

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
SPECIAL BRIDGE REPLACEMENT PROGRAM

SCALES { PLAN 1 INCH = 50 FT. AND AS SHOWN
 PROFILE HOR. 1 INCH = 50 FT. AND AS SHOWN
 PROFILE VERT. 1 INCH = 5 FT. AND AS SHOWN
 CROSS SECTIONS 1 INCH = 5 FT. AND AS SHOWN

F.A.P. ROUTE 760 SECTION 76-00221-00-BR
 PIATT COUNTY
 PROJECT BR-F-760(1)
 JOB NO. C-95-030-77

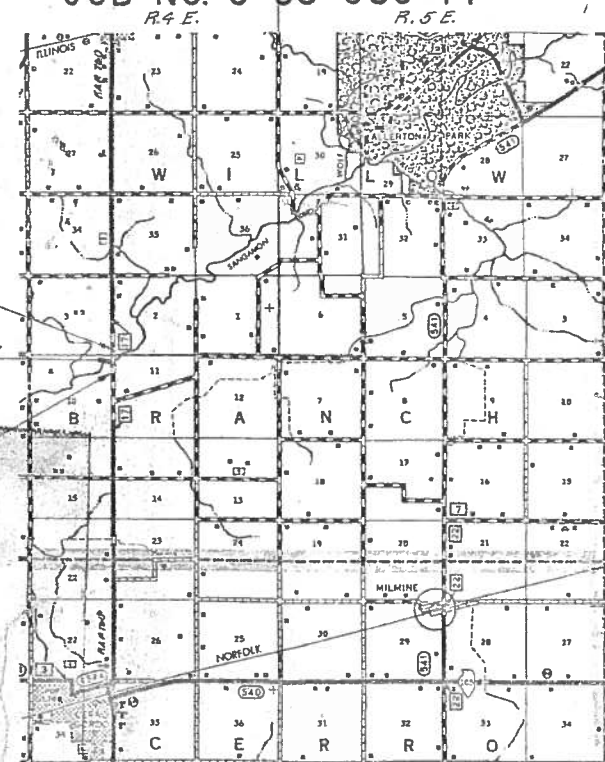
INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTION
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4. PLAN AND PROFILE
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Improvement Ends
 Station 12+21.5

Station 9+86 Special Bridge Design
 Welded Haunched plate girder bridge
 Two spans @ 183'-0", 34'-0" f.f.
 parapets. Skew = 30°

Improvement Begins
 Station 7+50.5



LAYOUT

APPROXIMATE SCALE: 1 INCH = 1 MILE
 NET LENGTH SECTION = 47100 FEET = 0.088 MILES

CONTRACT NO. 31625

COLLINS AND RICE, INC. CONSULTING ENGINEERS SPRINGFIELD, ILLINOIS

PIATT COUNTY SECTION 76-00221-00-BR F.A.P. ROUTE 760

F.A.P. 760-00-BR PIATT 20 1
 U.S. ROAD DIST. NO. 7 PROJECT BR-F-760(1)



LOCATION OF SECTION INDICATED THUS: —

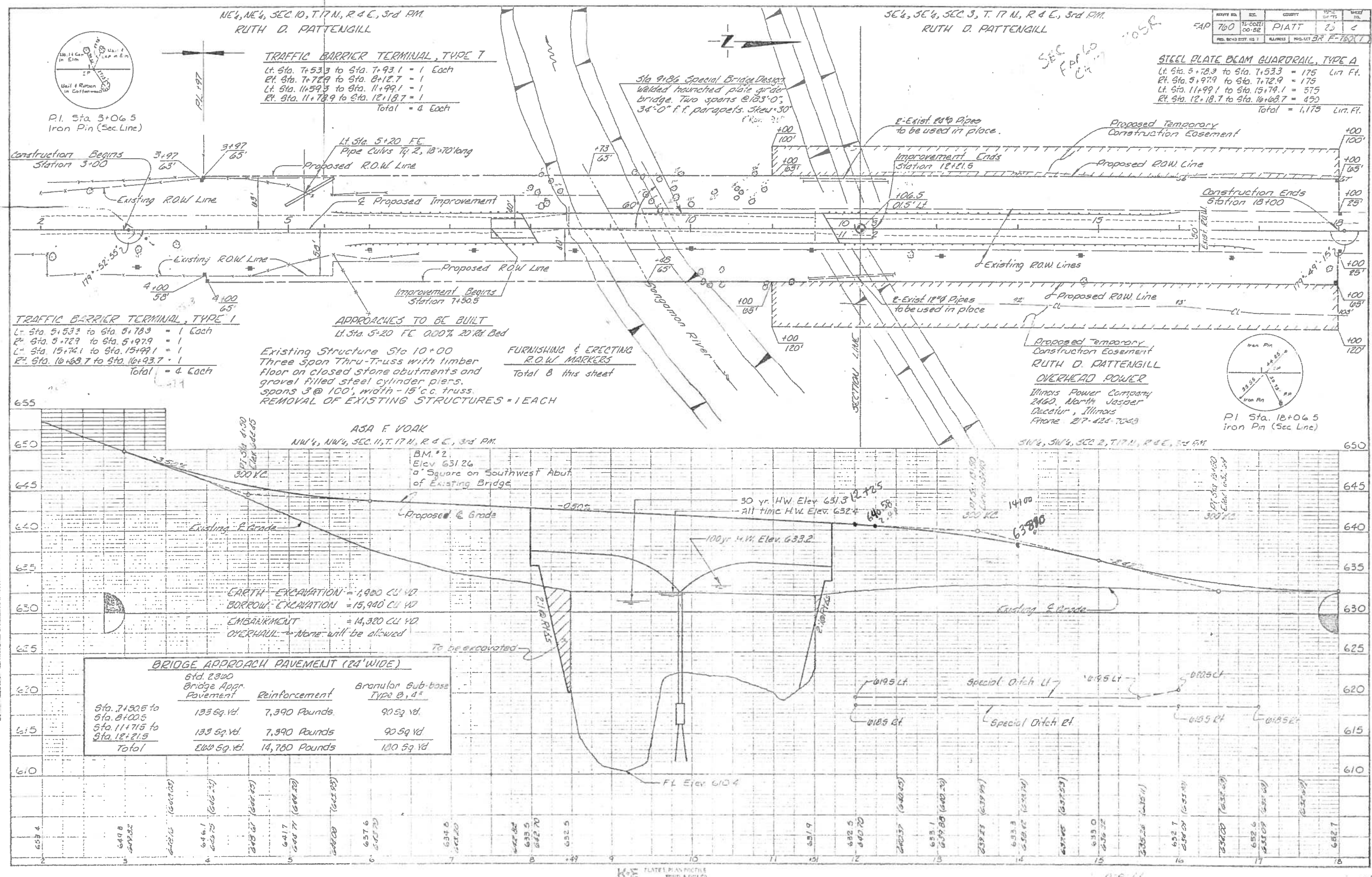
APPROVED	<i>[Signature]</i>	DATE	12-28
LOCAL AGENCY REPRESENTATIVE			
SUBMITTED	12-23	DATE	12-23
EXAMINED	<i>[Signature]</i>	DATE	12-23
PASSED	<i>[Signature]</i>	DATE	12-23
APPROVED	<i>[Signature]</i>	DATE	12-23

