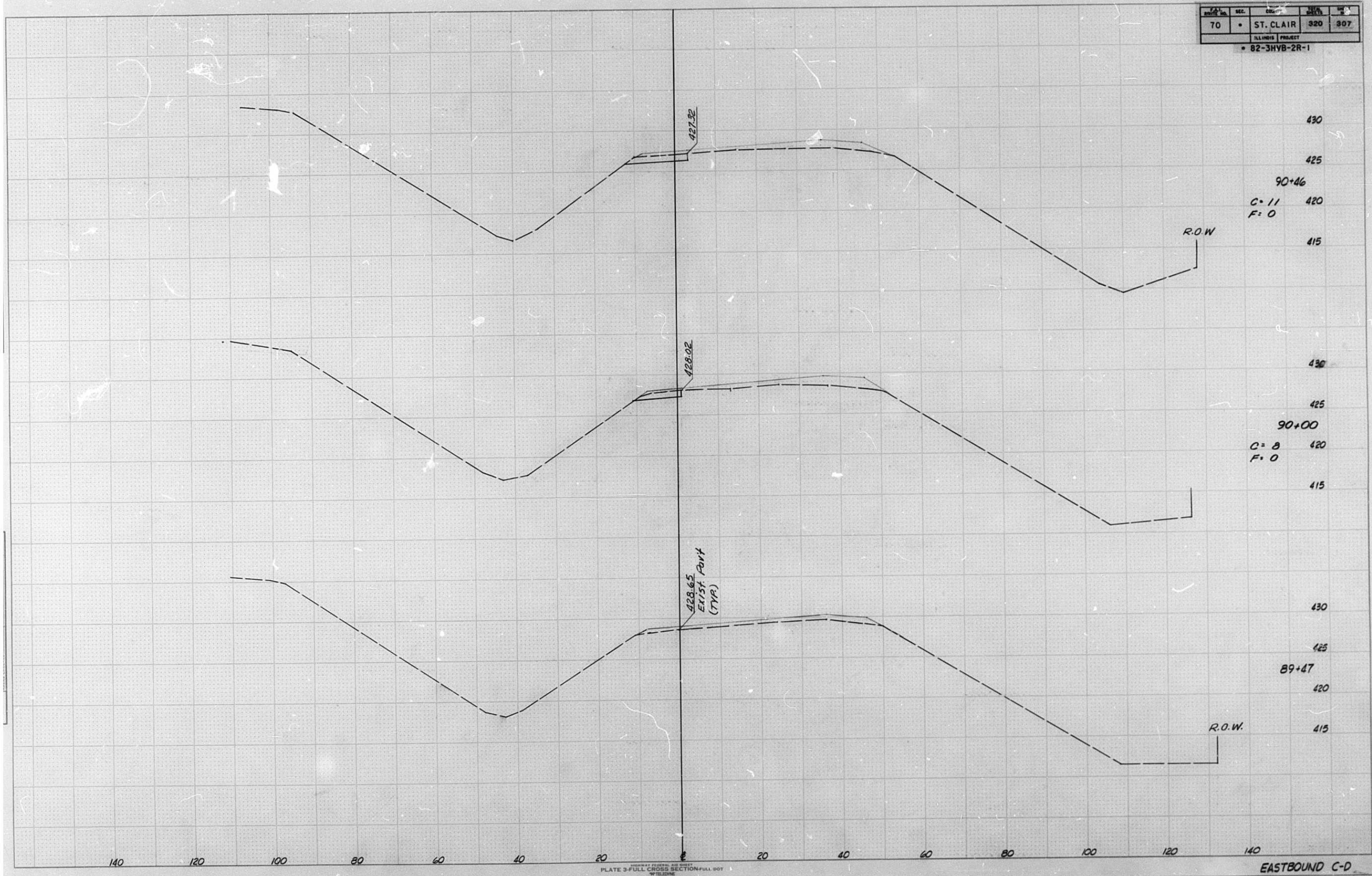
ILLINOIS PROJECT * 82-3HVB-2R-1



EASTBOUND CD

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
TELEDYNE
PRINTED IN U.S.A.


70
*
ST. CLAIR
320
306
* 82-3HVB-2R-1
83+90
437.37
83+40
438.23
82+91
439.13 Top of Exist. Conc. Pav't (Typ.)
84+89
435.53
84+39
436.35
℄
Rt. Edge Exist Pav't
440
435
430
425
420
90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70
80 70 60 50 40 30 20 10 10 20 30 40
PLATE 3-FULL CROSS SECTION
PRINTED IN U.S.A.
EASTBOUND CD



70
ST. CLAIR
320
307
ILLINOIS PROJECT
• 82-3HYB-2R-1
427.32
90+46
C = 11
F = 0
R.O.W
428.02
90+00
C = 8
F = 0
428.65
EXIST. Pav't
(TYP.)
89+47
R.O.W.
430
425
420
415
140
120
100
80
60
40
20
℄
20
40
60
80
100
120
140
HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
PRINTED IN U.S.A.
EASTBOUND C-D

