

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
322	158-20B-11BR	MACON	122	1
ILLINOIS CONTRACT NO. 74351				

* 122 + 37 = 159 TOTAL SHEETS

D-97-006-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

F.A.P. ROUTE 322 (U.S. RTE. 51)
SECTION (58-20B-1)BR
PROJECT ACNHPP - 0322 (110)
SUPERSTRUCTURE REPLACEMENTS
MACON COUNTY

C-97-029-09

INDEX OF SHEETS

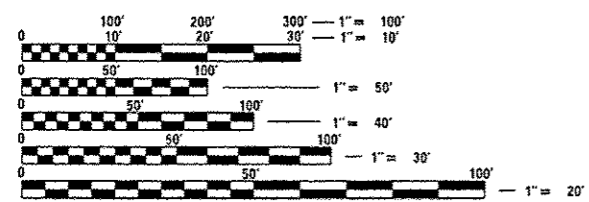
SHEET NO	TITLE
1	COVER SHEET
2	GENERAL NOTES
3-6	SUMMARY OF QUANTITIES
7-8	TYPICAL SECTIONS
9	QUANTITY SCHEDULES & PLAN DETAILS
10	CURB DETAILS
11	SURVEY TIES
12	SOUTH CROSSOVER PLAN & PROFILE
13	SOUTH CROSSOVER ELEVATIONS & OFFSETS
14	NORTH CROSSOVER PLAN & PROFILE
15	NORTH CROSSOVER ELEVATIONS & OFFSETS
16-18	TRAFFIC CONTROL - CROSSOVER CONSTRUCTION
19-27	STAGE 1 CONSTRUCTION DETAILS
28-36	STAGE 2 CONSTRUCTION DETAILS
37	EROSION CONTROL
* 38-105	BRIDGE REHABILITATION DETAILS
106-122	CROSS SECTIONS

122A-122AH EXISTING BRIDGE DETAILS - FOR INFORMATION ONLY

* INCLUDES SHEETS 103A - 103C.



ADT = 4,250 (2013)

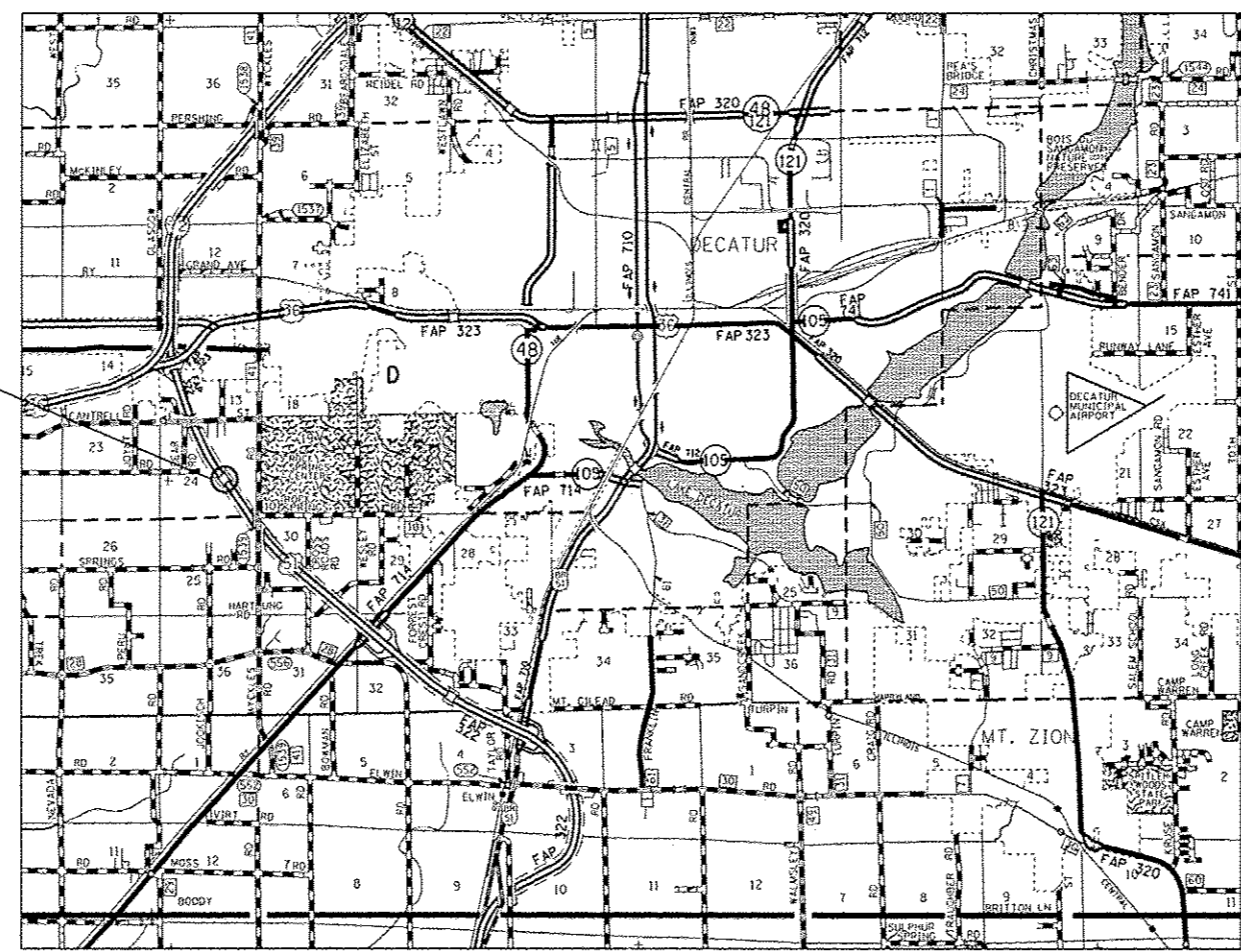


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: MARK DAUGHERTY
PROJECT MANAGER: BRIAN LEWIS

CONTRACT NO. 74351



GROSS LENGTH = 7,061 FT. = 1.34 MILE
NET LENGTH = 3,749 FT. = 0.71 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED MARCH 20 2015
Roger L. Drishell
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 8 2015
John D. Baranzelli P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

May 8 2015
Omar Osman P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

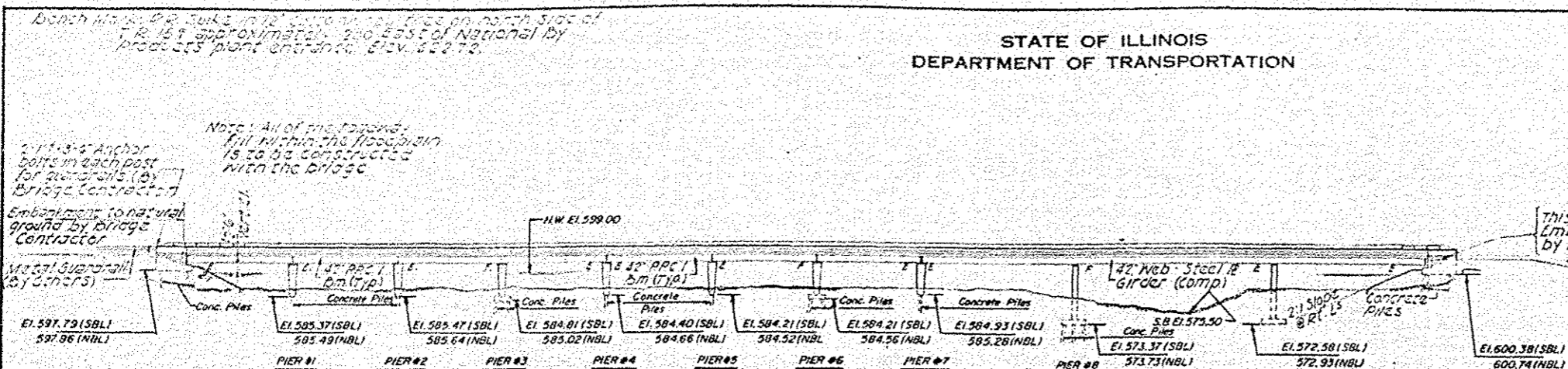
PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

REVISD 6-4-15

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

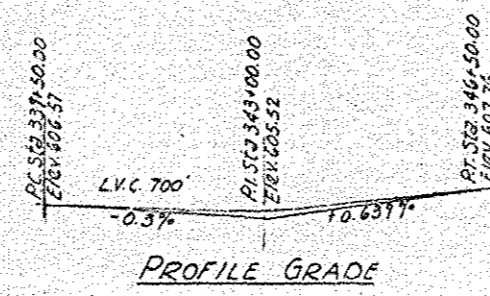
DATE	BY	REVISION	NO.	DATE
11/22	WJ	1	1	11/22
12/10	WJ	2	2	12/10
1/10	WJ	3	3	1/10
2/10	WJ	4	4	2/10
3/10	WJ	5	5	3/10
4/10	WJ	6	6	4/10
5/10	WJ	7	7	5/10
6/10	WJ	8	8	6/10
7/10	WJ	9	9	7/10
8/10	WJ	10	10	8/10
9/10	WJ	11	11	9/10
10/10	WJ	12	12	10/10
11/10	WJ	13	13	11/10
12/10	WJ	14	14	12/10
1/11	WJ	15	15	1/11
2/11	WJ	16	16	2/11
3/11	WJ	17	17	3/11
4/11	WJ	18	18	4/11
5/11	WJ	19	19	5/11
6/11	WJ	20	20	6/11
7/11	WJ	21	21	7/11
8/11	WJ	22	22	8/11
9/11	WJ	23	23	9/11
10/11	WJ	24	24	10/11
11/11	WJ	25	25	11/11
12/11	WJ	26	26	12/11
1/12	WJ	27	27	1/12
2/12	WJ	28	28	2/12
3/12	WJ	29	29	3/12
4/12	WJ	30	30	4/12

FOR INFORMATION ONLY



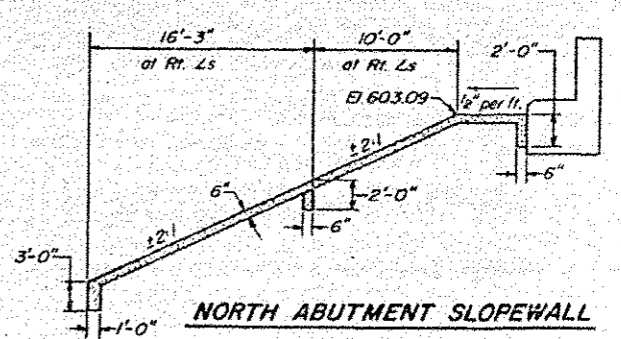
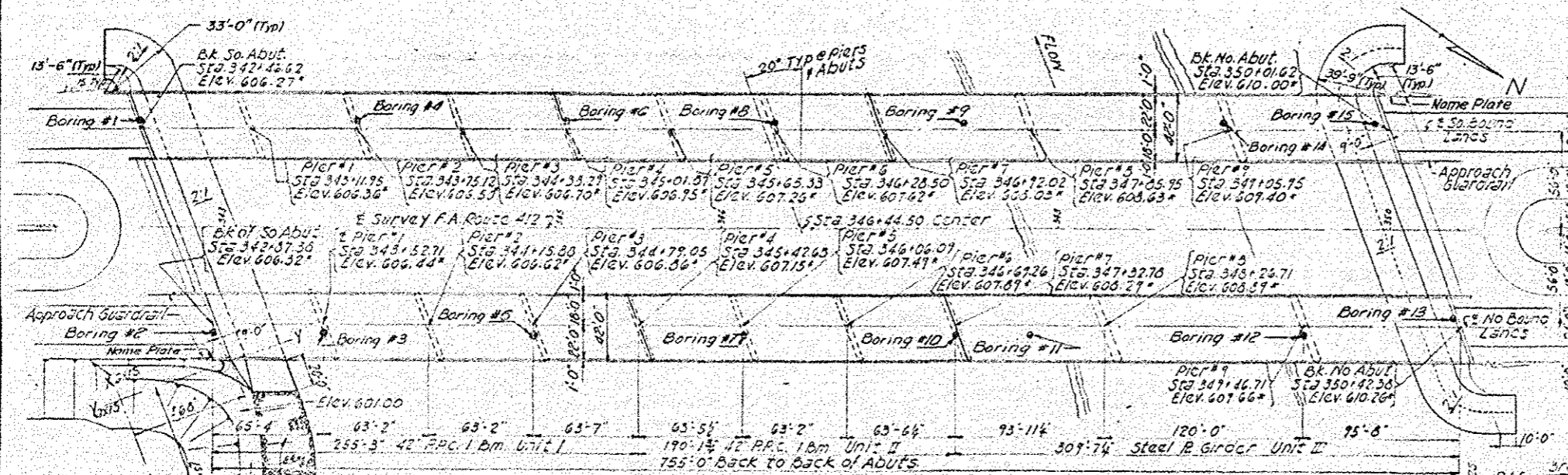
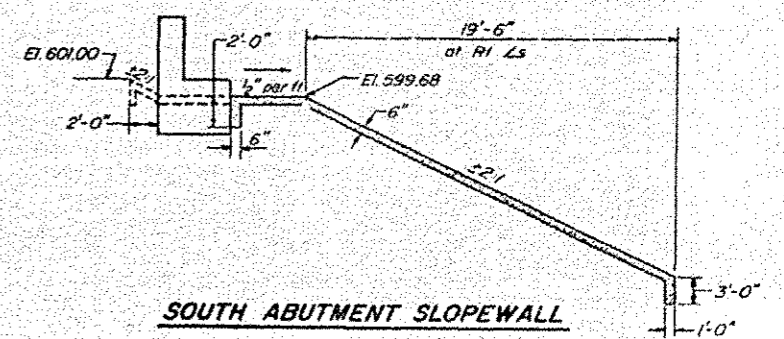
WATERWAY INFORMATION