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED

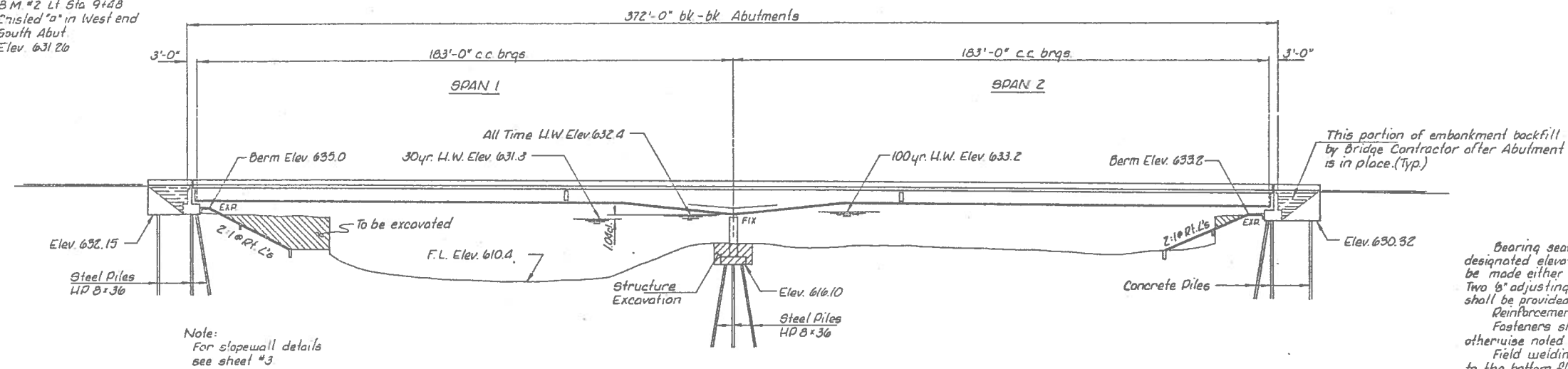
DIVISION ADMINISTRATOR DATE

[Signature]
 Illinois Professional No. 20110

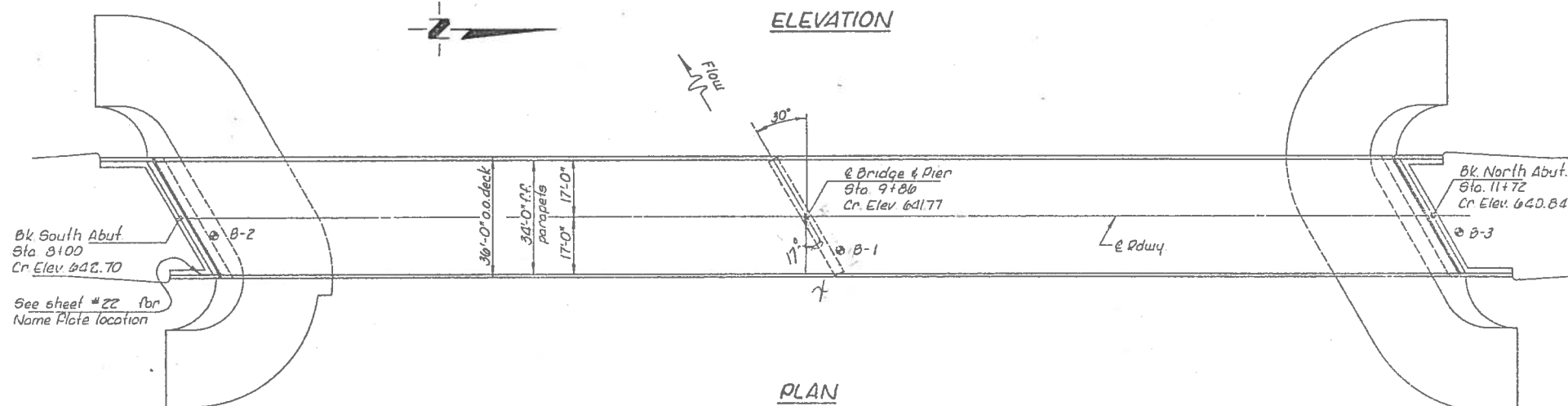


B.M. #2 Lt Sta 9+88
 Existing "a" in West end
 South Abut.
 Elev 631.26

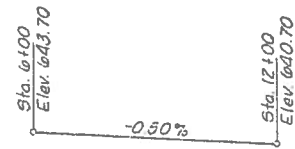
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP T60	76-00221-00-BR	PIATT	26	11
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT	BR-F-760(1)		



Note:
 For slope wall details
 see sheet #3



See sheet #22 for
 Name Plate location



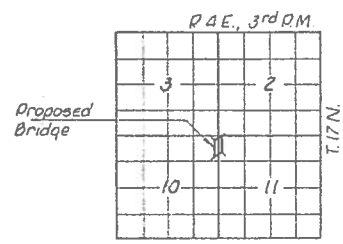
PROFILE GRADE

STATION 9+86
 SANGAMON RIVER
 BUILT 197-
 F.A.P. RT. 760 SEC. 76-00221-00-BR
 PROJ. BR-F-760(1)
 LOADING HS 20
 STR. NO. 074-

LETTERING FOR NAME PLATE
 See Std. 2113

WATERWAY DATA

Drainage Area	627 Sq. Mi.
Design Discharge (30yr)	17,300 CFS.
Existing Opening (below 30yr HWE)	3,420 Sq. Ft.
Required Opening (below 30yr HWE)	3,600 Sq. Ft.
Proposed Opening (below 30yr HWE)	3,600 Sq. Ft.
Created Head for Design Flood	0.1 Ft.
100-Year Discharge	22,600 CFS.
Created Head for 100-Year Flood	0.3 Ft.
Flood of Record - Year	1963



LOCATION PLAN

APPROVED

DESIGN STRESSES

$P_t = 3,500$ psi (Load Factor Design)
 $P_y = 60,000$ psi (Reinforcement)
 $P_y = 50,000$ psi (Structural Steel) (M-222) (LOAD FACTOR DESIGN)
 $n = 8.5$

25#15g. Ft. included in deadload for
 future wearing surface.
 DESIGN SPECIFICATIONS AASHTO 1973 &
 1974, 1975, 1976, 1977 Interims
 LOADING HS 20-44

Illinois Structural No. 2534

GENERAL NOTES

Bearing seal 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 5" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. Reinforcement shall be lapped as shown on plans. Fasteners shall be 3/4" high strength bolts, 3/16" holes unless otherwise noted. 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 1/4 the span length each way from the pier supports. Field welding in other areas is permitted only when approved by the Engineer. Anchor bolts shall be set before bolting cross frames over supports. Calculated weight of Structural Steel = 506,020 Lb. All Structural Steel shall conform to AASHTO Designation M222 and shall be used in the bare unpainted condition. All reinforcement bars shall conform to AASHTO M31 or M53, Grade 60. The contractor shall drive one test pile in a permanent location at the pier and each abutment as directed by the engineer before ordering remainder of piles. All bolts shall be AASHTO M164 (A325) Type 3 high strength bolts. The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Standard Concrete. The embankment shall be constructed to berm elevation prior to driving abutment piles. 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.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Class X Concrete	Cu. Yd.	492.5	207.6	610.1
Reinforcement Bars	Pound	45,020	18,100	63,120
Reinforcement Bars (Epoxy Coated)	Pound	64,830		64,830
Concrete Piles	Lin. Ft.		588	588
Test Piles Concrete	Each		1	1
Steel Piles HP 8x36	Lin. Ft.		956	956
Test Piles Steel HP 8x36	Each		2	2
Stud Shear Connectors	Each	2,250		2,250
Structural Steel	Lump Sum			1
Neoprene Expansion Joint 2'x2"	L. Ft.	61		61
Name Plates	Each		1	1
Structure Excavation	Cu. Yd.		130	130
Protective Coat	Sq. Yd.	1,670	22	1,692
Removal of Existing Structures	Each			1
Slope Wall 6"	Sq. Yd.			1,036