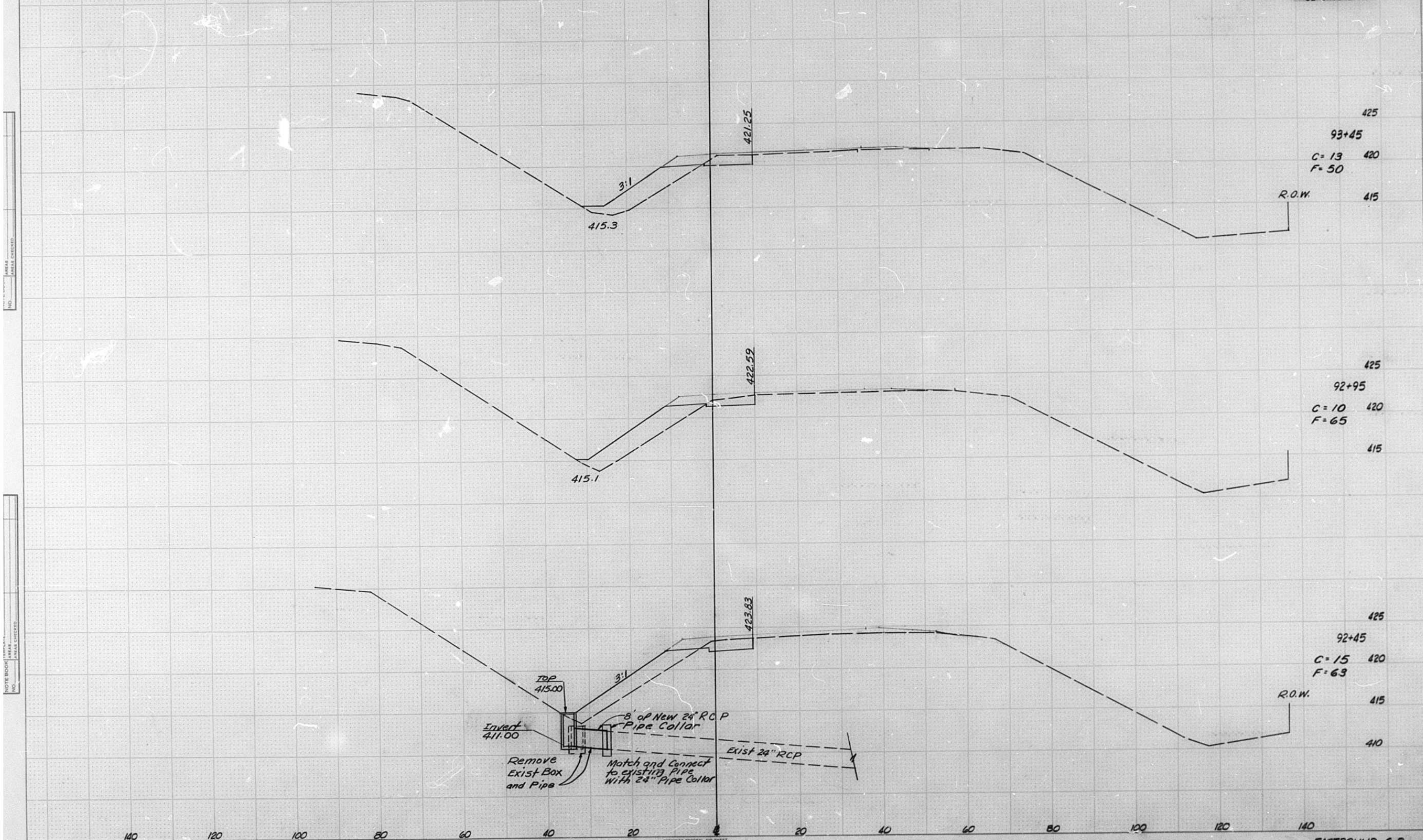
F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	308
		ILLINOIS PROJECT		
		• 82-3HVB-2R-1		

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
TELEDYNE
PRINTED IN U.S.A.

EASTBOUND C-D

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	309
	ILLINOIS	PROJECT		

• 82-3HVB-2R-1

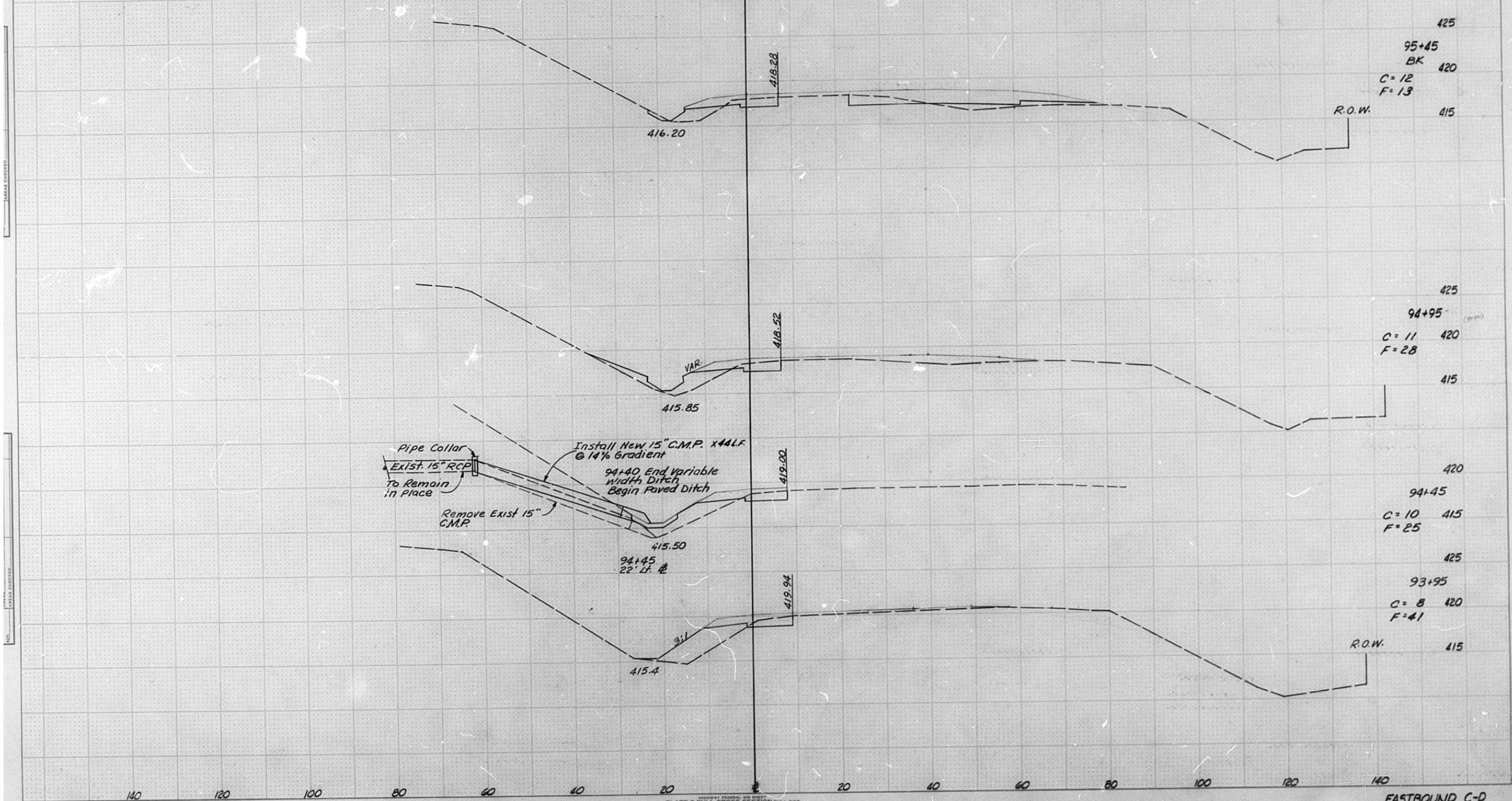


HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
"M" TELEDYNE
PRINTED IN U.S.A.