Drainage Area	1017 Sq Miles
Character	
Regd opening	7000 sq ft
Proposed opening	7000 sq ft
Q66	29000 cfs
Created head	1.04 ft



STATION 346+44.50
BUILT 197 BY
STATE OF ILLINOIS
F.A. RT. 412 SEC. 58-20B-1
PROJ. EBRF-42-2(11)
LOADING HS20

See Standard 2113
NAME PLATE



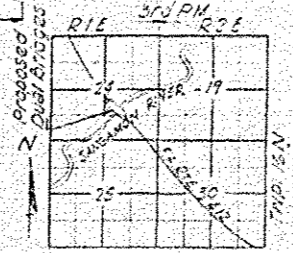
SPUR DIKE CURVE

$\frac{V^2}{L^2} = \frac{97}{(0.415)^2}$

DESIGN STRESSES

FIELD UNITS	PRECAST PRESTR UNITS
fc = 1200 psi Deck Slab	fc = 5000 psi
fc = 1400 psi curb and parapet	fc = 4000 psi
fs = 20,000 psi Reinf	fs = 270,000 psi (1/2" strands)
fs = 20,000 psi (AASHTO M183) Struct	fs = 165,700 psi (1/2" strands)
fs = 27,000 psi (AASHTO M61.3 - Gr 50) Struct	
vc = 75 psi footing	
n = 10	

LOADING HS20-44



PROJECT EBRF412-2(11)
GENERAL PLAN AND ELEVATION
F.A. ROUTE 412 OVER SANGAMON RIVER
F.A. ROUTE 412 SECTION 58-20B-1
MACON COUNTY
STATION 346+44.50

DESIGNED H. F. RANK	EXAMINED
CHECKED W. H. [Signature]	PASSED
DRAWN P. Barnall	APPROVED
CHECKED W. H. [Signature]	

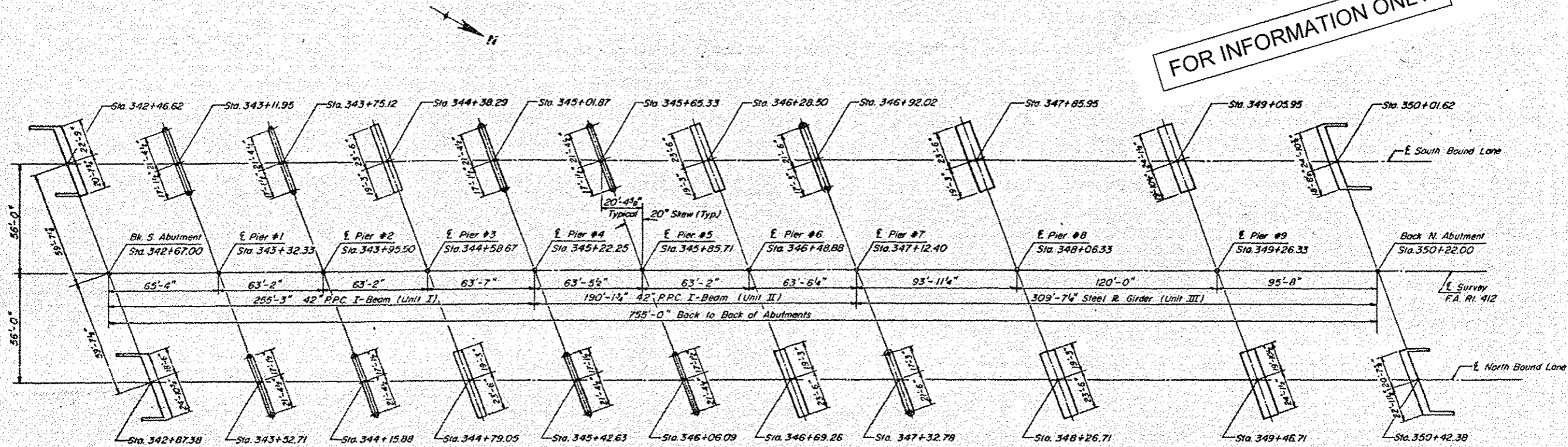


▲ SHEET ADDED 6-4-15

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SUBJECT	SHEET NO.	SHEET NO.
412	58-20 B-1	Macon	60	11
SHEET NO. 2 30 SHEETS				

FOR INFORMATION ONLY



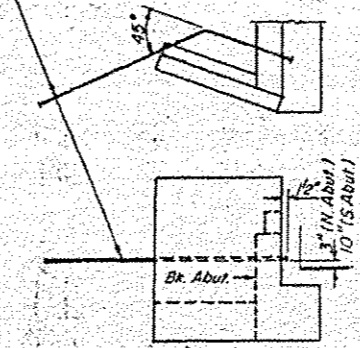
FOOTING LAYOUT

GENERAL NOTES

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 Handrail Concrete.
Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
Bearing seat surfaces for the bearings for Unit III (Steel Plate Girder) shall be constructed or adjusted to the designated elevations within a tolerance of 1/4". Adjustments shall be made either by grinding the surface, or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates and shims.
See Proposal for Boring Logs.
The Contractor shall drive 10 concrete test piles (See Sh #13 thru #17, #20 B #21) in permanent locations as directed by the Engineer before ordering the remainder of piles.

All reinforcement bars shall be lapped 24 diameters unless otherwise shown. Fasteners shall be high strength bolts. Bolts 1/2" #1; open holes 1 1/2" #1, unless otherwise noted.
Calculated weight of Structural Steel = 273,410 lbs. (M223 - Gr. 50); 443,440 lbs. (M183). The basic lead silica chromate paint system shall be used for shop and field painting of Structural Steel.
Field welding of construction accessories will not be permitted in 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.
Anchor bolts shall be set before bolting diaphragms over supports.
Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, wt=58#/100 Sq. Ft. Layout of slope walls may be varied in the field to suit ground conditions as directed by the Engineer.
Concrete piles at North Abutments shall be driven in holes precast through the embankment in accordance with Article 513.09 (c) of the Standard Specifications.
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

Locate 2" Galv. Conduit (Sch. 40 Pipe) #12" inside of fascia beam web and parallel to beam line. Extend to clear the wing wall and terminate at a point outside of shoulder. Thread and cap each end. Place conduit at the two outside corners of each dual bridge.
(4-Req'd) Cost Incidental



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Bituminous Concrete Surface Course, Class I	Tons	519		519
Waterproofing Membrane System*	Sq. Yds.	6398		6398
Structure Excavation	Cu. Yds.		759	759
Cofferdam Excavation	Cu. Yds.		1101	1101
Cofferdams (Pier #8)	Each		2	2
Protective Coat	Sq. Yds.	1157		1157
Class A Concrete	Cu. Yds.		1703.6	1703.6
Class X Concrete	Cu. Yds.	1933.1	198.5	2131.6
Precast Prestressed Concrete I-Beams (42")	Lin. Ft.	5278		5278
Structural Steel	L.S.			1.5
Stud Shear Connectors	Each	6552		6552
Aluminum Railing	Lin. Ft.	3107		3107
Reinforcement Bars	Lbs.	473,030	90,850	563,880
Concrete Piles**	Lin. Ft.		12,414	12,414
Test Piles (Concrete)**	Each		10	10
Name Plates	Each		2	2
Slope Wall (6")	Sq. Yds.		2118	2118
Neoprene Expansion Joint (2")	Lin. Ft.	88		88
Neoprene Expansion Joint (2 1/2")	Lin. Ft.	172		172
Neoprene Expansion Joint (4")	Lin. Ft.	84		84
Stone Riprap	Sq. Yds.		660	660
Drainage Scupper	Each	20		20
Cofferdams (Pier #9)	Each		2	2
Seal Coat Concrete	Cu. Yds.		152	152

* See Special Provisions
** Precast Concrete Piles are to be used on Piers #1, #2, #4, #5, #7.
Δ Not in this contract. To be done under paving contract, Section 58-20

FOOTING LAYOUT

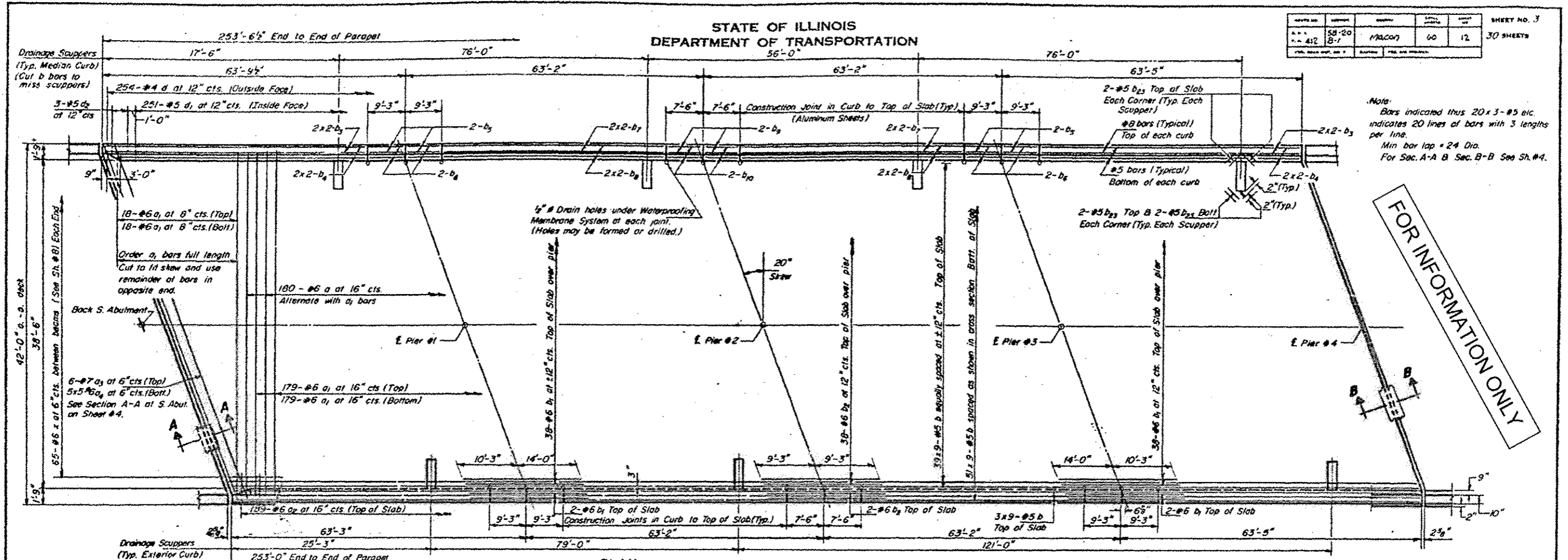
FA. RT. 412 SEC. 58-20B-1
MACON COUNTY
STA 346+44.50

DESIGNED R. F. ROSKEY	EXAMINED JUN 10 1975
CHECKED W. H.	PASSED
DRAWN P. Barnhill	APPROVED
CHECKED W. H.	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

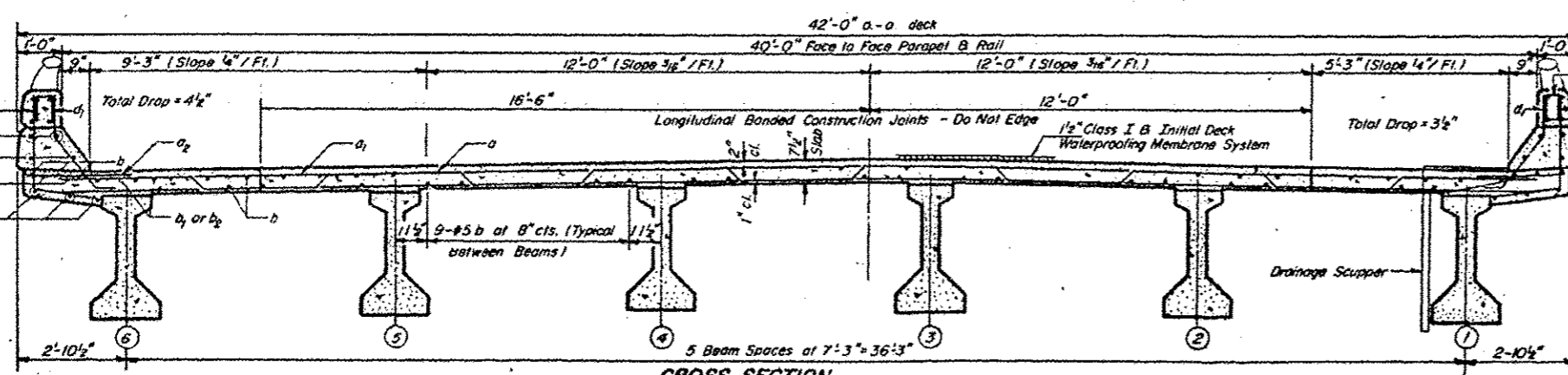
PROJECT NO.	DISTRICT	COUNTY	SHEET NO.	TOTAL SHEETS
412	58-20	MACON	60	12

30 SHEETS

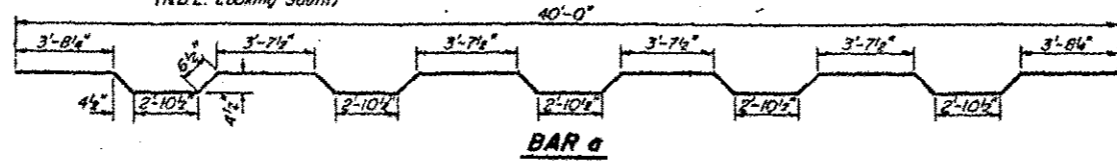


PLAN

FOR INFORMATION ONLY



CROSS SECTION



BAR a

Note: For placement of bars d_3 and e thru e , See Sh. #6.