SANGAMON RIVER

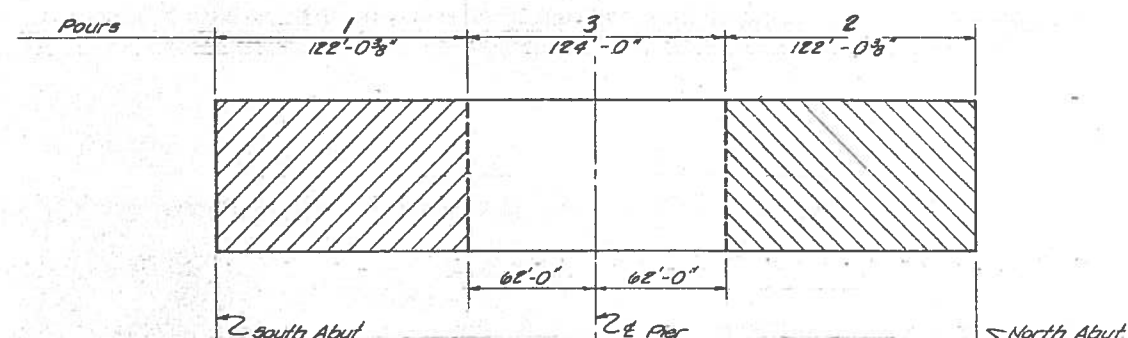
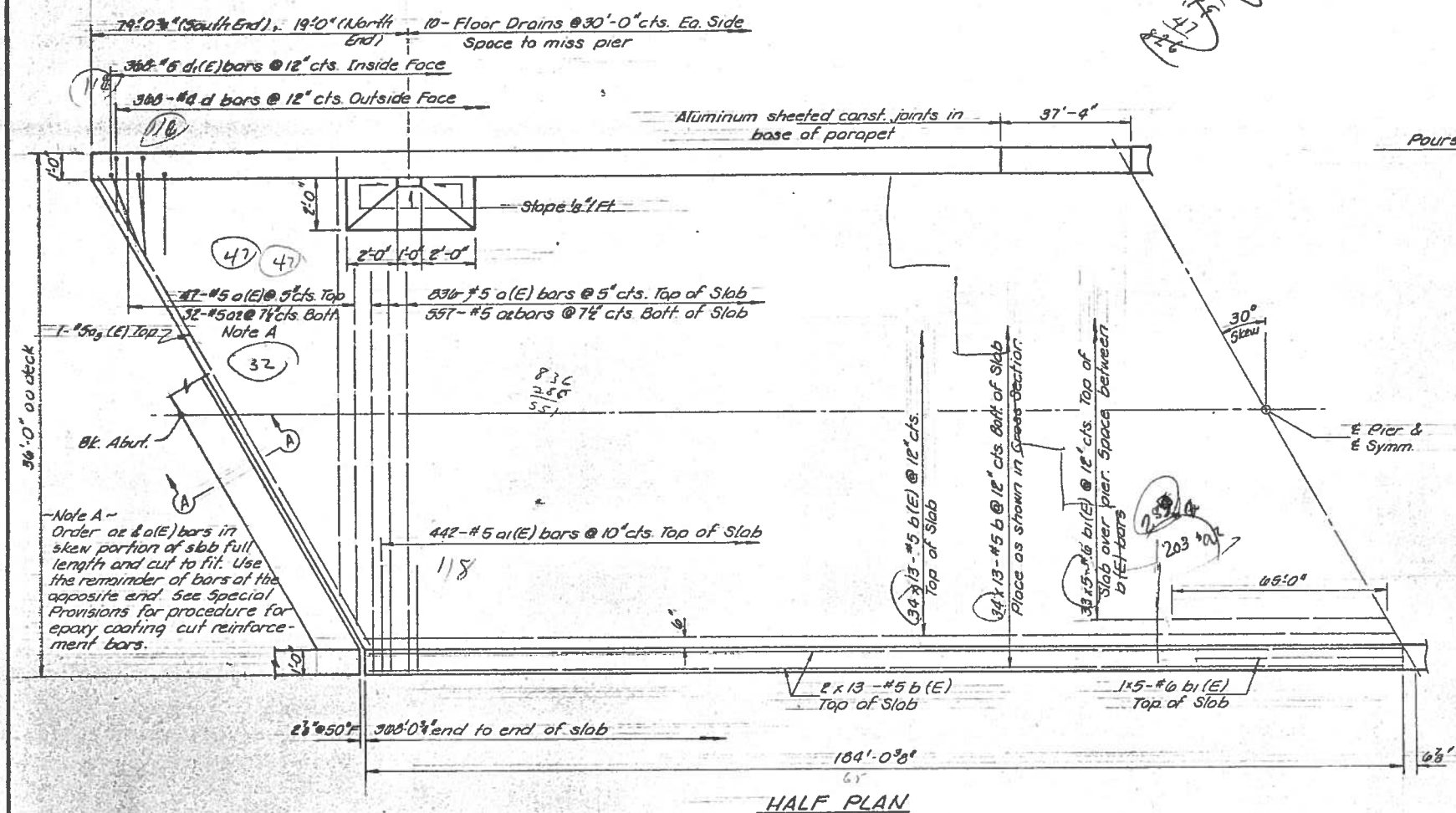
GENERAL PLAN & ELEVATION
 PROJECT BR-F-760(1)

F.A.P. RT. 760
 SEC. 76-00221-00-BR
 PIATT COUNTY
 STATION 9+86

COLLINS AND RICE
 CONSULTING ENGINEERS

DESIGNED FS
 DRAWN DS
 CHECKED M.D.
 DATE 3-4-75

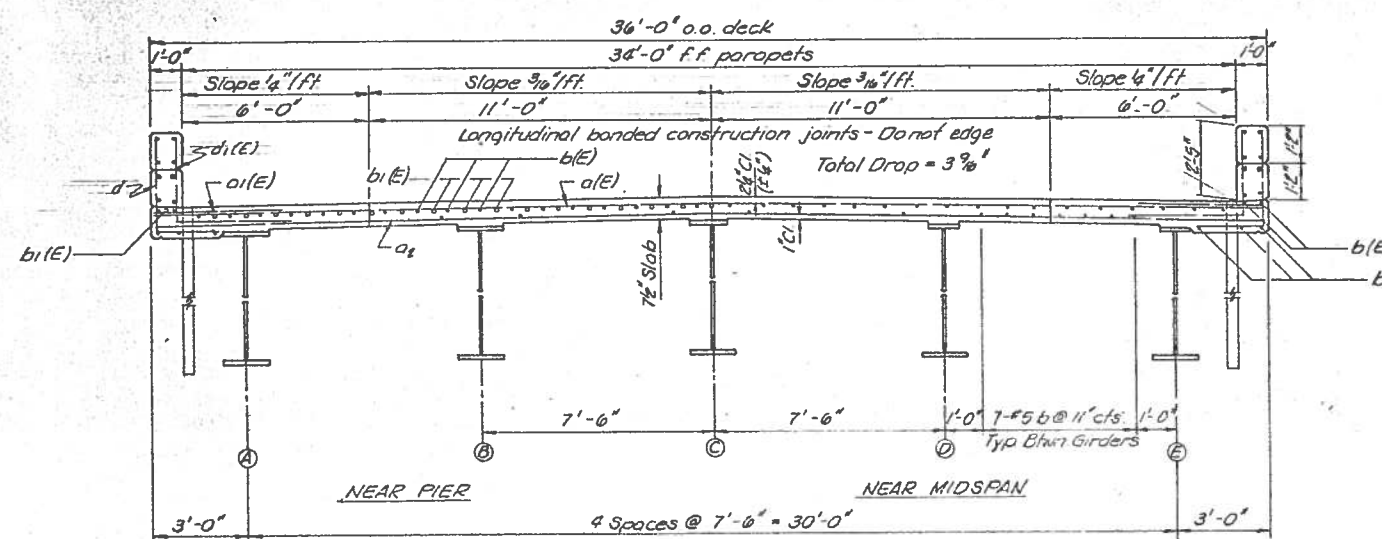
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F.A.P. 760	76-00221- 00-BR	PIATT	26	15
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT BR-F76011	



DECK PLACING SEQUENCE

-Notes-

Notes -
Bars indicated thus 34 x 13 - #5 etc.
indicates 34 lines of bars with 13
lengths per line.
Reinforcement bars designated (E)
shall be epoxy coated. See Special
Provisions
See sheet 10 for Parapet Details
and Bill of Material.
See Sheet 10 for Sec. A-A