EASTBOUND C-D

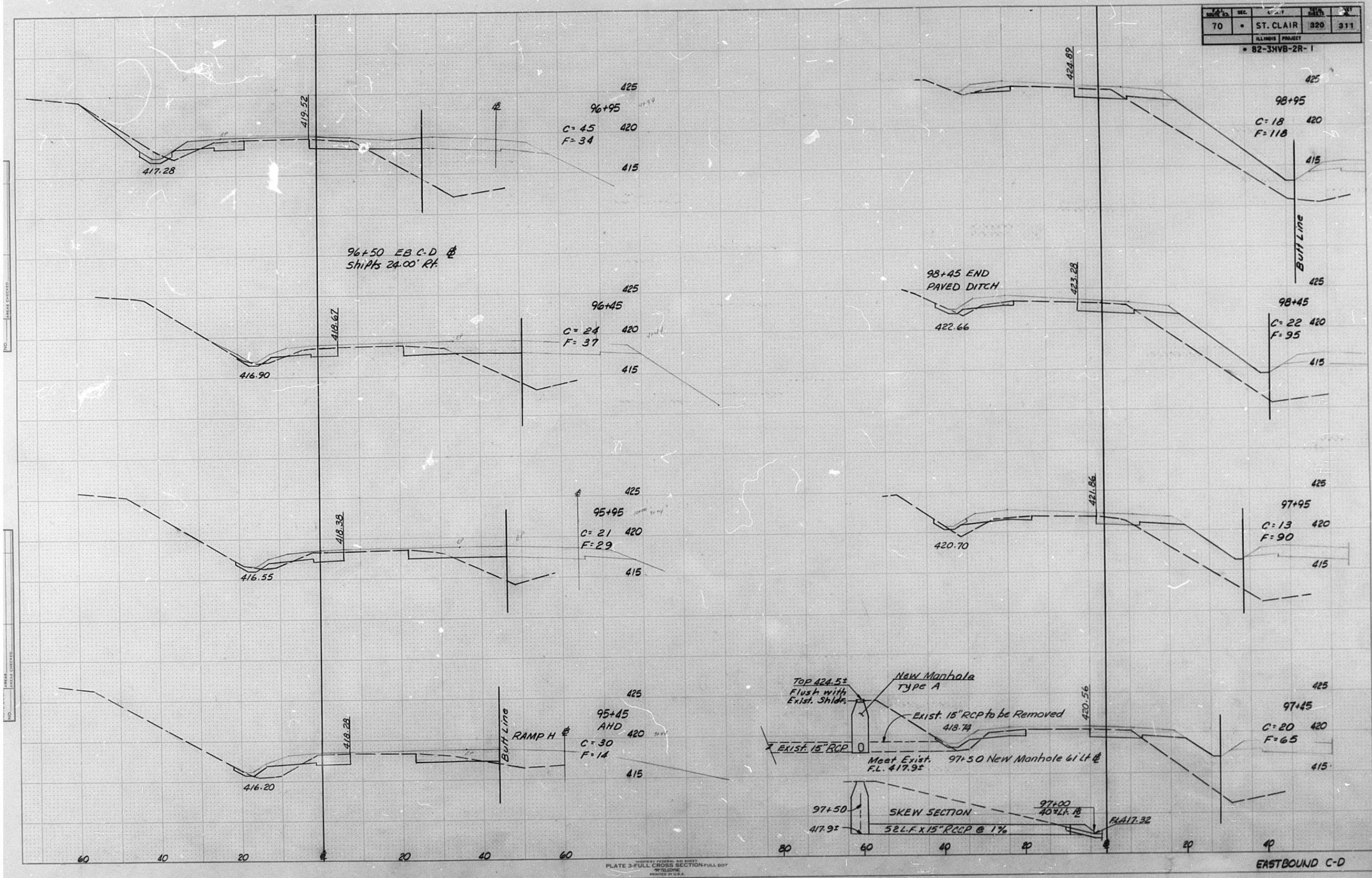
F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	310
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1



EASTBOUND C-D

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
TELEDYNE
PRINTED IN U.S.A.


70
•
ST. CLAIR
320
311
ILLINOIS PROJECT
• 82-3HVB-2R-1
96+95
C= 45
F= 34
419.52
417.28
425
420
415
96+50 EB C-D ℄
Shifts 24.00' Rt.
96+45
C= 24
F= 37
418.67
416.90
95+95
C= 21
F= 29
418.38
416.55
95+45
AHD
C= 30
F= 14
418.28
416.20
Butt Line
RAMP H ℄
98+95
C= 18
F= 118
424.89
Butt Line
98+45 END
PAVED DITCH
98+45
C= 22
F= 95
423.28
422.66
97+95
C= 13
F= 90
421.86
420.70
New Manhole
Type A
Top 424.5±
Flush with
Exist. Shldr.
Exist. 15" RCP to be Removed
Exist. 15" RCP
418.74
420.56
Meet Exist.
F.L. 417.9±
97+50 New Manhole 61' Lt ℄
97+45
C= 20
F= 65
97+50
417.9±
SKEW SECTION
97+00
40' Lt. ℄
52 L.F. x 15" RCCP @ 1%
F.L. 417.32
60
40
20
℄
20
40
60
80
60
40
20
℄
20
40
EASTBOUND C-D
PLATE 3-FULL CROSS SECTION FULL DOT

F.A. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	312
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