TWO BRIDGES
BILL OF MATERIAL

BAR NO	SIZE	LENGTH	SHAPE	BAR NO	SIZE	LENGTH	SHAPE
a	360	#6	41'-8"				
a ₁	788	#6	40'-0"				
a ₂	756	#6	4'-0"				
b ₁	24	#7	42'-6"	*d	1016	#4	4'-6"
a ₄	100	#6	6'-11"	*d ₁	100-1	#5	3'-9"
				*d ₂	12	#5	4'-6"
b	1728	#5	29'-6"				
b ₁	168	#6	24'-3"	**m	120	#4	6'-11"
b ₂	84	#6	18'-6"	**m ₁	60	#6	5'-6"
b ₃	32	#8	28'-3"				
c ₁	32	#5	27'-9"	**s ₁	150	#4	10'-0"
b ₄	32	#8	9'-0"				
b ₆	32	#5	9'-0"	*x	280	#6	8'-3"
b ₇	32	#8	24'-0"				
b ₈	32	#5	23'-9"				
b ₉	16	#8	7'-3"				
b ₁₀	16	#5	7'-3"				
b ₁₂	168	#5	3'-0"				

DESIGNED	K. F. ROZKY	EXAMINED	JAN 10 1975
CHECKED	W.H.	PASSED	
DRAWN	R. Barnett	APPROVED	
CHECKED	W.H.		

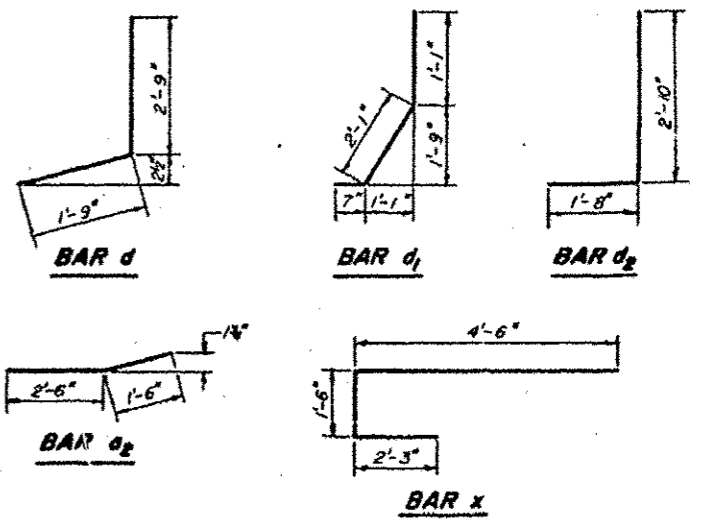
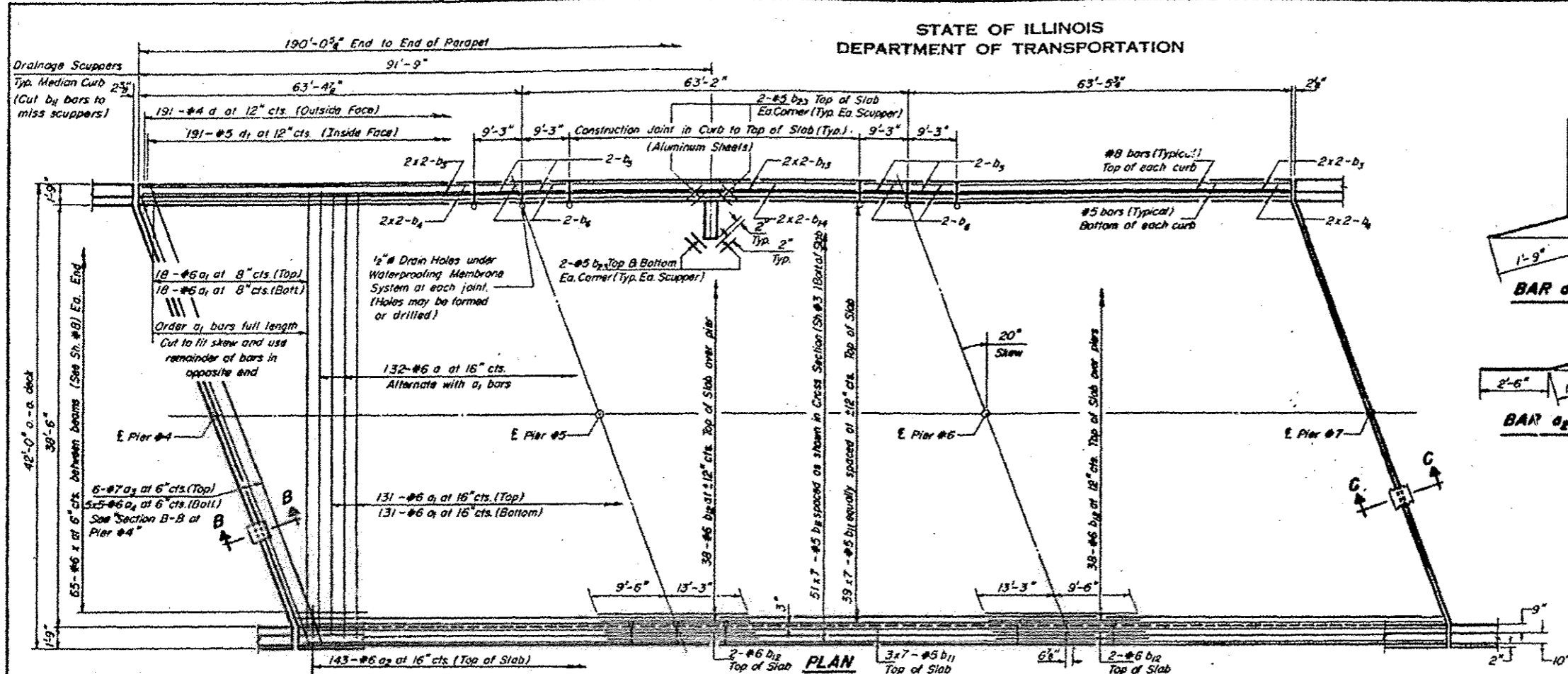
*For bar details See Sheet #2.
**For bar locations and details See Sheet #8.

SUPERSTRUCTURE UNIT-I
F.A.R.T. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

Note: Parapet reinforcement & C.I. X Conc. are billed on Sheet #6.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	DATE	BY	NO.	SHEET NO.
412	58-20 B-1	Macon	LO	13	30 SHEETS



TWO BRIDGES
BILL OF MATERIAL

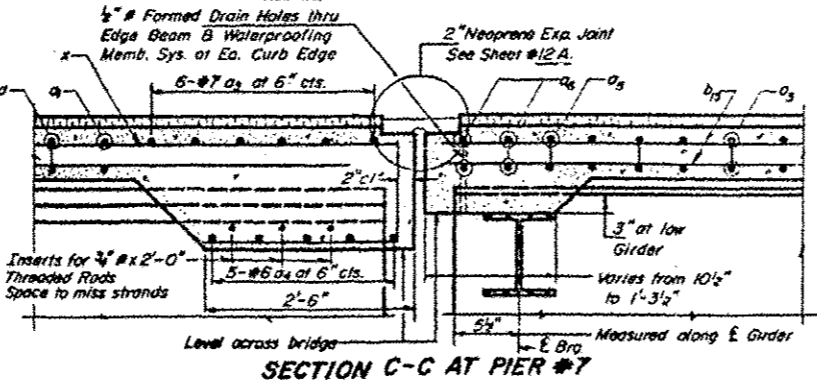
BAR	NO	SIZE	LENGTH	SHAPE
a	264	#6	41'-8"	
a1	596	#6	40'-0"	
a2	572	#6	4'-0"	
a3	24	#7	42'-6"	
a4	100	#6	6'-11"	
b2	32	#8	28'-3"	
b4	32	#5	27'-9"	
b5	32	#8	9'-0"	
b6	32	#5	9'-0"	
b11	1344	#5	28'-6"	
b12	168	#6	22'-9"	
b13	16	#8	23'-3"	
b14	16	#5	23'-0"	
b23	24	#5	3'-0"	
d	764	#4	4'-6"	
d1	764	#5	3'-9"	
*m	80	#4	6'-11"	
*m1	40	#6	5'-6"	
*s3	100	#4	10'-0"	
x	260	#6	8'-3"	
Reinforcement Bars		Lbs.	120,320	
Class X Concrete		Cu Yds.	464.2	

SECTION A-A AT SOUTH ABUTMENT

DESIGNED R. F. RODLEY
CHECKED [Signature]
DRAWN P. BARNETT
CHECKED [Signature]

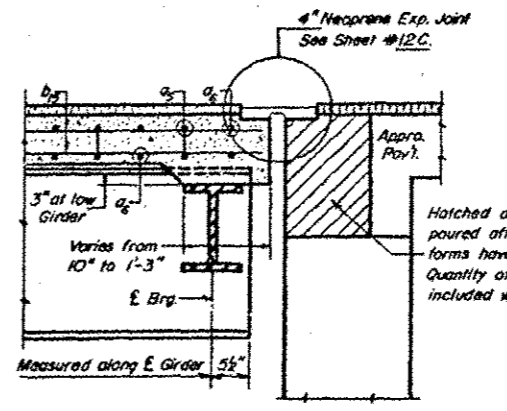
EXAMINED [Signature] JAN. 10 1975
PASSED [Signature]
APPROVED [Signature] DIRECTOR OF HIGHWAYS

SECTION B-B AT PIER #4



SECTION C-C AT PIER #7

SECTION D-D AT NORTH ABUTMENT



Note: Parapet reinforcement and Cl. X Concrete are billed on Sheet #6.

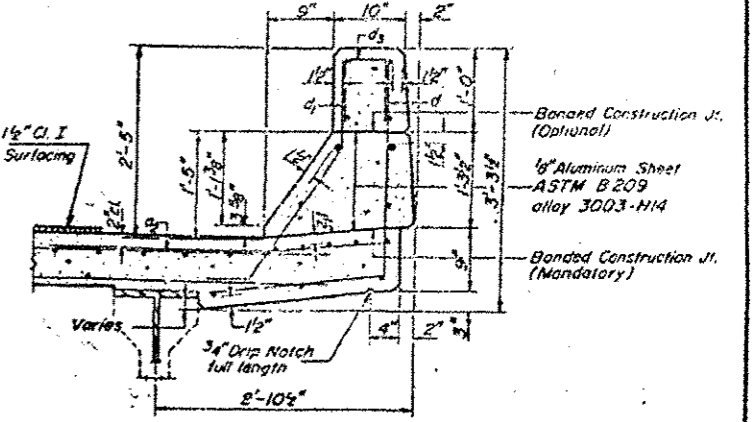
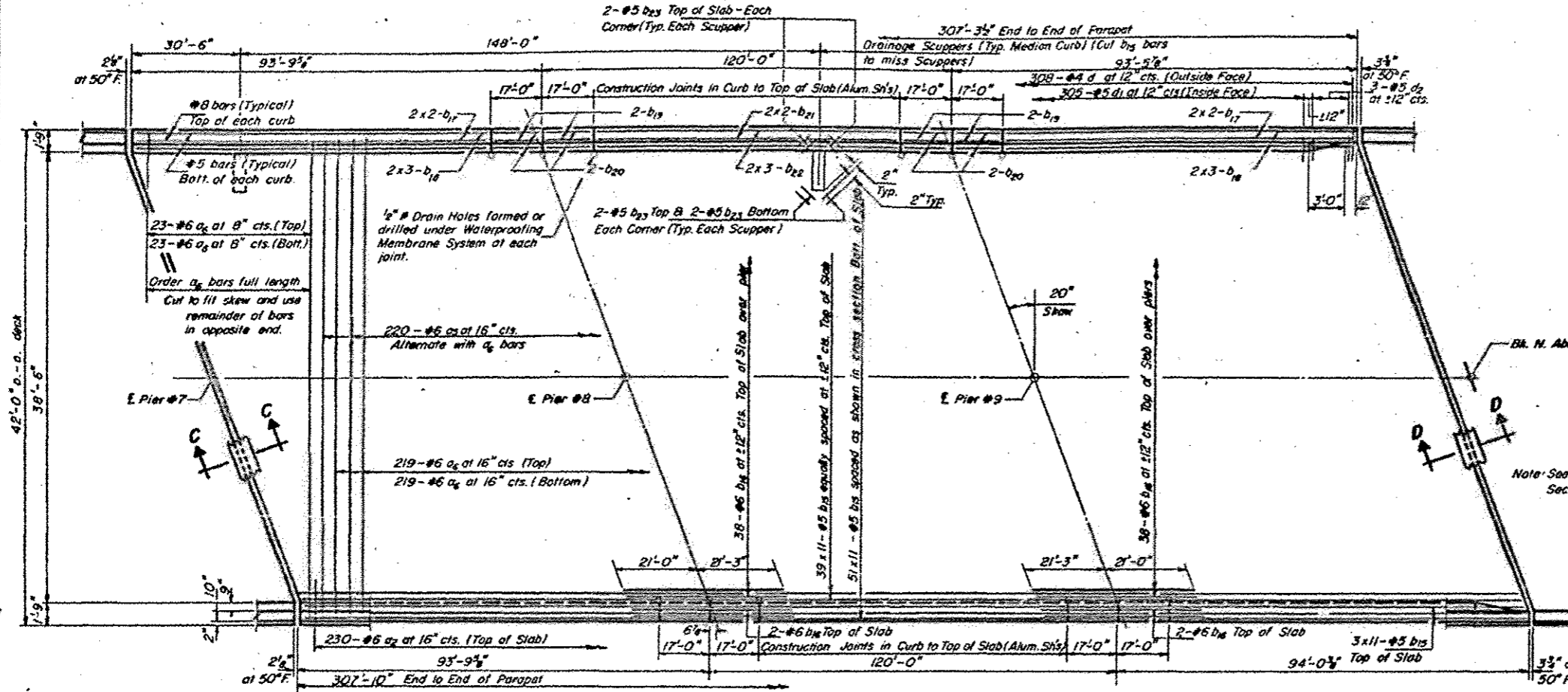
FOR INFORMATION ONLY