CROSS SECTION
LOOKING NORTH

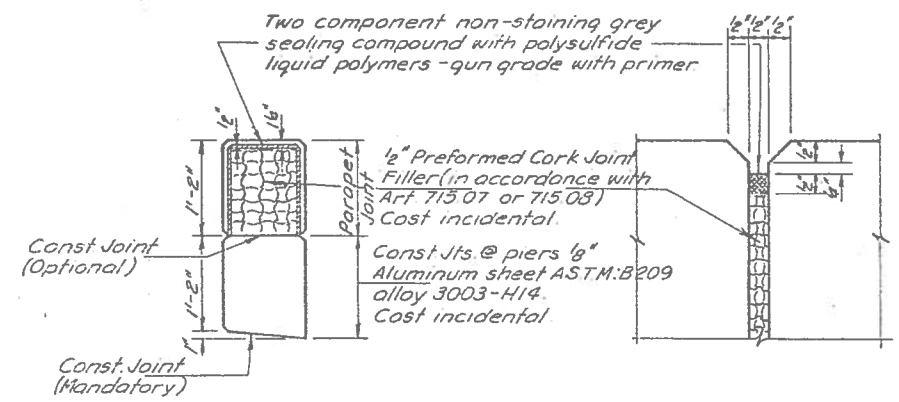
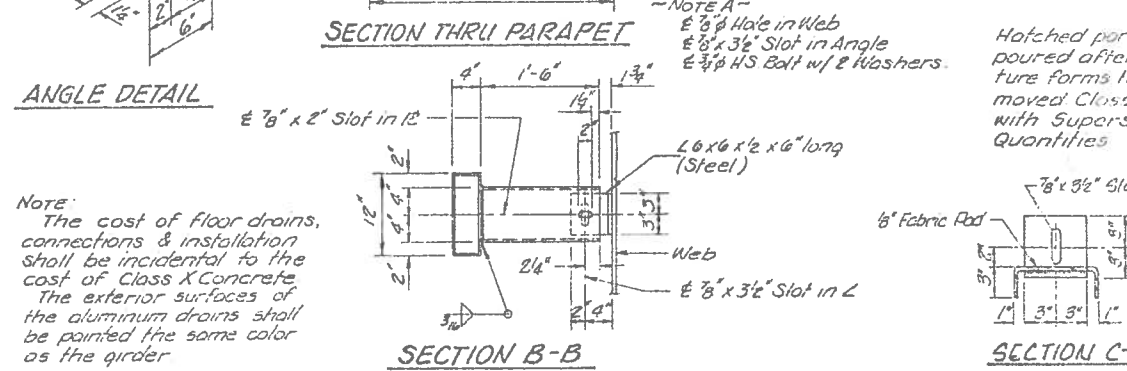
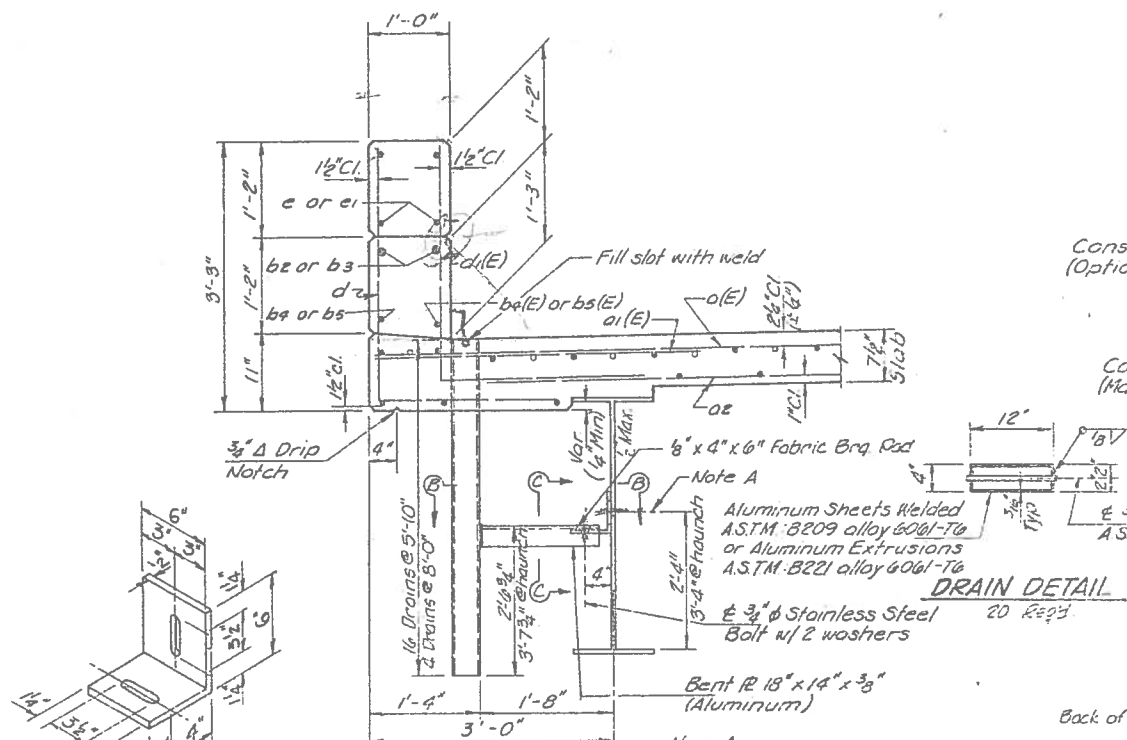
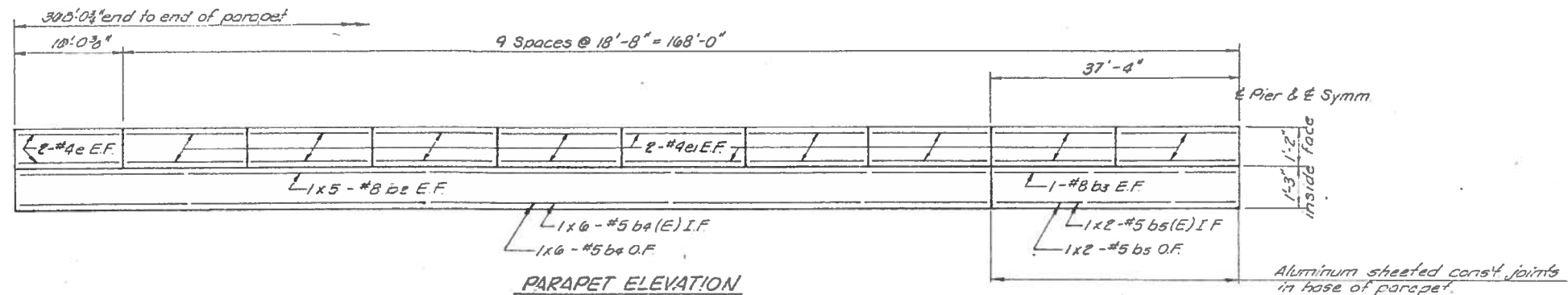
SLAB DETAILS
F.A.P RT 760
SEC 70-00221-00-BR
PIATT COUNTY
STATION 9+86

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED FS
DRAWN LL

CHECKED *MB*
DATE *3-4-78* NO *1163*

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 760	76-00221-00-BR	PIATT	26	16
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT	BR-F-7601		



MIN. BAR LAPS

#5	1'-8"
#6	2'-1"
#8	2'-6"

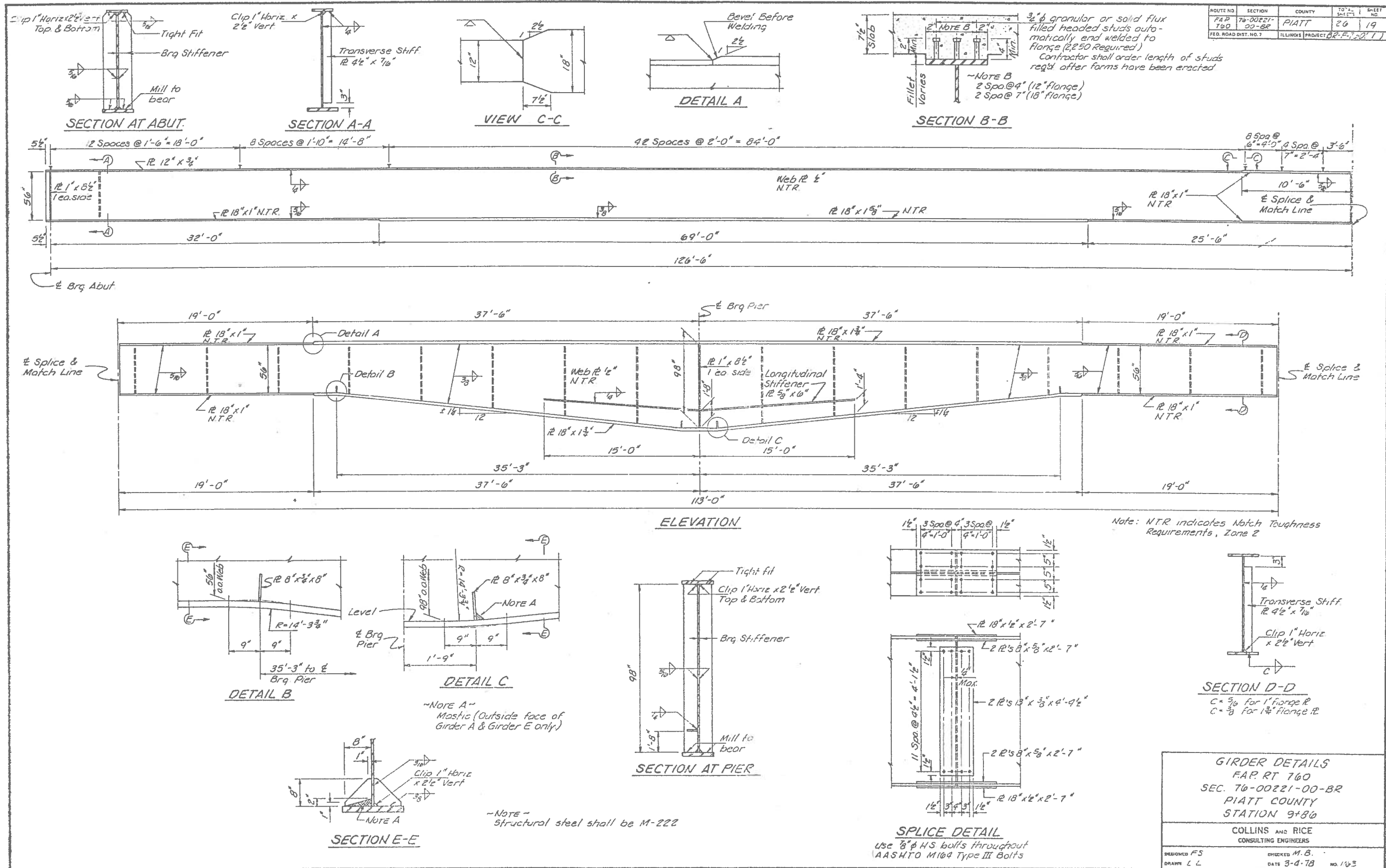
BILL OF MATERIAL - SUPER

BAR	No Req'd	SIZE	LENGTH	SHAPE
a(E)	883	#5	35'-9"	
a(E)	884	#5	4'-2"	
oz	889	#5	35'-9"	
ag(E)	2	#5	39'-0"	
b	402	#5	29'-10"	
b(E)	494	#5	29'-10"	
b(E)	175	#6	27'-8"	
bz	40	#8	31'-4"	
b3	8	#8	37'-0"	
b4	24	#5	25'-10"	
b5(E)	24	#5	25'-10"	
b5	8	#5	19'-11"	
b5(E)	8	#5	19'-11"	
e	10	#4	15'-9"	
ei	144	#4	18'-5"	
d	730	#4	4'-11"	L
di(E)	730	#5	5'-0"	L
Class X Concrete			Cu Yd	402.5
Reinforcement Bars			Pound	45,020
Reinforcement Bars (Epoxy Coated)			Pound	64,830