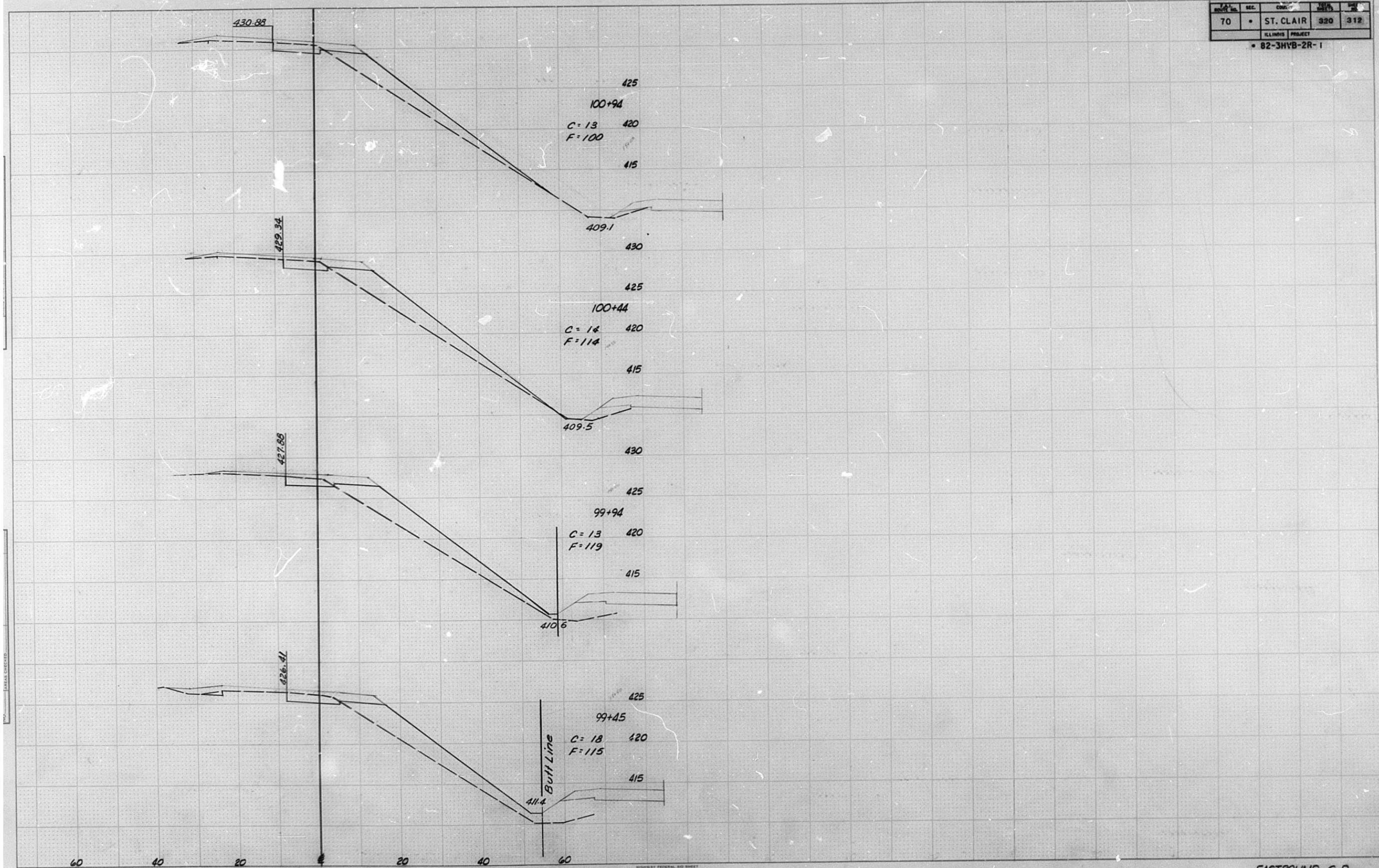
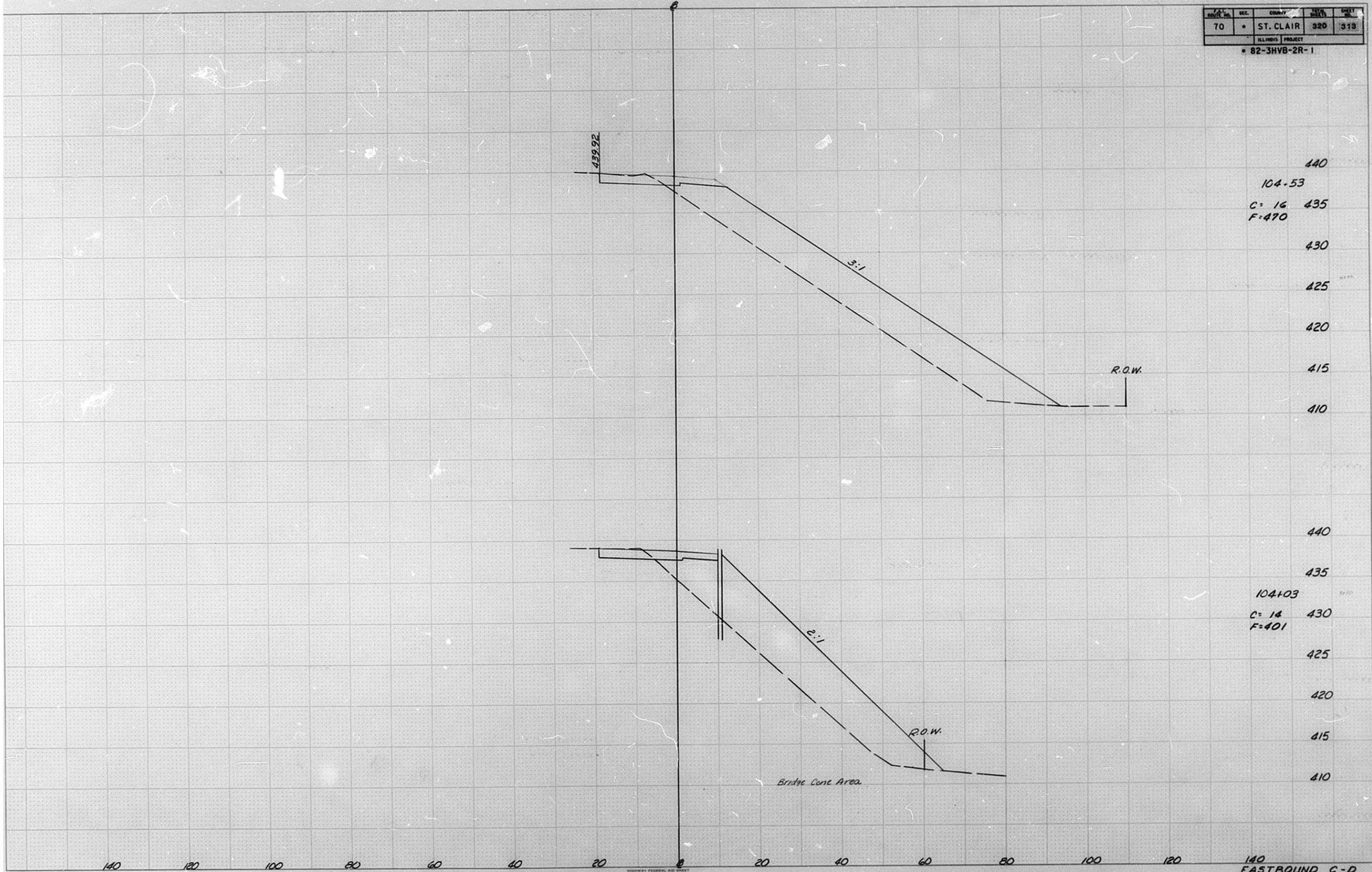


PLATE 3-FULL CROSS SECTION-FULL DOT

EASTBOUND C-D

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	313
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1