SUPERSTRUCTURE UNIT-II
F.A.R.T. 412 SEC. 58-20B-1
Macon County
STA. 346+44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	DATE	SCALE	SHEET NO.	TOTAL SHEETS
412	8-1	MACON	60	14

30 SHEETS



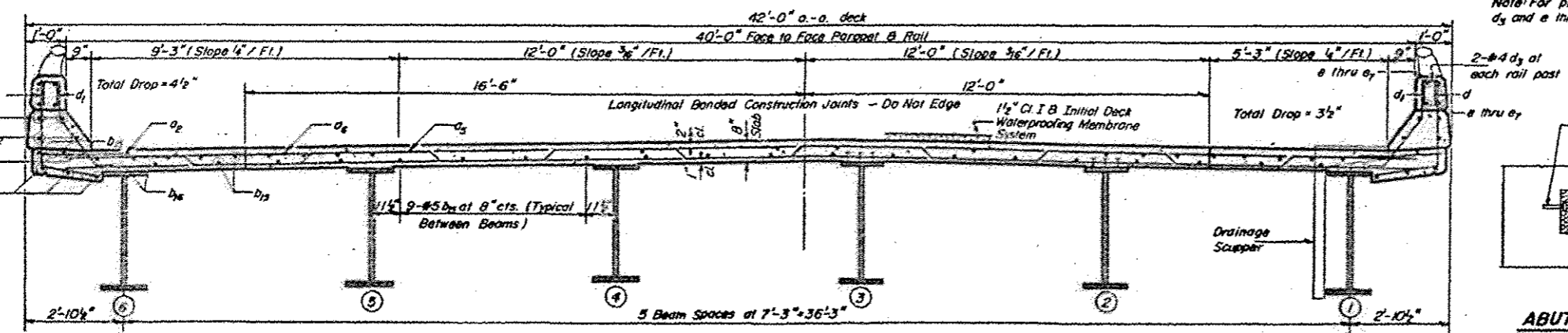
CURB SECTION
Cost of Aluminum Sheets shall be incidental to Class X Concrete

**TWO BRIDGES
BILL OF MATERIAL**

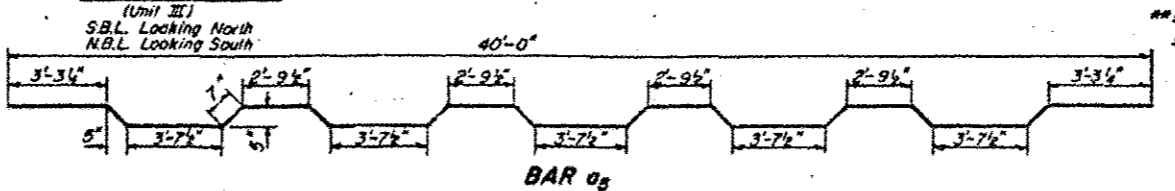
BAR NO	SIZE	LENGTH	SHAPE
a ₁	920	#6	4'-0"
a ₂	440	#6	41'-8"
a ₃	96B	#6	40'-0"
b ₁	212	#5	29'-3"
b ₂	168	#6	42'-3"
b ₃	32	#8	39'-6"
b ₄	48	#5	26'-6"
b ₅	32	#8	16'-9"
b ₆	32	#5	16'-9"
b ₇	16	#8	44'-0"
b ₈	24	#5	29'-6"
b ₉	48	#5	3'-0"
d	1232	#4	4'-6"
d ₁	1220	#5	3'-9"
d ₂	12	#5	4'-6"
Reinforcement Bars	Lbs.	184,310	
Class X Concrete	Cu Yds.	756.7	

FOR INFORMATION ONLY

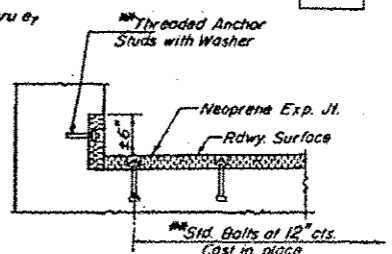
PLAN



CROSS SECTION
(Unit III)
S.B.L. Looking North
N.B.L. Looking South



Note: For placement of bars d₃ and e thru e₇, See Sh. #6.



ABUTMENT TREATMENT

(Showing treatment of Neoprene Expansion Joint at Abutments)

#3 # at S. Abutment
#4 # at N. Abutment

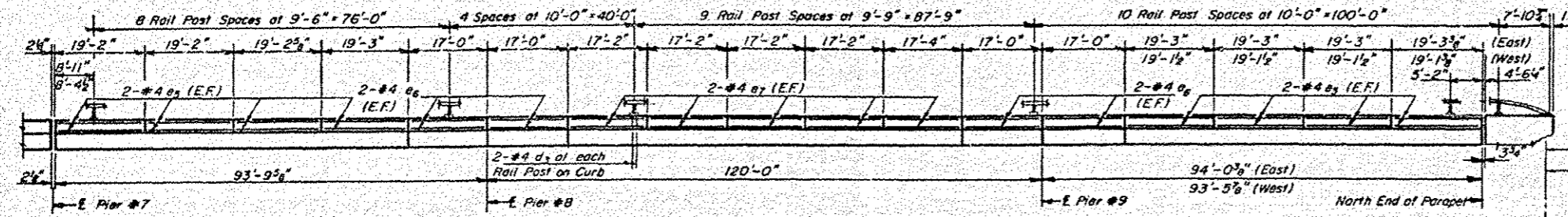
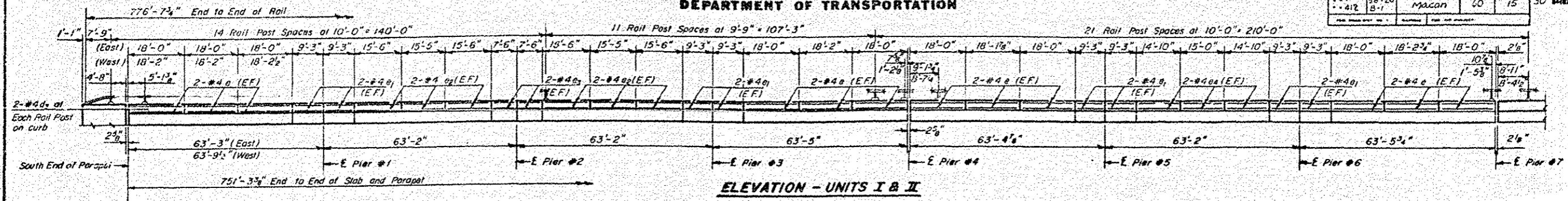
Note: Parapet reinforcement & Cl. X Conc. are billed on Sh. #6.

DESIGNED	R. F. ROOKEY	EXAMINED	JAN. 10 1975
CHECKED	G. Schell	PASSED	
DRAWN	P. Barnett	APPROVED	
CHECKED	R. C.		

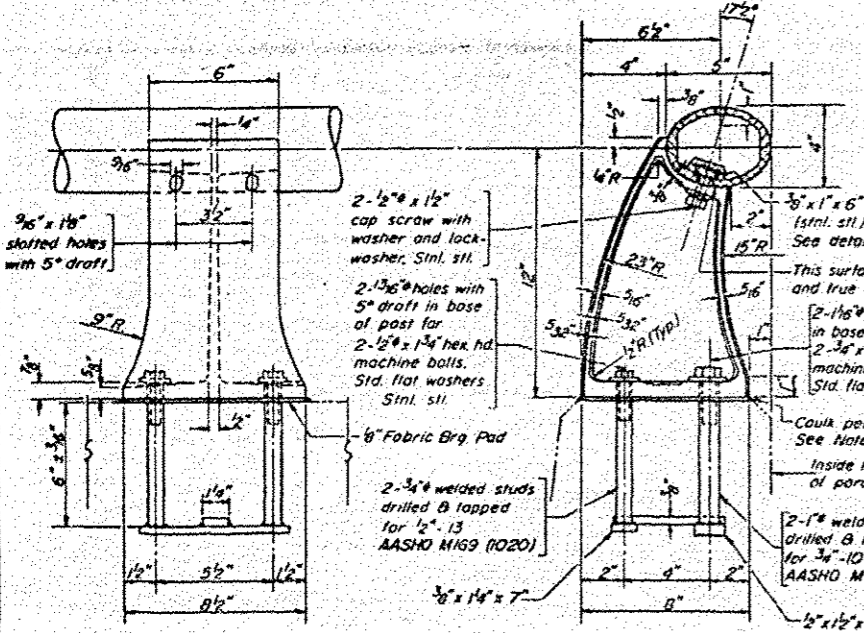
For bar details See Sheet #4.
SUPERSTRUCTURE - UNIT III
FA. RT. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

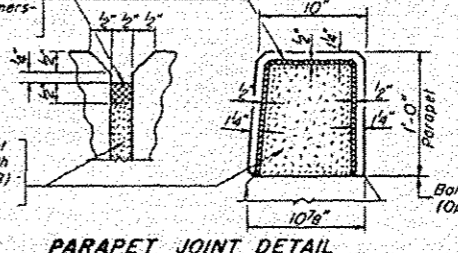
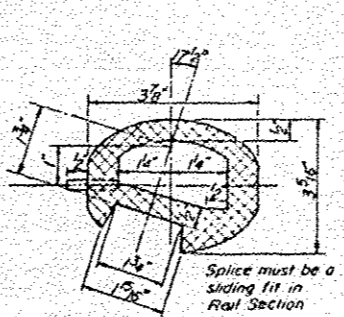
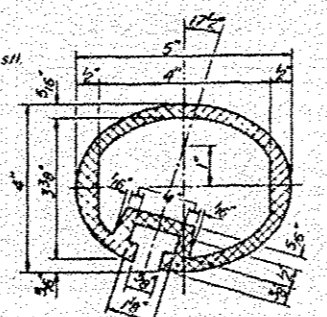
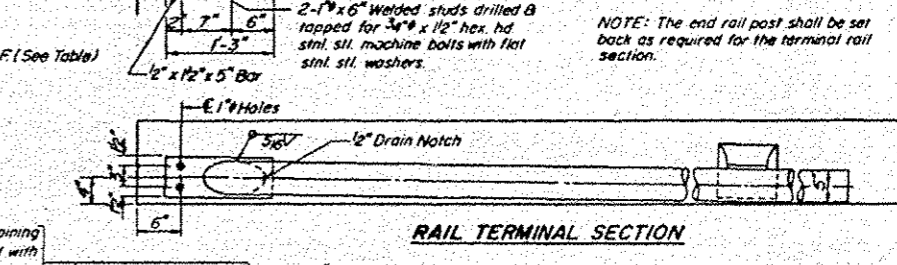
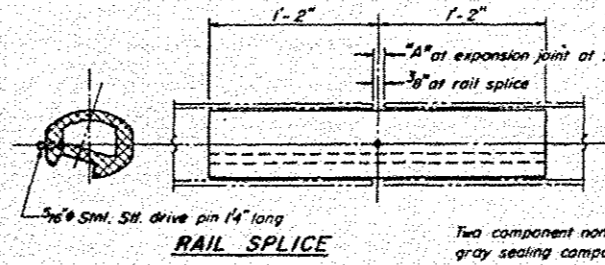
PROJECT NO.	CONTRACT	SHEET NO.	TOTAL SHEETS
412	58-20 B-1	15	30
PROJECT NAME		SHEET NO.	
Macon		6	



FOR INFORMATION ONLY



Location	"A"
South Abutment	2 3/8"
Pier #4	2 5/8"
Pier #7	2 5/8"
North Abutment	3 3/4"

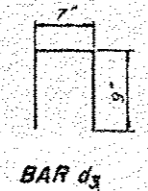


DESIGNED R. F. Rooken
CHECKED NH
DRAWN P. Barnett
CHECKED NH

EXAMINED
PASSED
APPROVED

JAN 10 1975

DIRECTOR OF HIGHWAYS



TWO BRIDGES
PARAPETS & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d ₃	608	#4	2'-1"	□
e	192	#4	17'-9"	—
e ₁	128	#4	9'-0"	—
e ₂	96	#4	15'-2"	—
e ₃	32	#4	7'-3"	—
e ₄	48	#4	14'-7"	—
e ₅	128	#4	18'-10"	—
e ₆	64	#4	16'-9"	—
e ₇	80	#4	16'-11"	—
Class X Concrete		Cu. Yds.		96.8
Aluminum Railing		Lin. Ft.		3107
Reinforcement Bars		Lbs.		8720