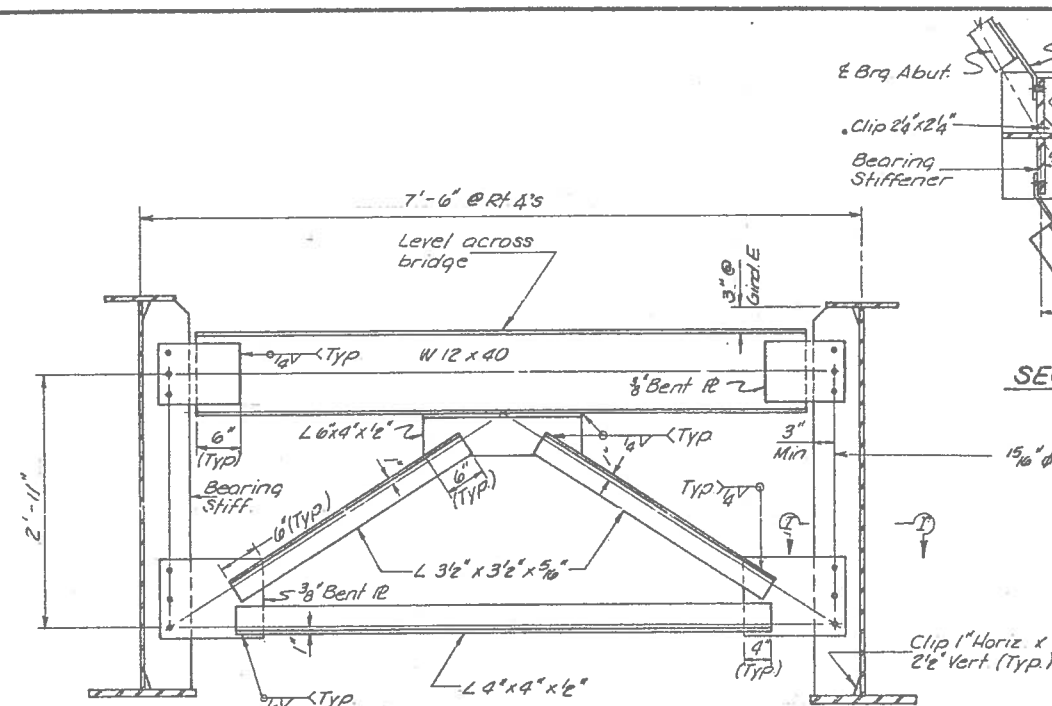
PARAPET DETAILS
FAP RT 760
SEC. 76-00221-00-BR
PIATT COUNTY
STATION 9+86

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED FS CHECKED MB
4 1 76 116A

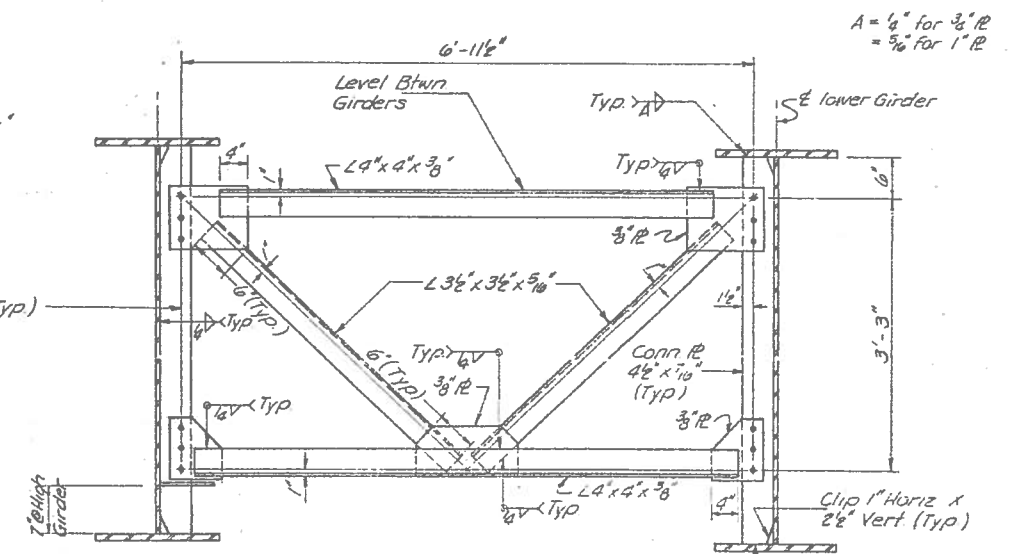


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 760	76-00221-00-BR	PIATT	26	20
ILLINOIS PROJECT BR-F-760(1)				