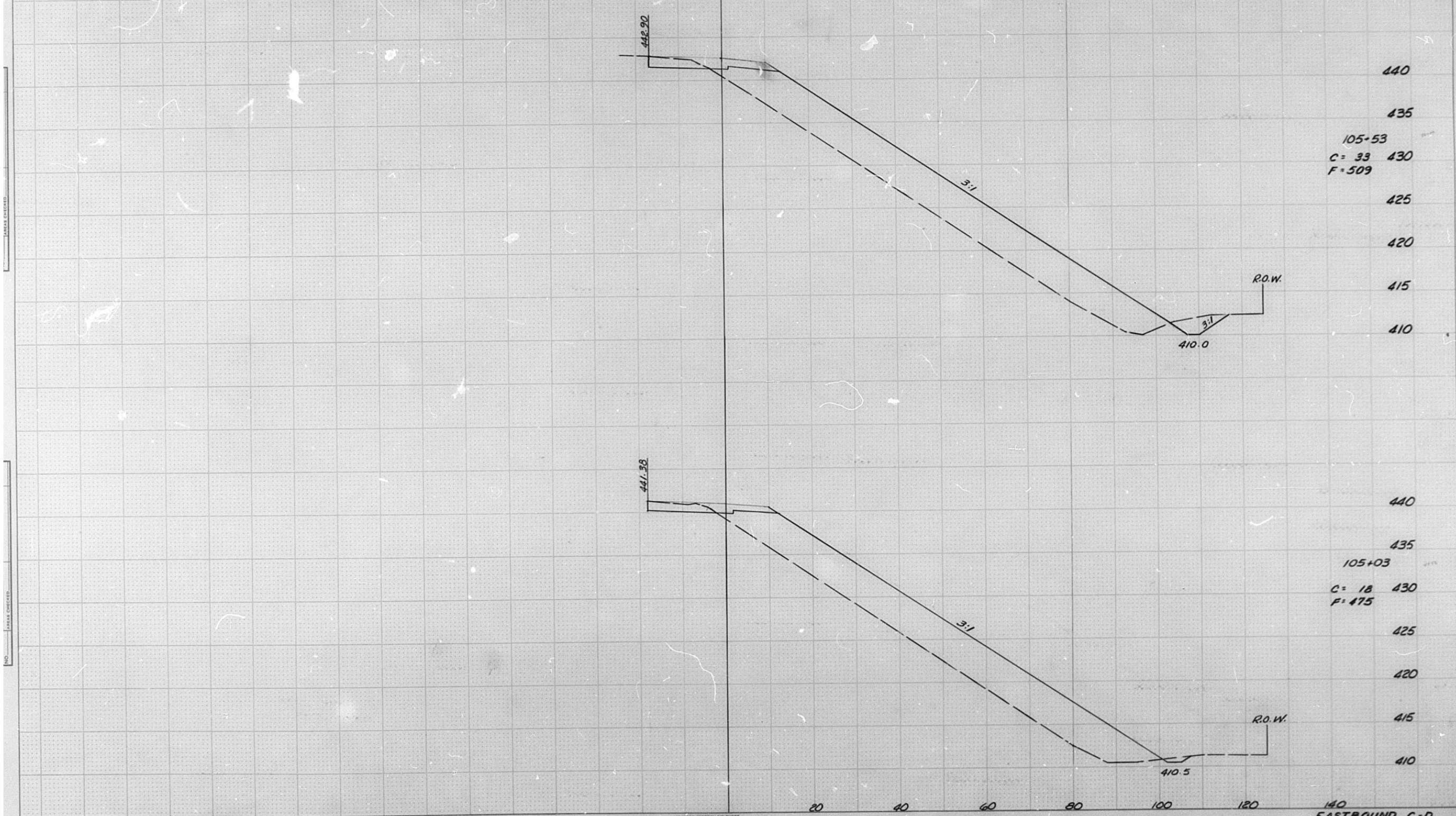


EASTBOUND C-D

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
TELEDYNE
PRINTED IN U.S.A.

70	•	ST. CLAIR	320	314
	ILLINOIS	PROJECT		

• 82-3HVB-2R-1

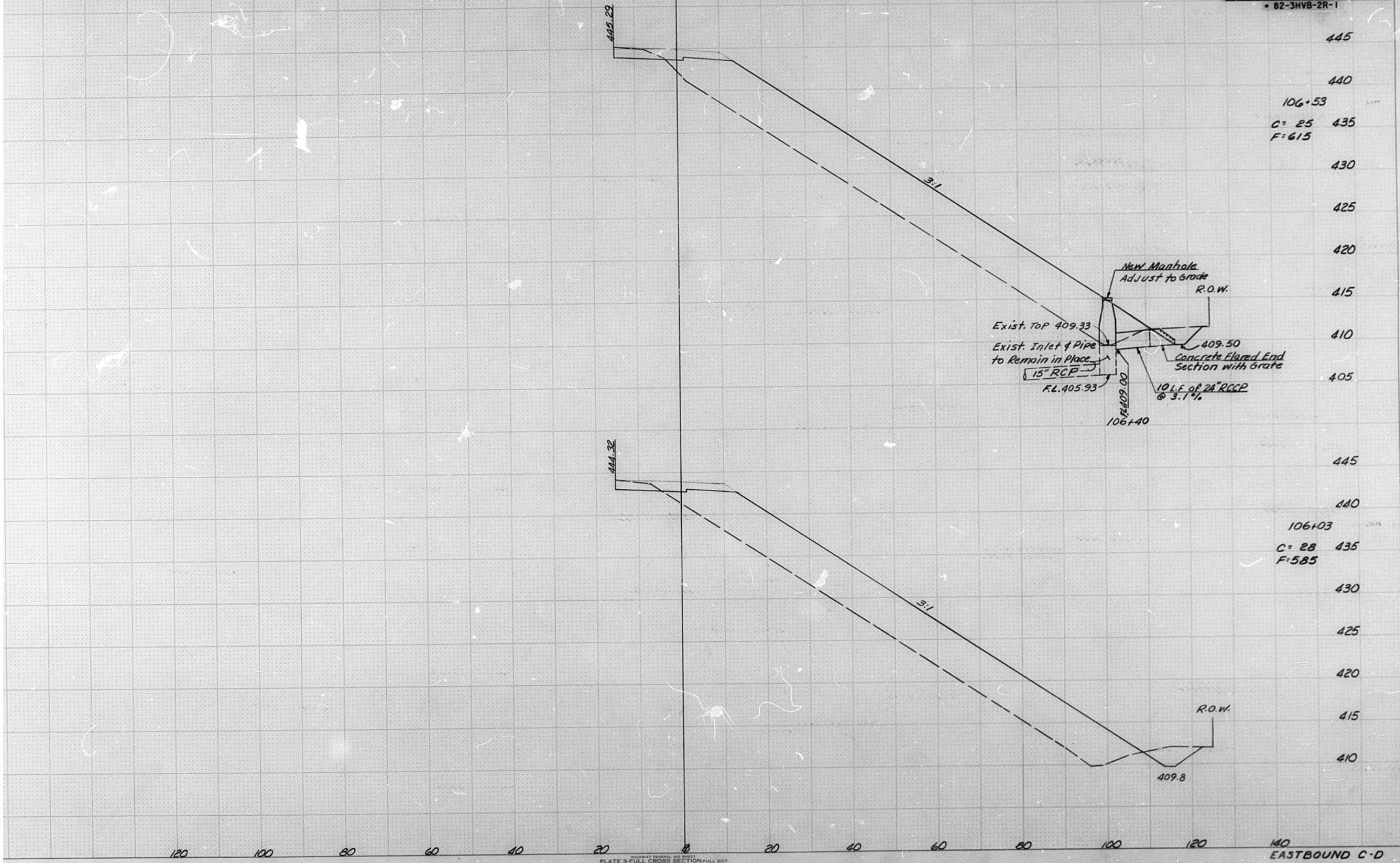


EASTBOUND C-D

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
TELEDYNE
PRINTED IN U.S.A.