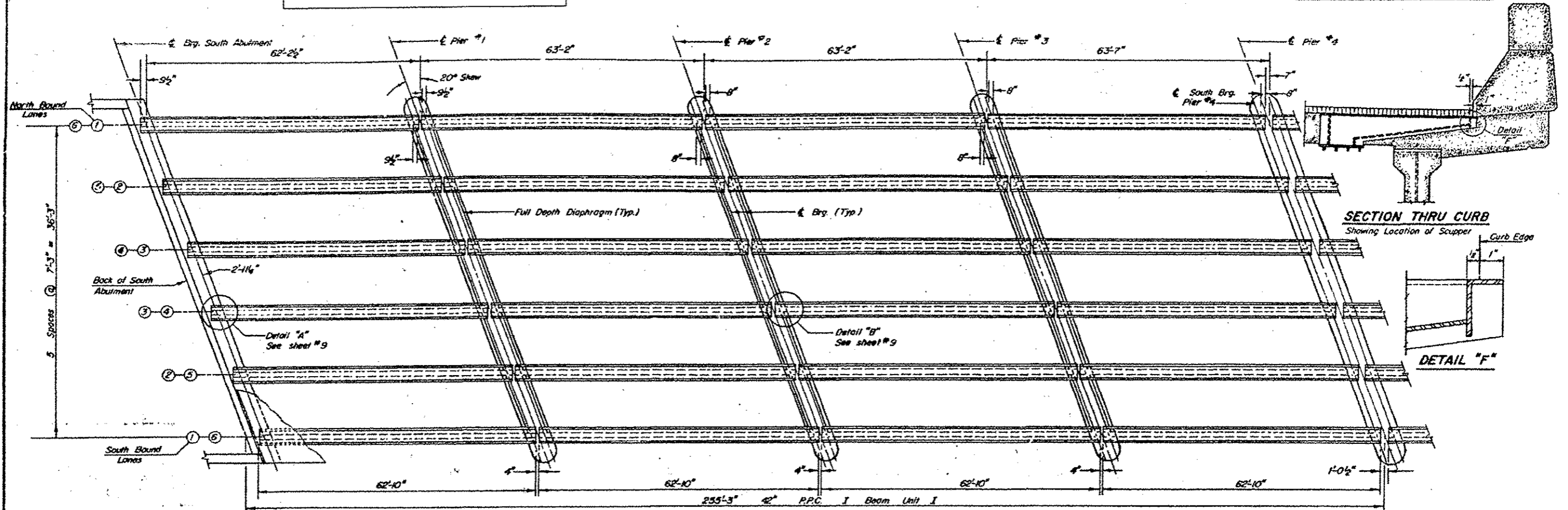
ALUMINUM RAILING
FA.R.T. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

R-17 4-15-73

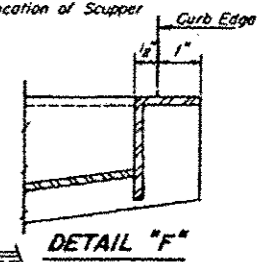
FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

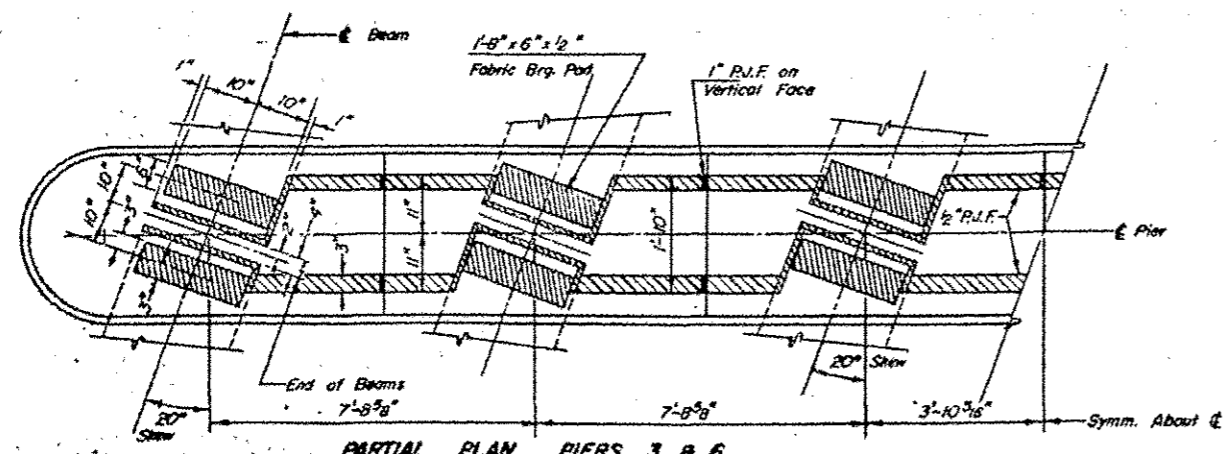
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412	B-1	MACON	60	16
SHEET NO. 7 30 SHEETS				



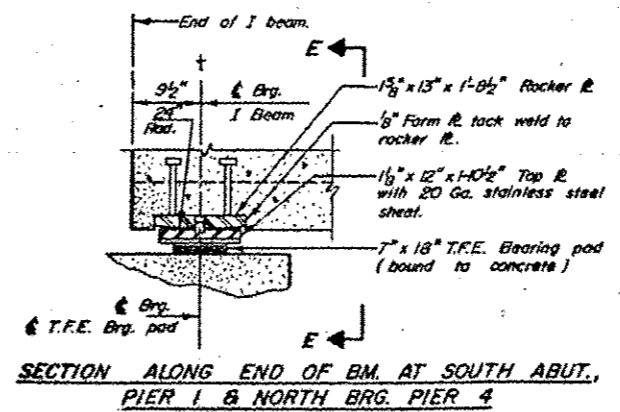
SECTION THRU CURB
Showing Location of Scupper



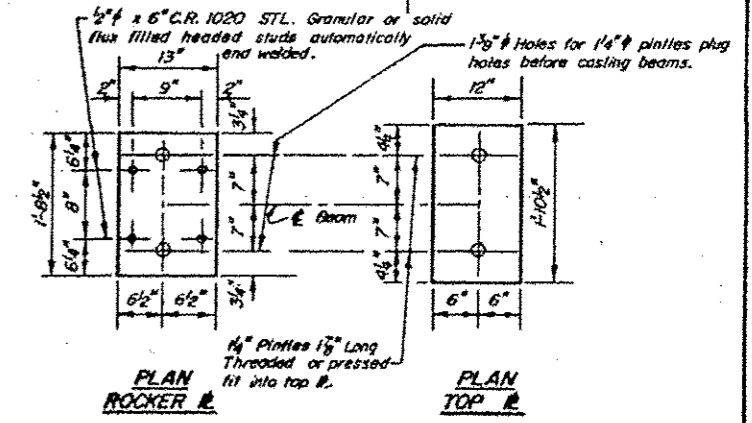
FRAMING PLAN - UNIT I



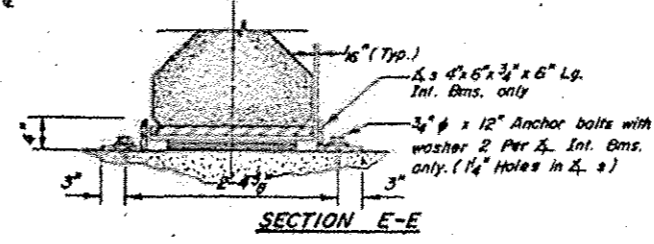
PARTIAL PLAN PIERS 3 & 6
(Showing Bearing Pads & P.J.F.)



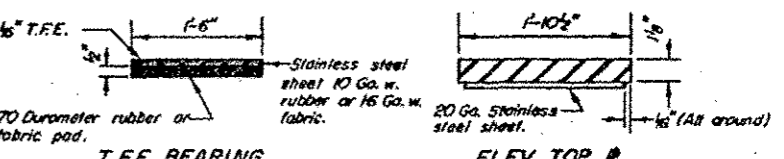
SECTION ALONG END OF BM. AT SOUTH ABUT.,
PIER 1 & NORTH BRG. PIER 4



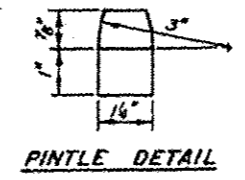
PLAN ROCKER R
PLAN TOP R



SECTION E-E



ELEV. TOP R



PINTLE DETAIL

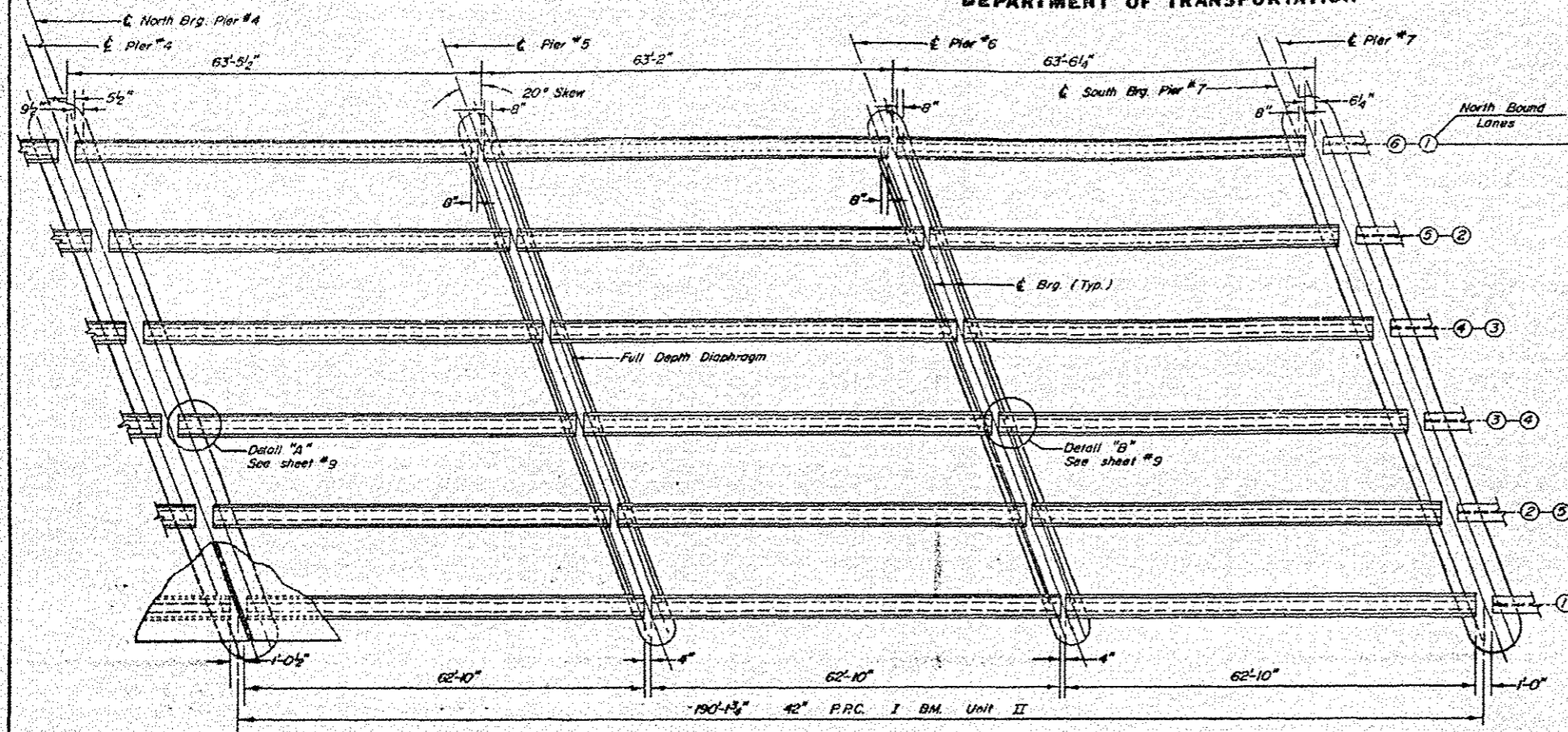
DESIGNED	R. F. ROULEY	EXAMINED	[Signature]
CHECKED	[Signature]	PASSED	[Signature]
DRAWN	[Signature]	APPROVED	[Signature]
CHECKED	[Signature]		

T.F.E. BEARING
Note: Cost of bearing assemblies including angles and anchor bolts shall be incidental to R.C.C. I Beam. The basic lead silico chromate paint system shall be used for shop painting of structural steel.