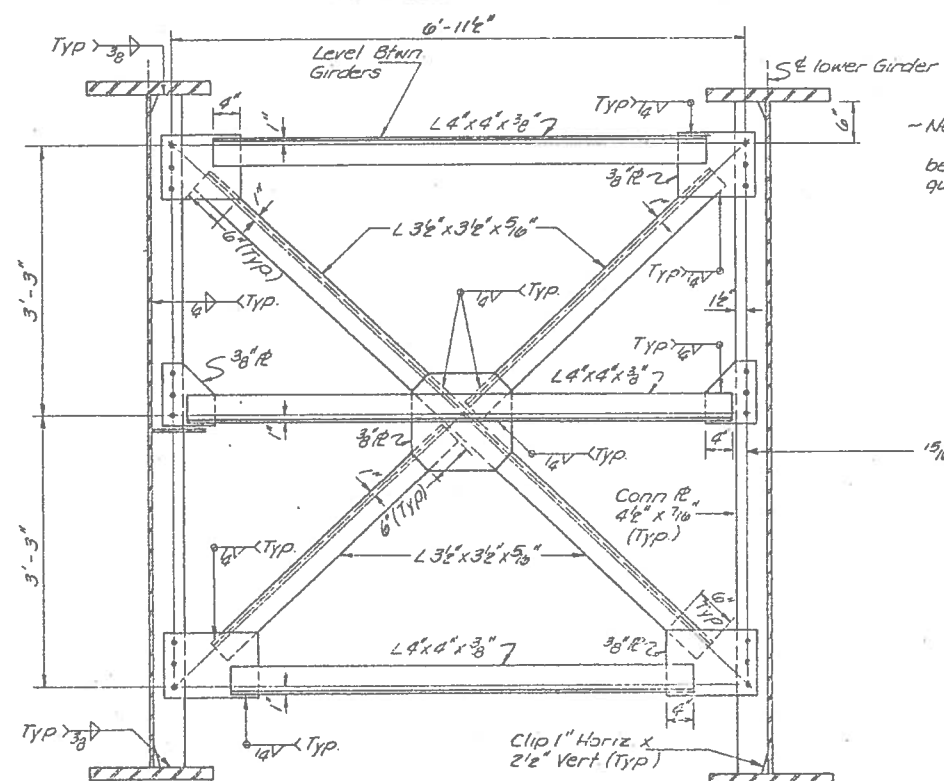


CROSS FRAME CF
8 Req'd

SECTION I-I

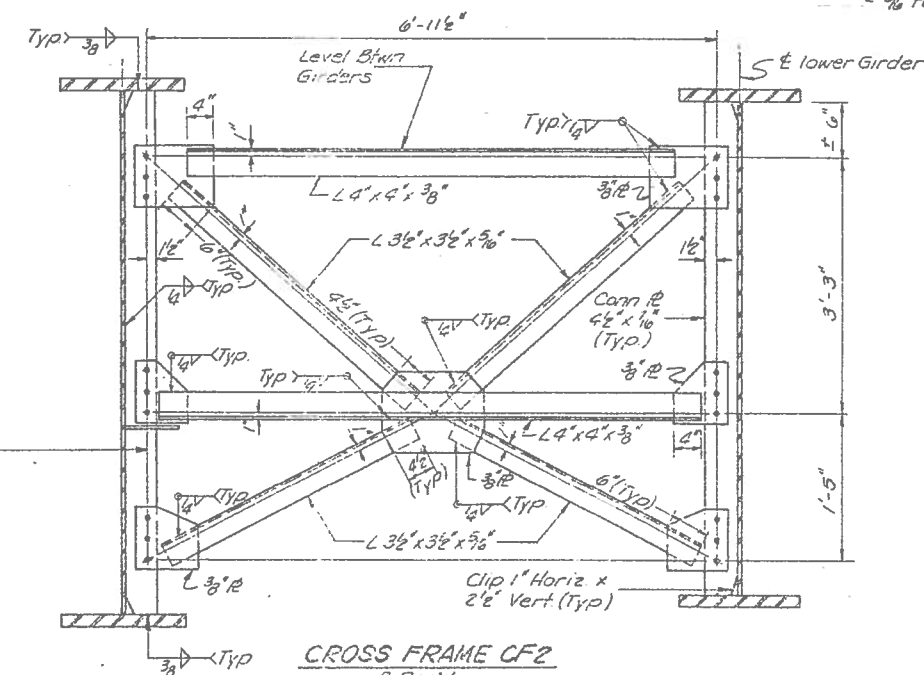


CROSS FRAME CF1
48 Req'd



CROSS FRAME CF3
4 Req'd

-Note-
Hardened washers shall
be required over holes in
gusset plates



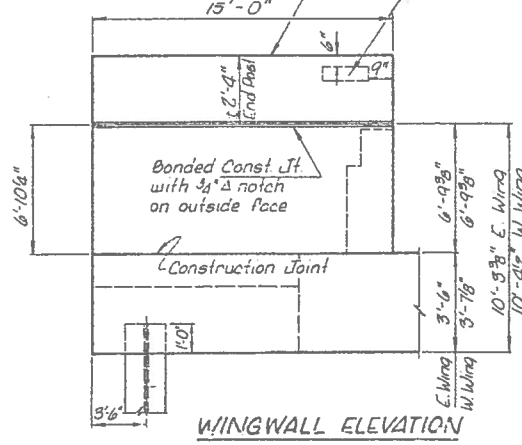
CROSS FRAME CF2
8 Req'd

CROSS FRAME DETAILS
FAP RT 760
SEC 76-00221-00-BR
PIATT COUNTY
STATION 9+86

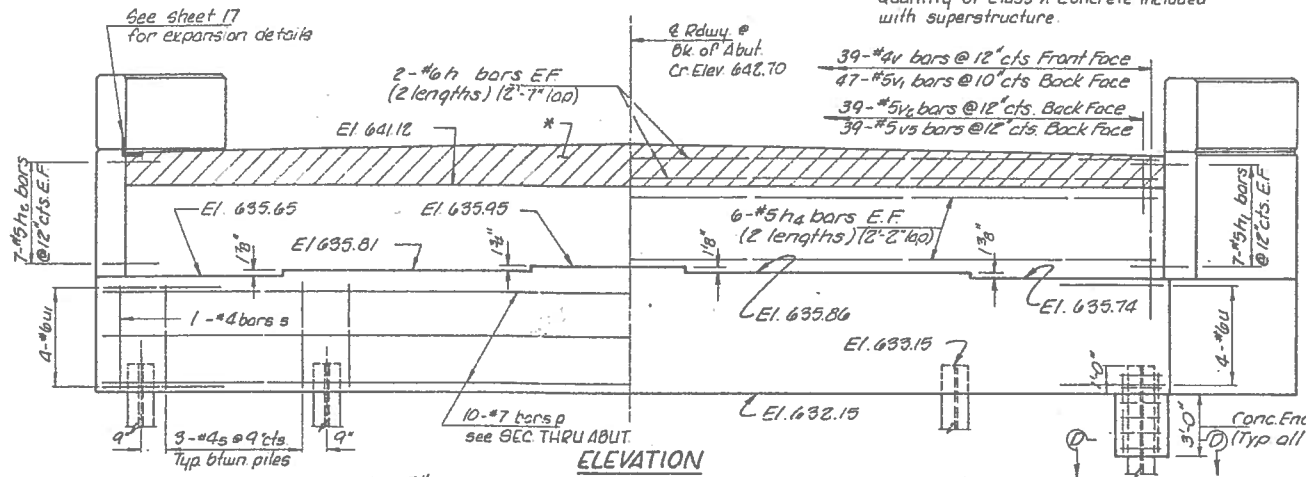
COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED F.S. CHECKED H.B.
DRAWN L.L. DATE 3-4-73 NO. 103

End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.

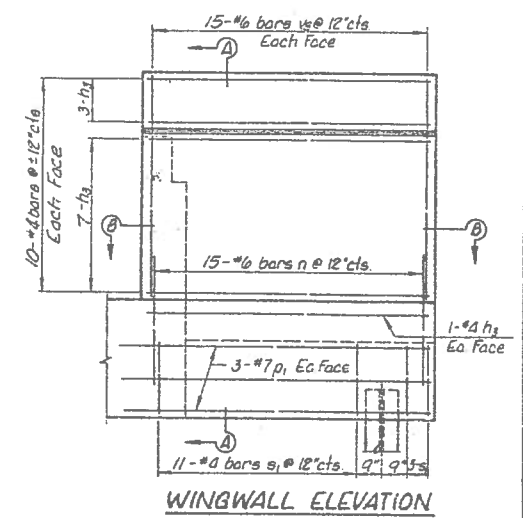


Locate Name Plate on rdwy. Face of East Wing



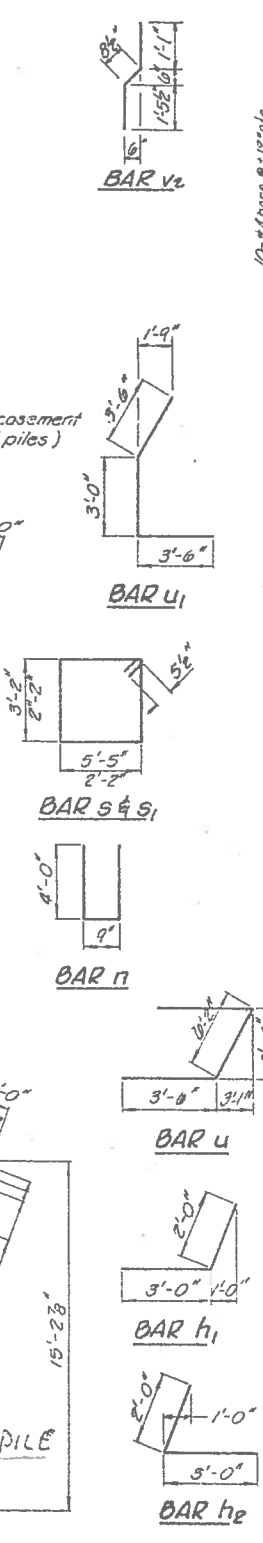
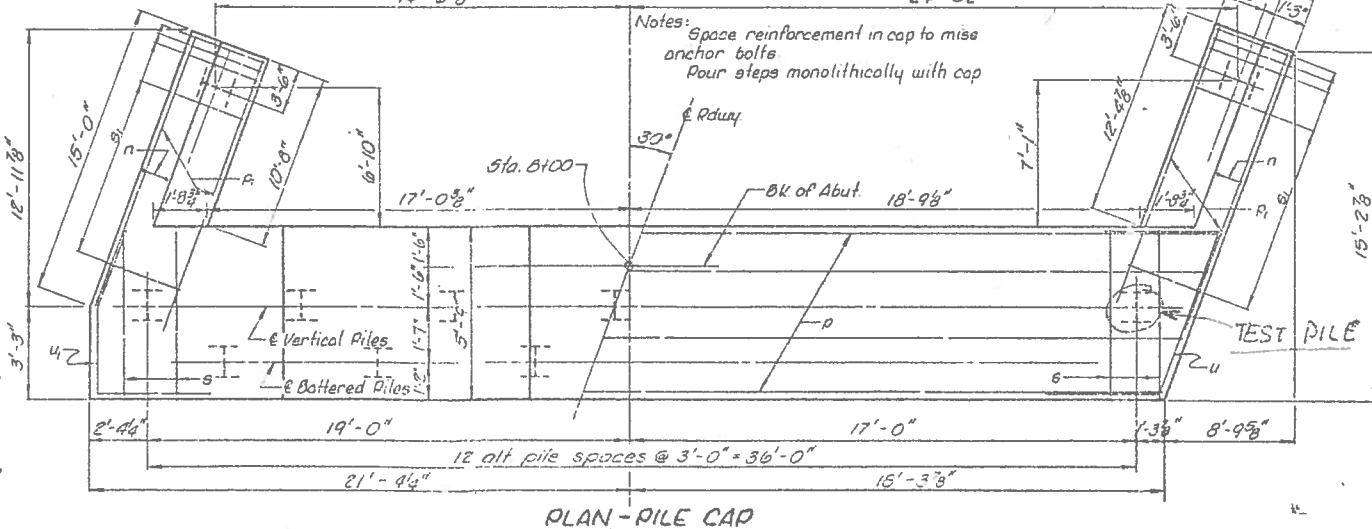
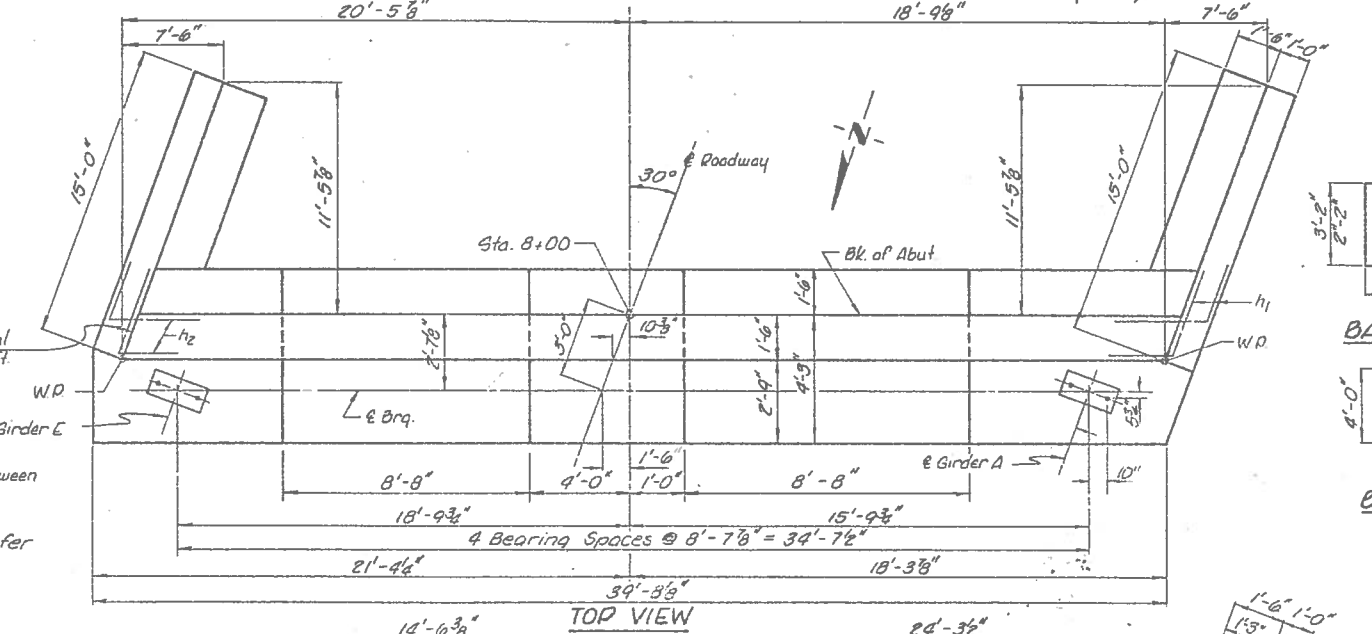
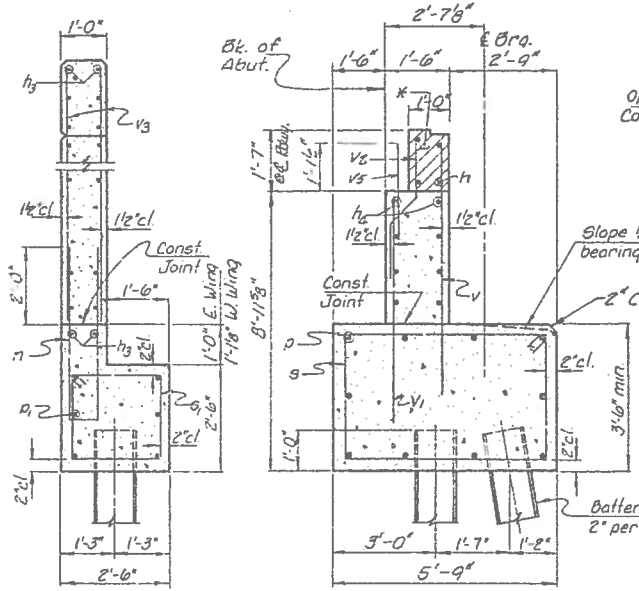
* Hatched area to be poured after superstructure forms have been removed. Quantity of Class X Concrete included with superstructure.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F&P 760	76-00221-00-8R	PIATT	26	22
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT 3R-F-7601			