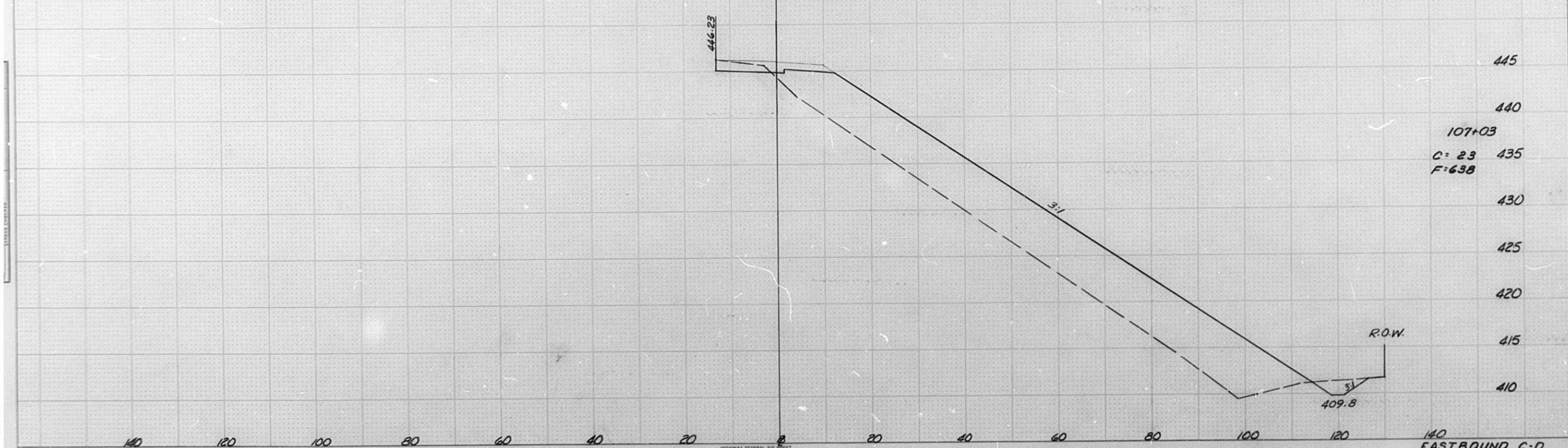
F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	315
		ILLINOIS	PROJECT	

• 82-3HVB-2R-1



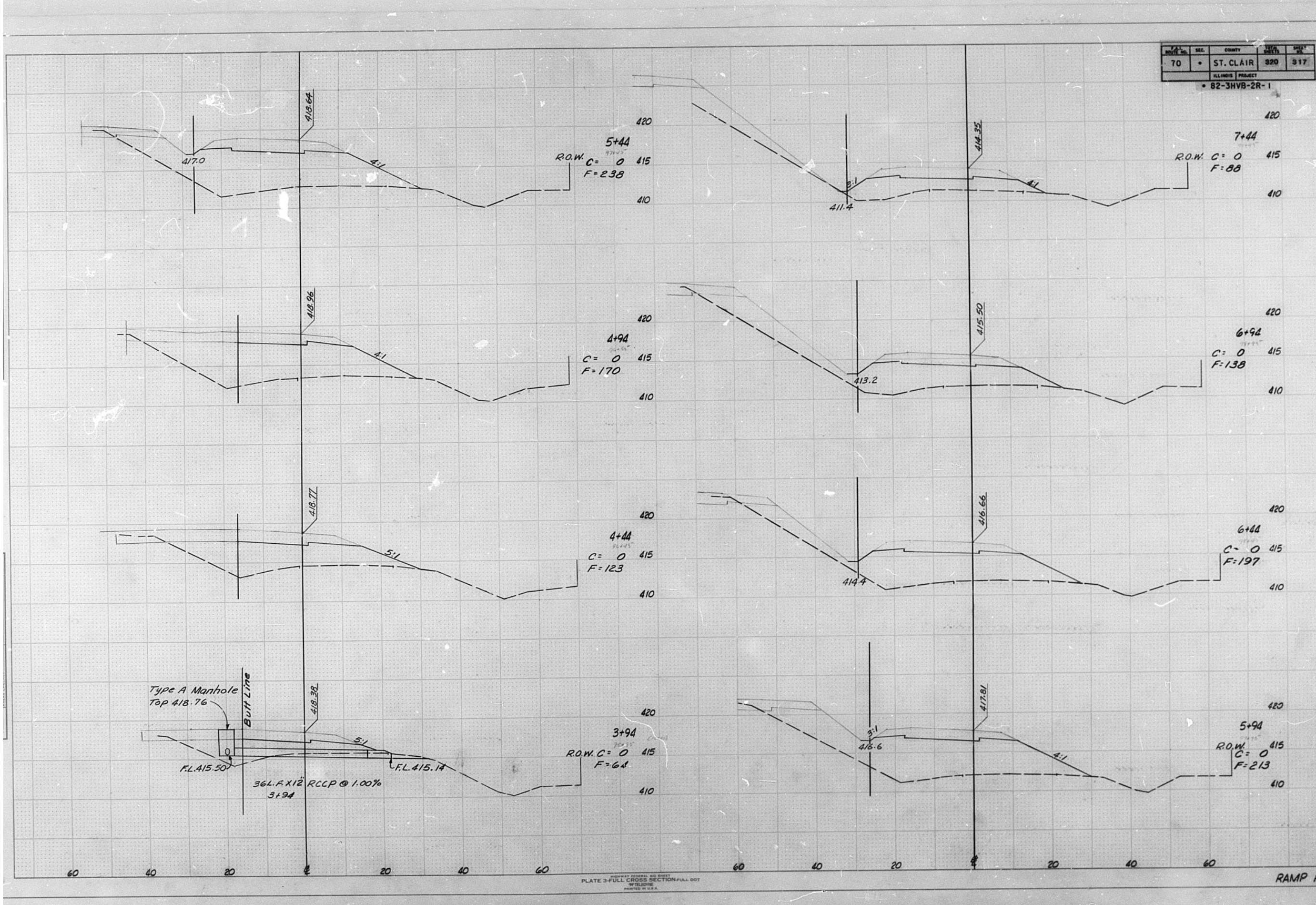
F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	316
		ILLINOIS	PROJECT	