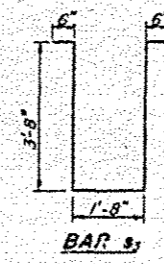
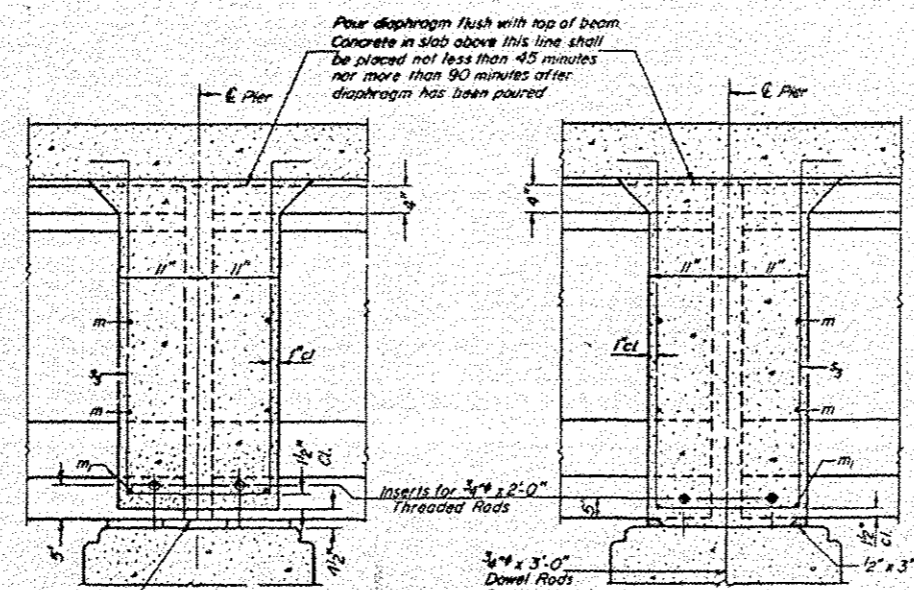
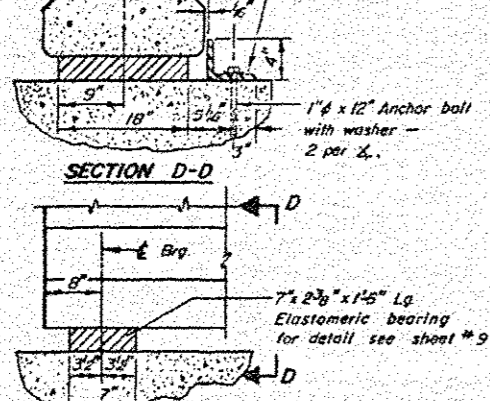
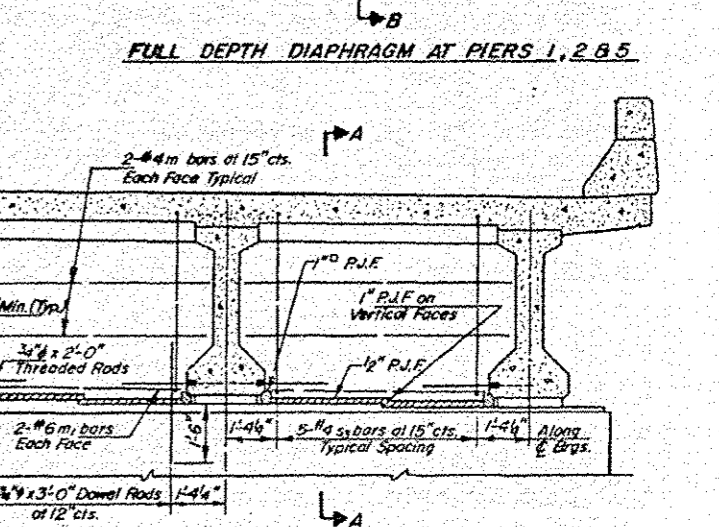
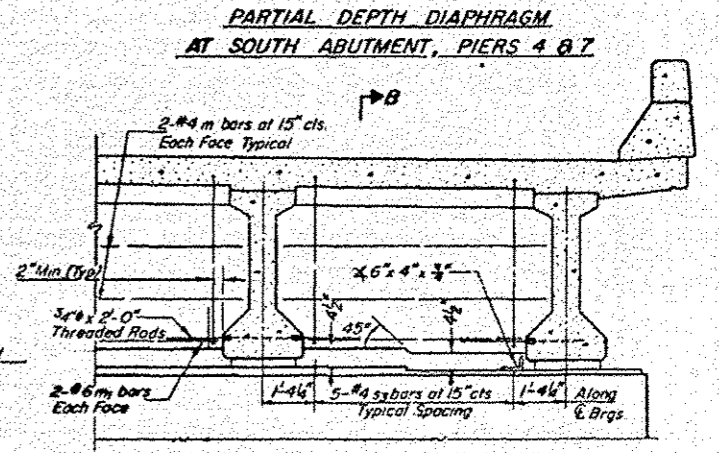
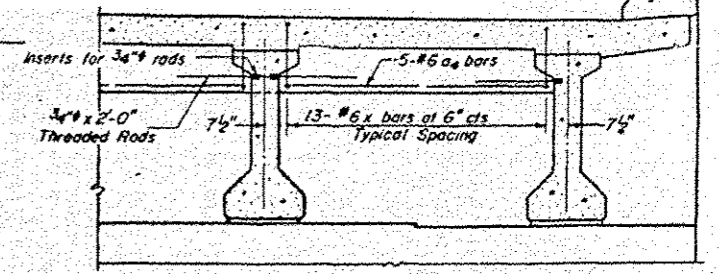
FRAMING PLAN - UNIT I
F.A.R.T. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
412	58-20 B-1	60	17
PROJECT NAME		SHEET NO.	
MACON		30 SHEETS	



FOR INFORMATION ONLY



DESIGNED R. F. ROWLEY	EXAMINED
CHECKED W.H.	PASSED
DRAWN [Signature]	APPROVED
CHECKED W.H.	

Diaphragm between beams ends shall be flush with bottom of beams

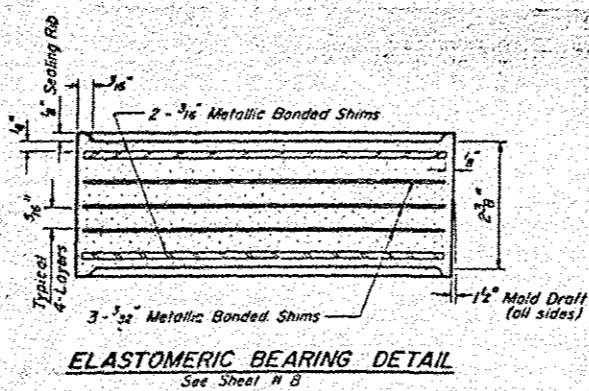
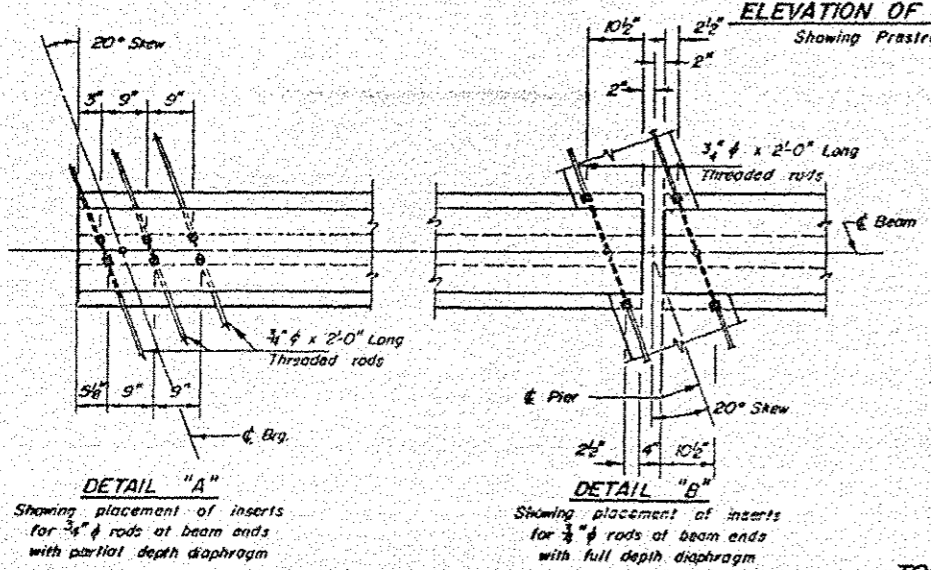
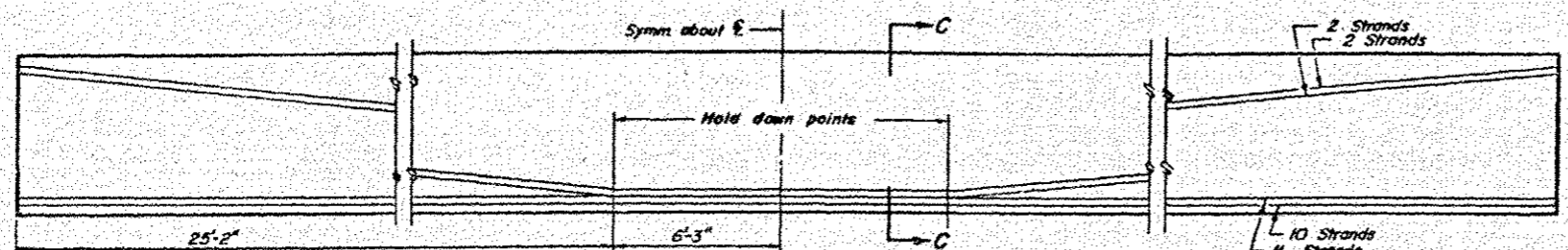
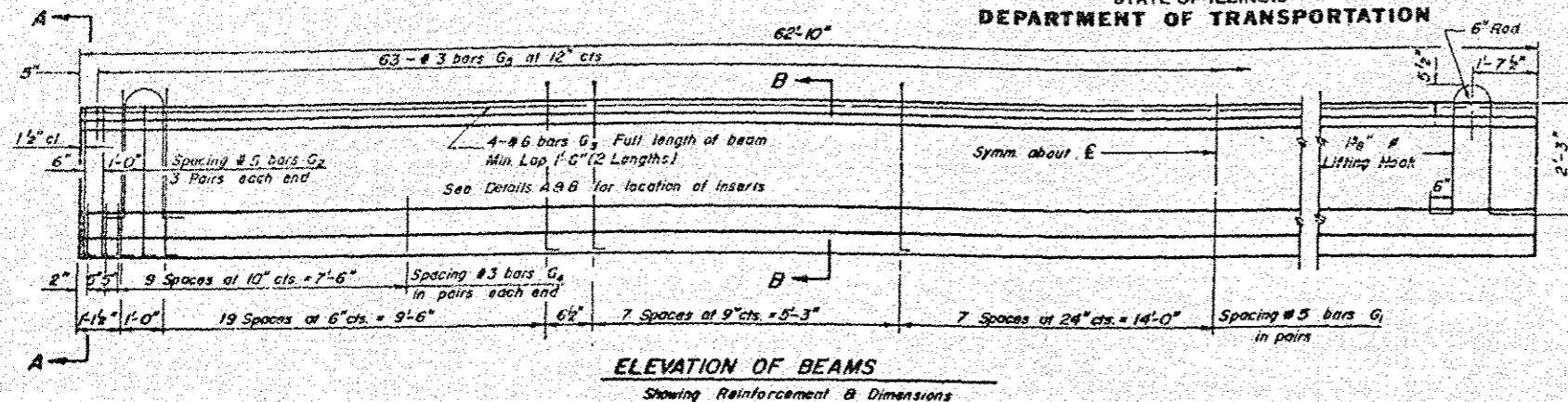
Pour diaphragm flush with top of beam. Concrete in slab above this line shall be placed not less than 45 minutes nor more than 90 minutes after diaphragm has been poured.

NOTE: Reinforcement bars shown on this sheet are included in Bill of Material on Sheet # 3 B # 4

FRAMING PLAN - UNIT II
F.A.R.T. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

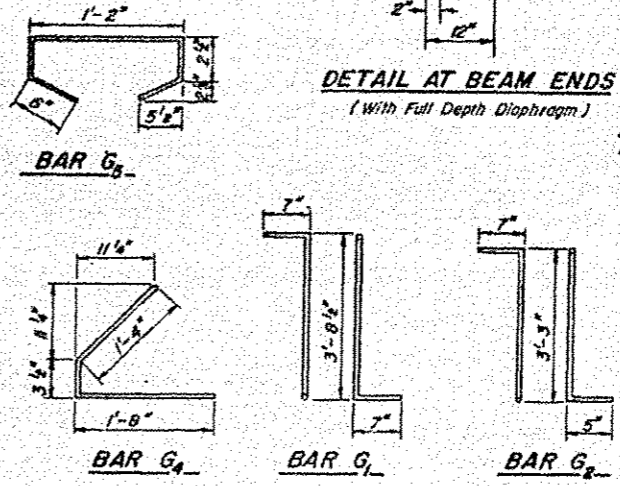
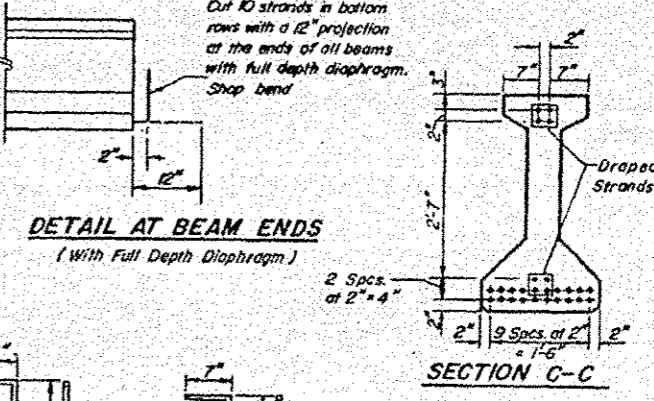
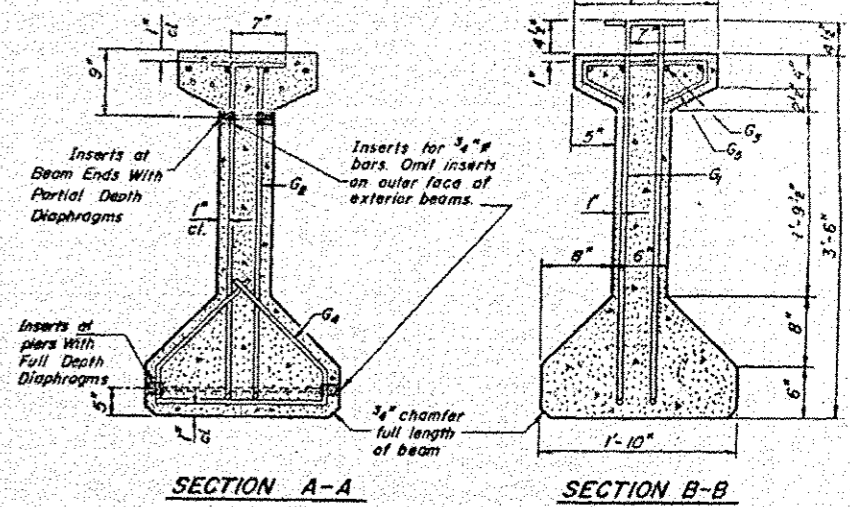
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	DATE	SCALE	SHEET NO.
F.A.R.T. 412	58-20B-1	Macon	60 15	30 SHEETS
DRAWN BY		CHECKED BY		DATE
R. F. ROOKEY		W. H. [Signature]		9-15-72