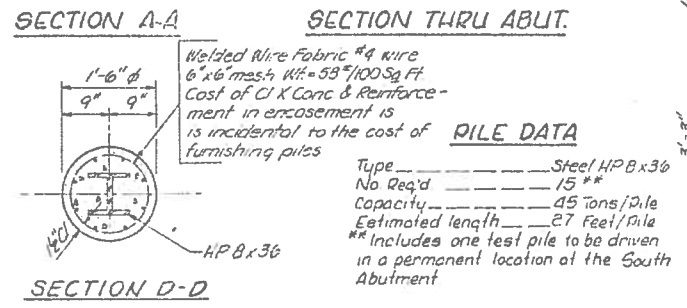
Handwritten notes and calculations:

632.15
10.22
632.35
130.15
10.29
632.64
8.97
641.12 B



BILL OF MATERIAL SOUTH ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h	8	#6	20'-9"	
h1	14	#5	5'-0"	
h2	14	#5	5'-0"	
h3	44	#4	14'-9"	
h4	24	#5	20'-7"	
n	30	#6	8'-9"	
p	10	#7	39'-4"	
s	12	#7	14'-9"	
s1	33	#4	18'-1"	
s2	23	#4	9'-7"	
u	4	#6	19'-8"	
u1	4	#6	10'-0"	
v	39	#4	8'-6"	
v1	47	#5	7'-9"	
v2	39	#5	3'-3"	
v3	40	#6	8'-1"	
v4	39	#5	2'-5"	
Class X Concrete			Cu. Yd	59.8
Reinforcement Bars			Pound	5,310
Steel Piles HP 8 x 36			Lin Ft.	378
Test Piles Steel HP 8 x 36			Each	1



PILE DATA

Type	Steel HP B x 36
No. Req'd	15 #
Capacity	45 tons/pile
Estimated length	27 feet/pile
** Includes one test pile to be driven in a permanent location of the South Abutment	

S ABUTMENT
F&P RT 760
SEC 76-00221-00-8R
PIATT COUNTY
STATION 9+86

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED F.S.
CHECKED M.B.
DRAWN M.G.
DATE 3-4-78
FIG. 1163

[illegible]

See SH
for Exp
Details

* Hatched area to be poured after
superstructure forms have been removed
Quantity of Class X Concrete included
with superstructure.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAR. 760	76-00221- 00-6R	PIATT	26	23
FED. ROAD DIST. NO. 7		ILLINOIS PROJECT	BR-F760(1)	

15-#6 bars v @ 12" cts.
Each Face

10-#4 bars @ 12" cts.
Ea. Face

3-h₁

7-h₂

15-#6 bars n @ 12" cts.

1-#4 h₃
Ea. Face

3-#7 p₁ Ea. face

11-#4 bars s₁ @ 12" cts. 9-#3 s₂

WINGWALL ELEVATION

SECTION B-B

BILL OF MATERIAL ~ N. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h_1	8	#6	20'-9"	—
h_1	14	#5	5'-0"	┘
h_2	14	#5	5'-0"	┘
h_3	44	#4	14'-9"	—
h_4	24	#5	20'-7"	—
n	30	#6	8'-9"	U
p	10	#7	39'-4"	—
p_1	12	#7	14'-6"	—
s	33	#6	18'-1"	□
s_1	28	#4	9'-7"	□
u	4	#10	13'-2"	┘
u_1	4	#6	10'-0"	┘
v	39	#4	3'-0"	—
v_1	47	#5	7'-9"	—
v_2	39	#5	3'-3"	—
v_3	60	#6	3'-11"	—
v_5	39	#5	2'-3"	—
Class X Concrete			Cu Yd	54.2
Reinforcement Bars			Pb	5,310
Concrete Piles			Lin Ft	588
Test Piles Concrete			Each	1

N. ABUTMENT
FAR RT 760
SEC. 76-00221-00-BR
PIATT COUNTY
STATION 9+86

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED *F.S.* CHECKED *M.B.*
DRAWN *M.G.* DATE *3-4-78* NO *1163*

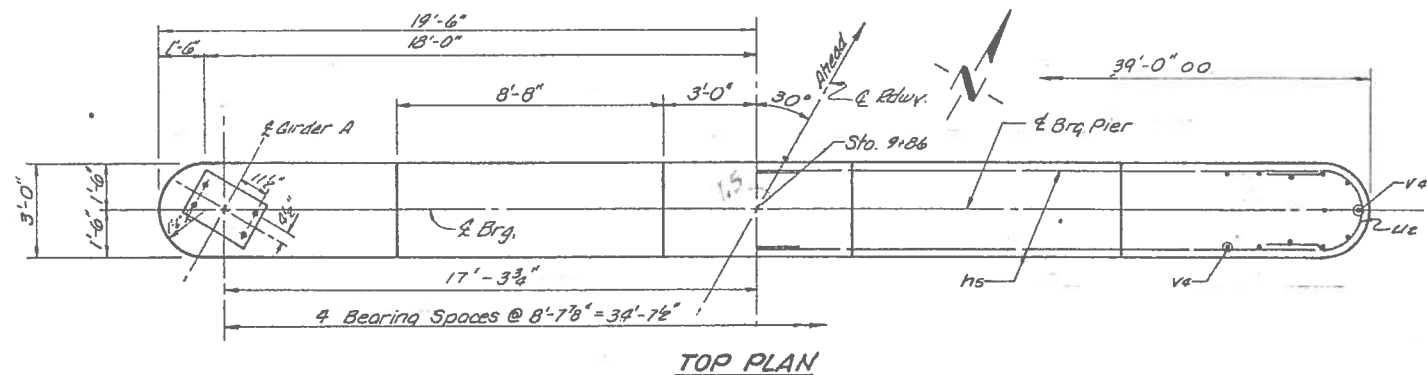
Type _____ Concrete
No. Req'd _____ 15 **
Capacity _____ 45 Tons/Pile
Estimated length _____ 42 Feet/Pile
** Includes one test pile to be driven
in a permanent location at the North
Abutment.