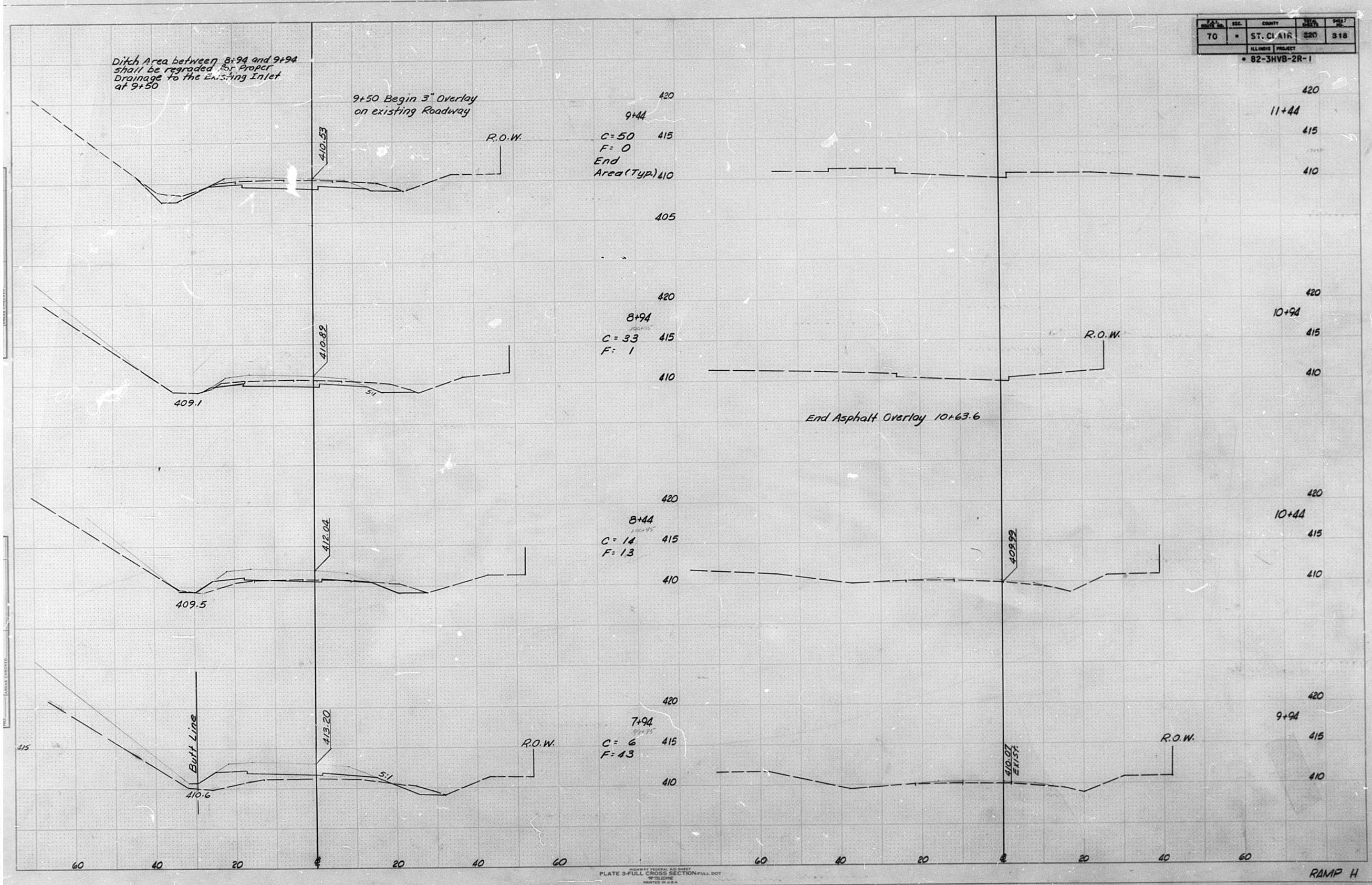
• 82-3HVB-2R-1

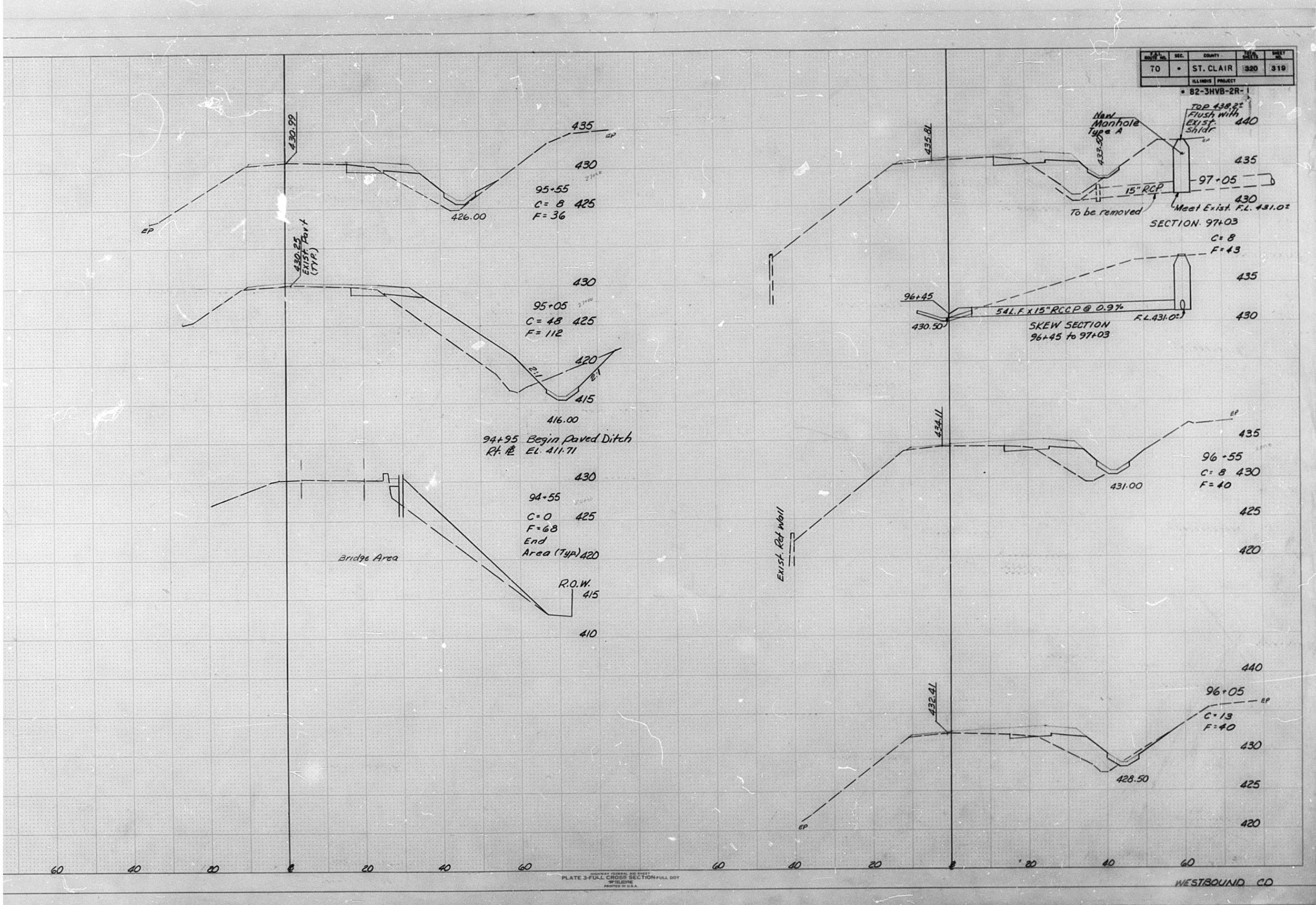


EASTBOUND C-D

HIGHWAY FEDERAL AID SHEET
PLATE 3-FULL CROSS SECTION-FULL DOT
TELEDYNE
PRINTED IN U.S.A.

70
ST. CLAIR
320
317
82-3HVB-2R-1
5+44
R.O.W. C= 0
F=238
418.64
417.0
4:1
7+44
R.O.W. C= 0
F=88
414.35
411.4
3:1
4:1
4+94
C= 0
F=170
418.96
4:1
6+94
C= 0
F=138
415.50
413.2
4+44
C= 0
F=123
418.77
5:1
6+44
C= 0
F=197
416.66
414.4
Type A Manhole
Top 418.76
Butt Line
418.38
5:1
F.L.415.50
F.L.415.14
36L.F.X12" RCCP @ 1.00%
3+94
3+94
R.O.W. C= 0
F=6
5+94
R.O.W.
C= 0
F=213
417.81
416.6
3:1
4:1
420
415
410
60
40
20
20
40
60
PLATE 3-FULL CROSS SECTION-FULL DOT
RAMP H


70
ST. CLAIR
820
318
ILLINOIS PROJECT
• 82-3HVB-2R-1
Ditch Area between 8+94 and 9+94 shall be regraded for Proper Drainage to the Existing Inlet at 9+50
9+50 Begin 3" Overlay on existing Roadway
R.O.W.
9+44
C=50
F= 0
End Area (Typ.)
410.53
11+44
420
415
410
405
8+94
C= 33
F: 1
410.89
409.1
5:1
10+94
R.O.W.