TOP OF WEB ELEVATIONS*

Order	Loc. E. N. Brg. Pier #7	E. Splice #1	E. Pier #8	E. Splice #2	E. Splice #3	E. Pier #9	E. Splice #4	E. Brg. N. Abut.
NORTH BOUND LANES								
1	607.01	607.48	607.61	607.82	608.28	608.37	608.56	608.97
2	607.16	607.63	607.76	607.97	608.43	608.52	608.71	609.12
3	607.29	607.76	607.89	608.10	608.56	608.65	608.84	609.25
4	607.24	607.71	607.84	608.06	608.51	608.60	608.79	609.20
5	607.14	607.61	607.74	607.95	608.41	608.50	608.70	609.10
6	607.01	607.48	607.61	607.82	608.28	608.37	608.56	608.97
SOUTH BOUND LANES								
1	606.83	607.29	607.42	607.63	608.09	608.19	608.38	608.78
2	606.94	607.41	607.53	607.75	608.21	608.30	608.49	608.89
3	607.04	607.50	607.63	607.85	608.31	608.40	608.59	608.99
4	607.06	607.42	607.55	607.77	608.23	608.32	608.51	608.91
5	606.83	607.29	607.42	607.63	608.09	608.19	608.38	608.78
6	606.66	607.12	607.25	607.47	607.93	608.02	608.21	608.61



***BAR LIST**

Bar	No.	Size	Length	Shape
G1	142	#5	4'-10 1/2"	7L
G2	12	#5	4'-3"	7L
G3	8	#6	32'-3"	—
G4	48	#3	3'-3 1/2"	C
G5	63	#3	2'-7"	□

BILL OF MATERIAL

Item	Unit	Total
Furnishing & Erecting Precast Prestressed Concrete I-Beams, 42"	Lin. Ft.	5278

FOR INFORMATION ONLY

NOTES

All inserts and threaded rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per linear foot of "Furnishing And Erecting Precast Prestressed Concrete I-Beams, 42 in."

Prestressing Steel shall have a nominal diameter of 1/8"

Inserts for 3/4" threaded rods are to be two strut, coil type for interior I-Beams and single coil, flared loop type for exterior I-Beams.

Steel for lifting hooks shall be non-deformed bars fy = 40,000 psi.

BEAM DETAILS
F.A.R.T. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

DESIGNED R. F. ROOKEY
CHECKED W. H.
DRAWN R. J. SWEET
CHECKED W. H.

EXAMINED [Signature]
PASSED [Signature]
APPROVED [Signature]
DIRECTOR OF HIGHWAYS

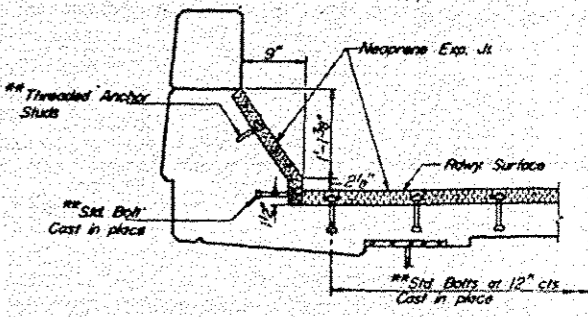
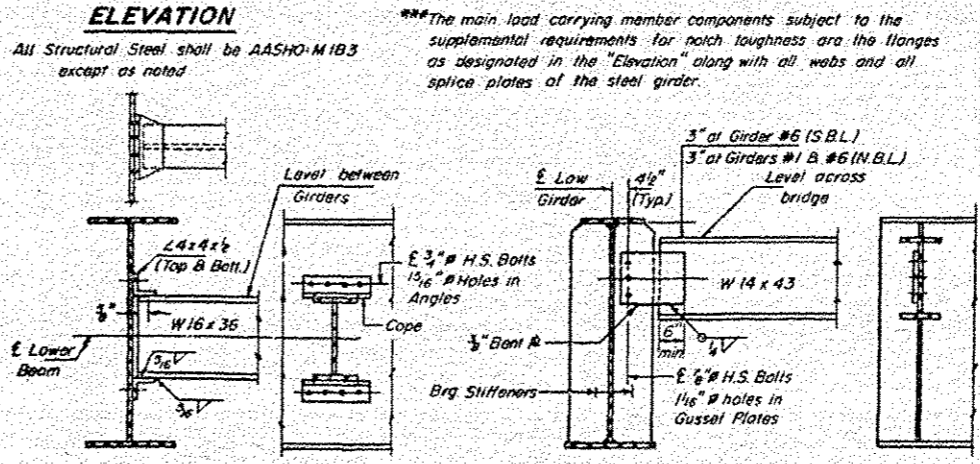
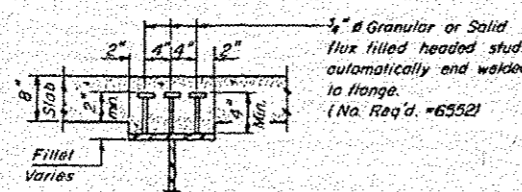
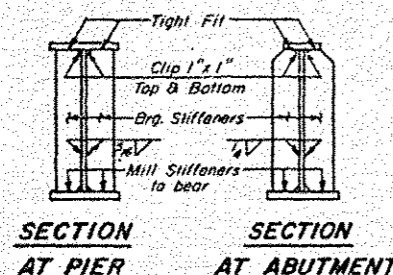
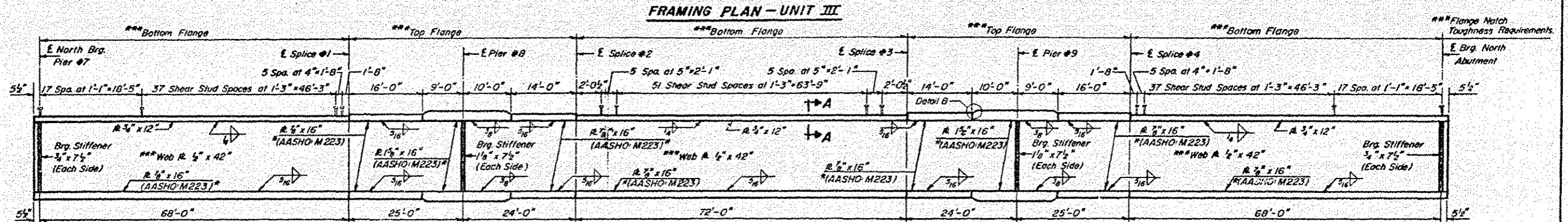
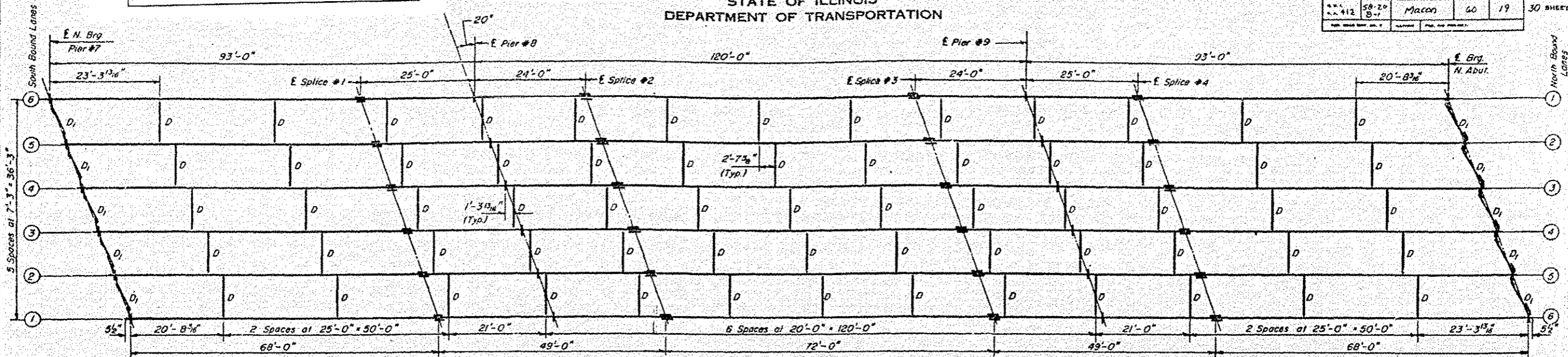
9-15-72

*For fabrication only. Elevations of Splices have been adjusted for camber.

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	DATE	BY	CHECKED	SHEET NO. OF
F.A. RT. 412	58-20B-1	Macon	60	19	30 SHEETS
<small>FOR ROAD DIST. USE ONLY</small> DATE: 10/15/75 DRAWN: P. Barnett CHECKED: G. J. G.					



DESIGNED R. P. Rodkey
 CHECKED G. J. G.
 DRAWN P. Barnett
 CHECKED G. J. G.

EXAMINED JAN 10 1975
 PASSED
 APPROVED
 DIRECTOR OF HIGHWAYS

DETAIL "B"
 Note: See Sh # 23 for "Splice Details" & "Camber Diagram". See Sh # 9 for "Top of Web Elevations".

DIAPHRAGM D
 Note: Hardened washers shall be required over 1 1/8" holes in angle.
 No. Req'd. = 130

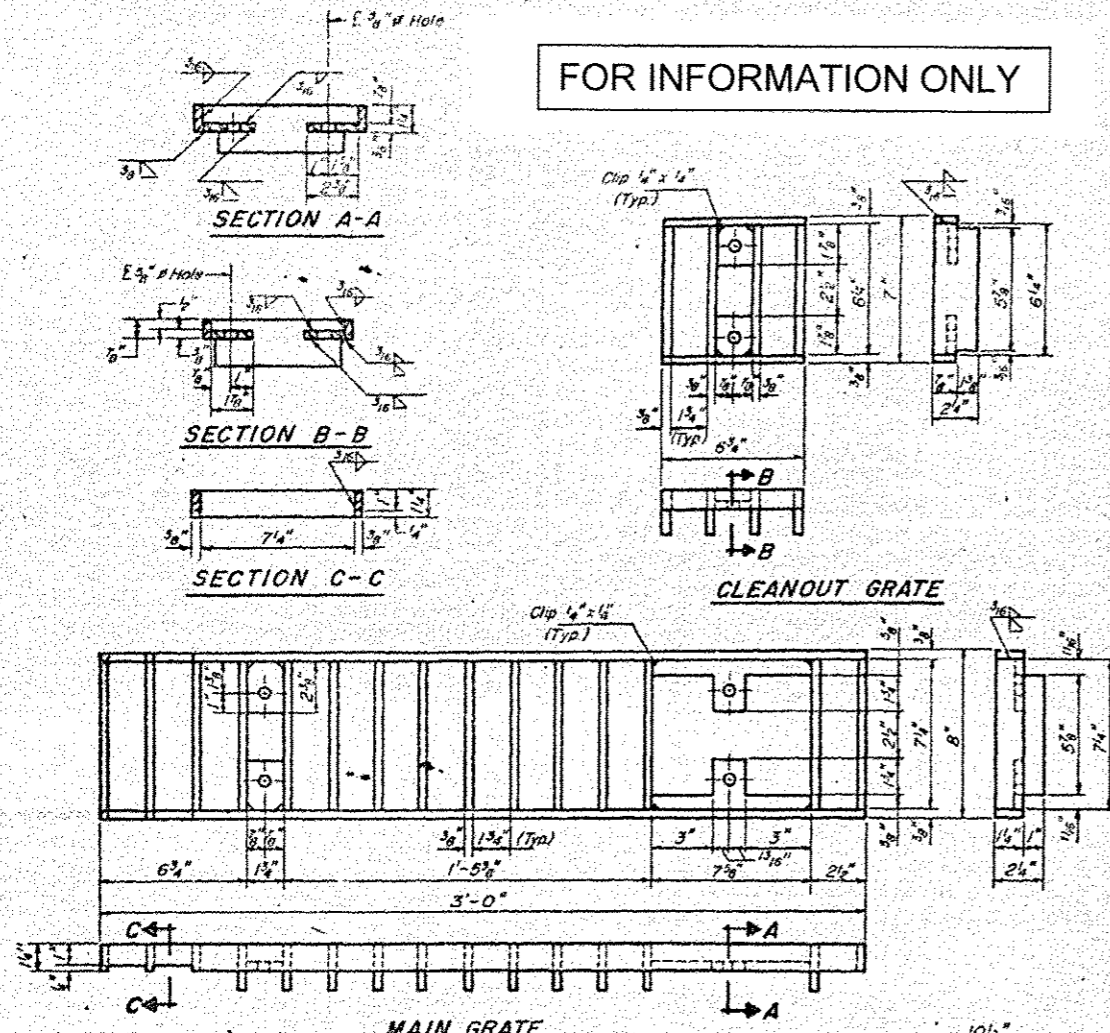
DIAPHRAGM D1
 Note: Hardened washers shall be required over 1 1/8" holes in gusset plates.
 No. Req'd. = 20

STRUCTURAL STEEL
 F.A. RT. 412 SEC. 58-20B-1
 MAGON COUNTY
 STA. 346+44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