SECTION A-A

SECTION THRU ABUT.

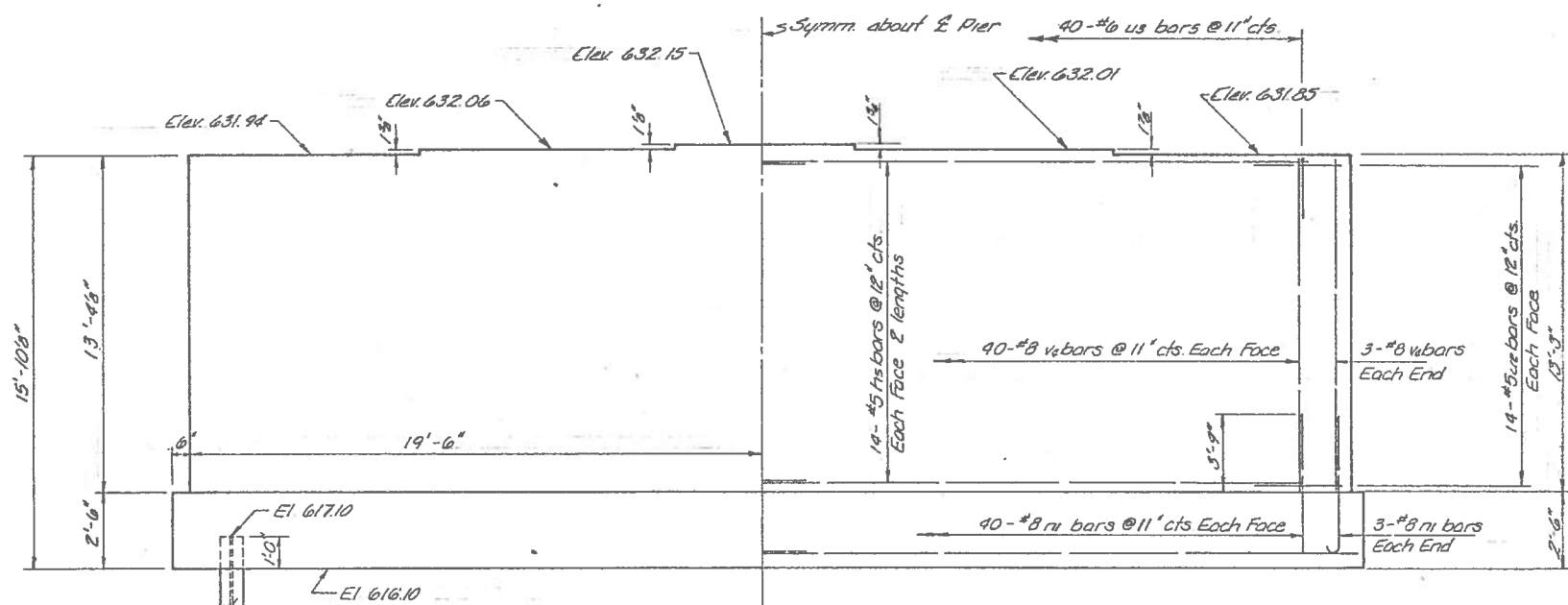
PLAN - PILE CAP

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 760	76-00221-00-BR	PIATT	26	24
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT 52-F-760(1)			

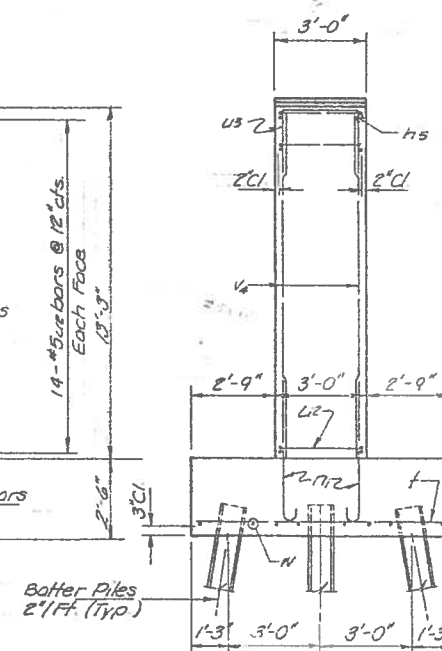


TOP PLAN

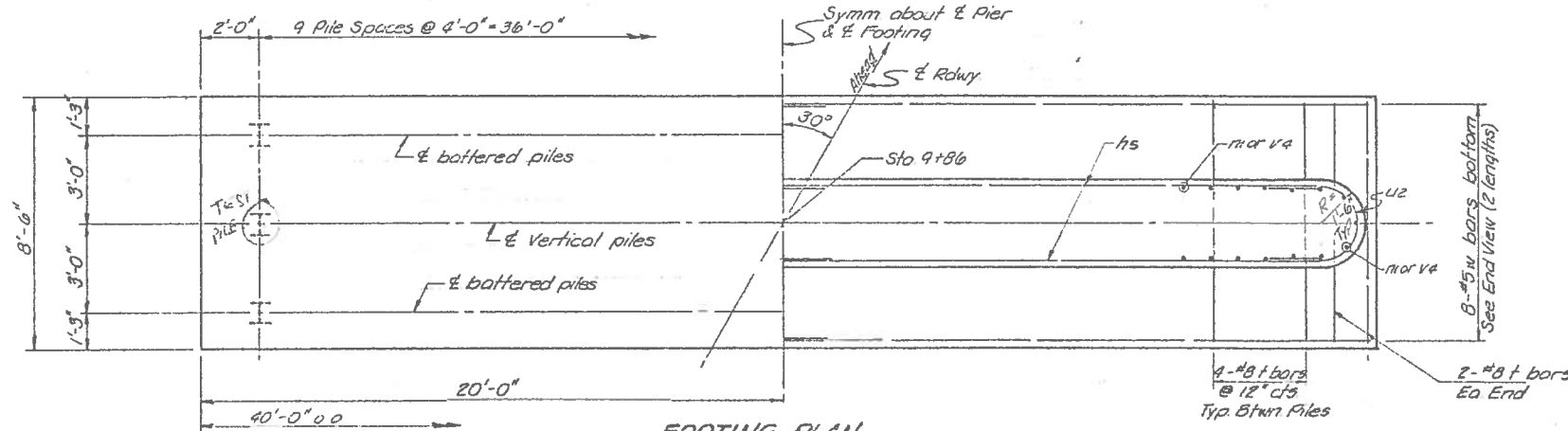
MIN. LAP
#5 = 1'-9"



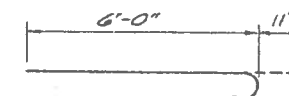
ELEVATION (LOOKING NORTH)



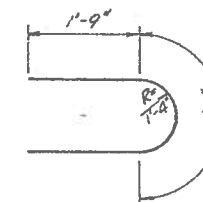
END VIEW



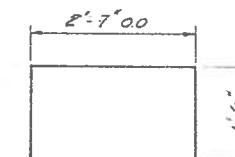
FOOTING PLAN



BAR #1



BAR #2



BAR #3

BILL OF MATERIAL - PIER

BAR	No. REQ'D	SIZE	LENGTH	SHAPE
#5	36	#5	15'-11"	
#8	86	#8	6'-11"	
#10	40	#10	8'-2"	
#12	28	#12	7'-8"	
#14	40	#14	5'-7"	
#16	86	#16	13'-1"	
#18	16	#18	20'-9"	
Class X Concrete		Cu. Yd.	83.6	
Reinforcement Bars		Pound	7430	
Steel Piles HP8 x 36		Lin. Ft.	580	
Test Piles Steel HP8 x 36		Each	1	
Structure Excavation		Cu. Yd.	130	

PILE DATA

Type ----- Steel HP8 x 36
No. Req'd ----- 30*
Capacity ----- 43 Tons/Pile
Est. Length ----- 20 Feet/Pile
*Includes one test pile to be driven in a permanent location at the pier

PIER
FAP RT 760
SEC 76-00221-00-BR
PIATT COUNTY
STATION 9+86

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED FS
DRAWN LL

CHECKED AT B
DATE 3-4-78 NO. 1163