End Asphalt Overlay 10+63.6
8+44
C= 14
F: 13
412.04
409.5
10+44
408.99
7+94
C= 6
F= 43
413.20
Butt Line
410.6
5:1
R.O.W.
9+94
410.07 EXIST.
R.O.W.
60
40
20
20
40
60
PLATE 3-FULL CROSS SECTION-FULL DOT
RAMP H



70
ST. CLAIR
320
319
ILLINOIS PROJECT
82-3HVB-2R-1
95+55
C= 8
F= 36
426.00
430.99
95+05
C= 48
F= 112
416.00
430.25 Exist. Pav't (TYP.)
94+95 Begin paved Ditch
Rt. ℄ EL. 411.71
94+55
C=0
F=68
End
Area (Typ)
R.O.W.
Bridge Area
New Manhole Type A
TOP 438.8±
Flush with Exist. Shldr
435.81
433.50
97+05
15" RCP
To be removed
Meet Exist. F.L. 431.0±
SECTION 97+03
C= 8
F= 43
96+45
430.50
54 L.F. x 15" RCCP @ 0.9%
F.L. 431.0±
SKEW SECTION
96+45 to 97+03
434.11
96+55
C= 8
F= 40
431.00
Exist. Ret Wall
432.41
96+05
C= 13
F= 40
428.50
EP
PLATE 3-FULL CROSS SECTION-FULL DOT
WESTBOUND CD

F.A.I. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	ST. CLAIR	320	320
		ILLINOIS PROJECT		
		• 82-3HVB-2R-1		

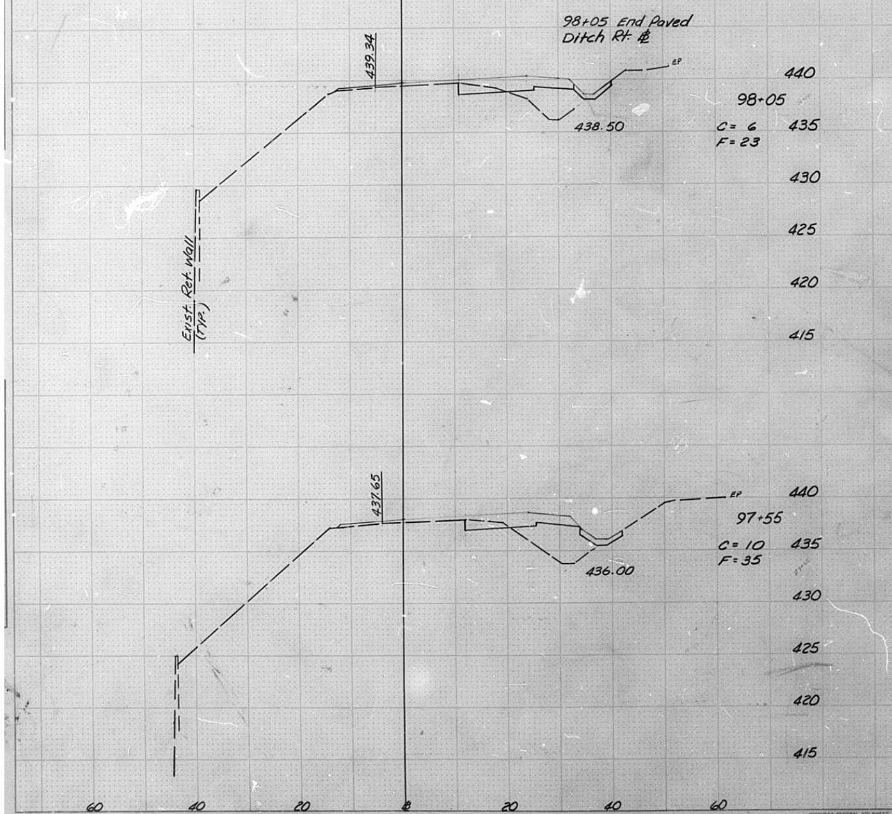


PLATE 3-FULL CROSS SECTION-FULL DOT

WESTBOUND CD