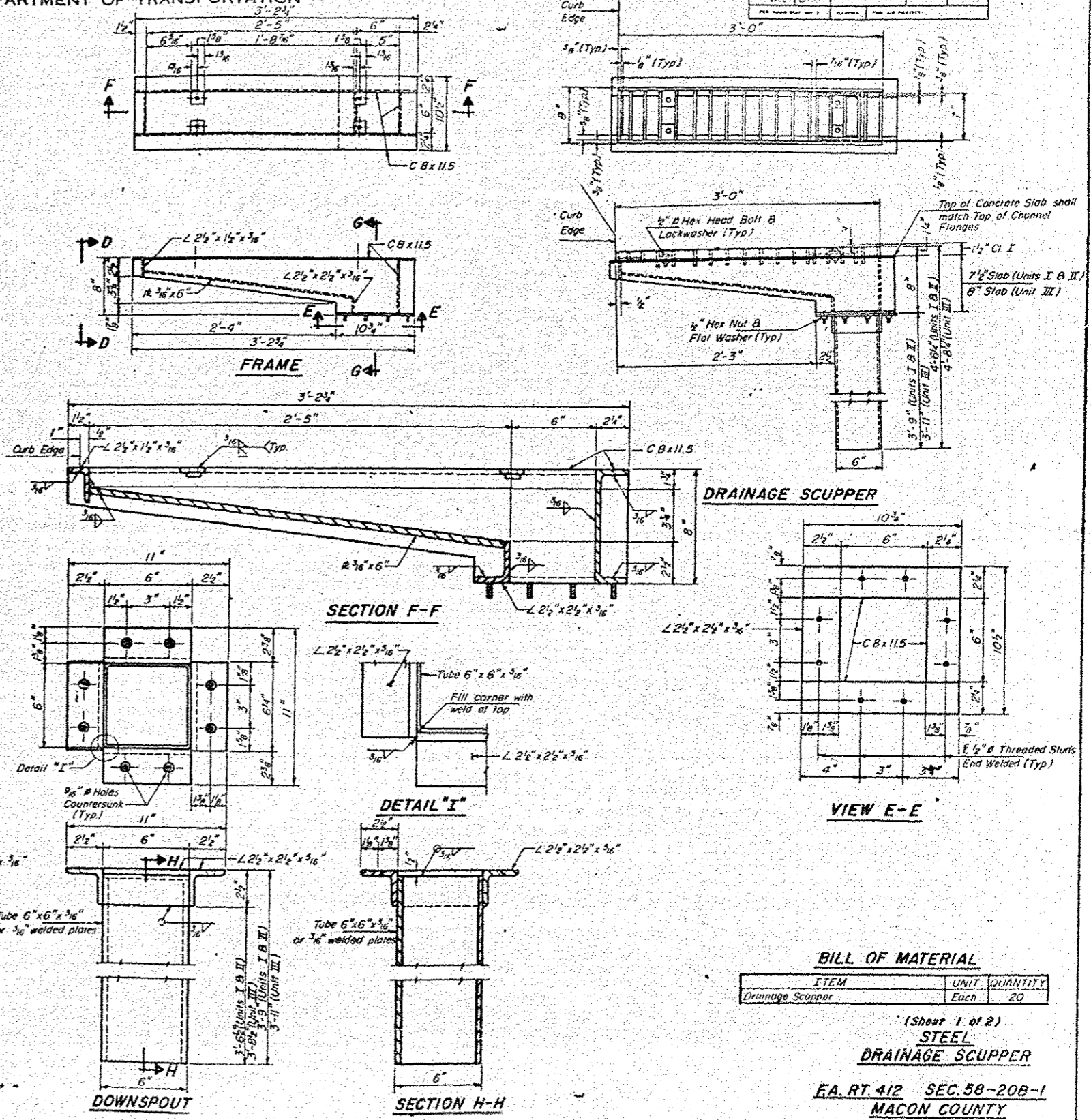
NO.	DATE	BY	CHKD.	APP'D.	SHEET NO. 11
1	5-20-50	Maccon	60	20	30 SHEETS
FOR YOUR USE ONLY					

FOR INFORMATION ONLY



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 ASTM: A-307.
The Main Gate, Cleanout Gate, Frame and Downspout shall be galvanized after 1234 shop fabrication in accordance with A.A.S.H.T.O. M 111 & ASTM: A-385.
All bolts, washers and nuts shall be galvanized in accordance with A.A.S.H.T.O. M 232.
The Waterproofing Membrane System shall be installed such that the membrane covers the frame flanges and extends down into the frame with the grates placed on top of the membrane.
Cost of the Main Gate, Cleanout Gate, Frame, Downspout, Bolts, Washers and Nuts including complete installation of Scupper shall be paid for at the unit bid price for "DRAINAGE SCUPPERS".

DESIGNED R. T. ROOKEY	EXAMINED <i>[Signature]</i> Jan 10 1955
CHECKED <i>[Signature]</i>	PASSED
DRAWN P. BARNETT	APPROVED
CHECKED <i>[Signature]</i>	



BILL OF MATERIAL

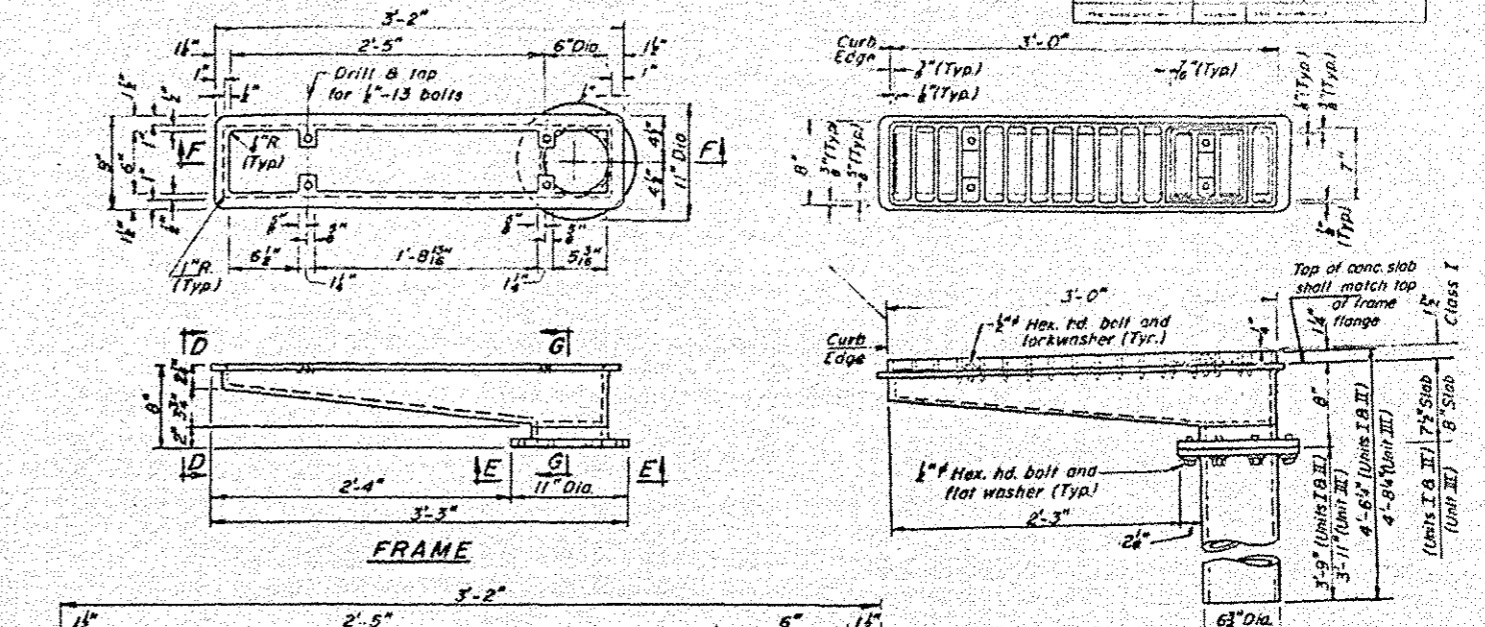
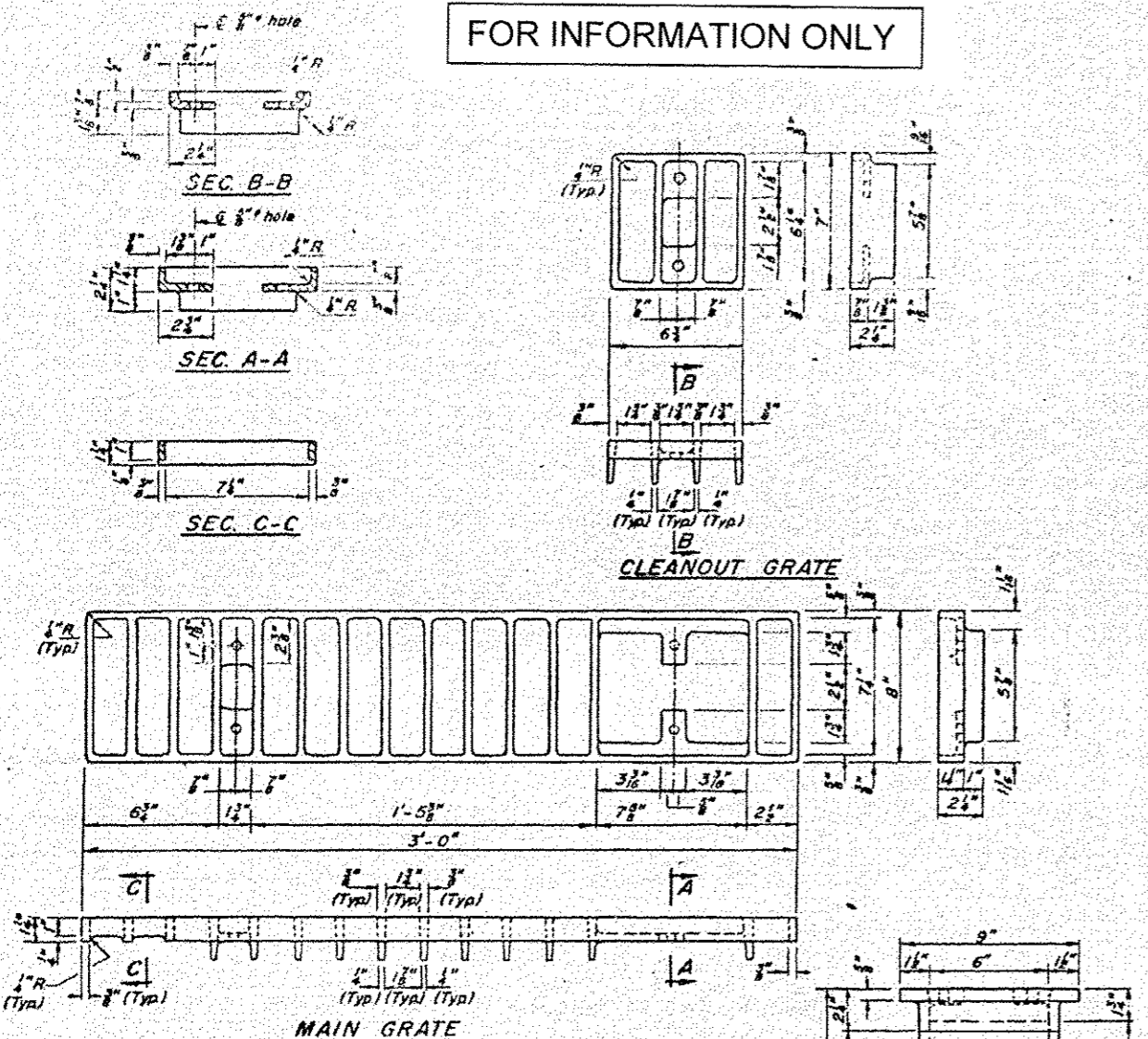
ITEM	UNIT	QUANTITY
Drainage Scupper	Each	20

(Sheet 1 of 2)
**STEEL
DRAINAGE SCUPPER**
FA. RT. 412 SEC. 58-208-1
MACON COUNTY
STA. 346 + 44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	CONTRACT NO.	SECTION NO.	SHEET NO.
412	58-20B-1	MACON	60
			204
			30 SHEETS

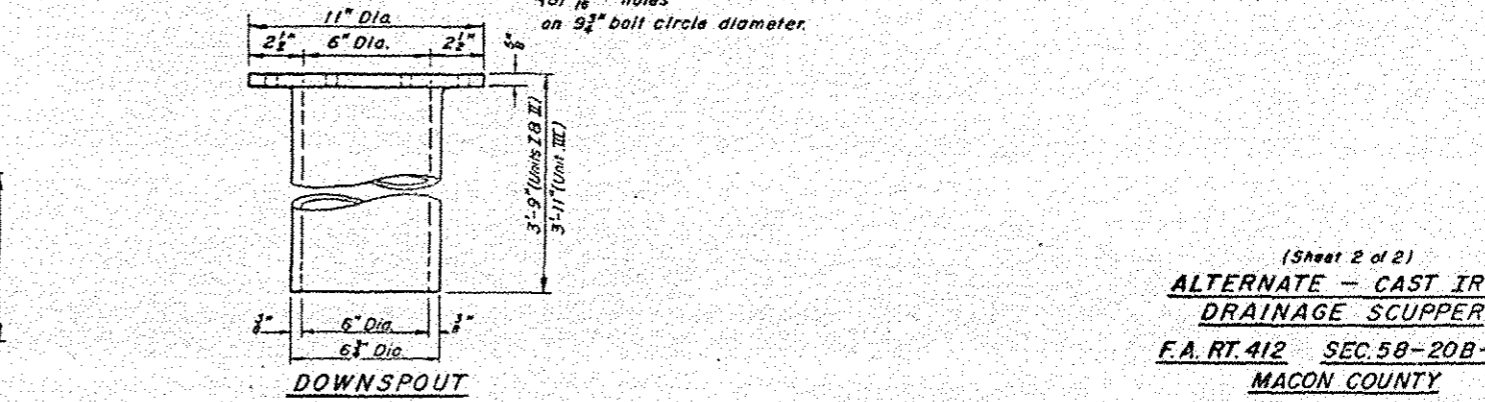
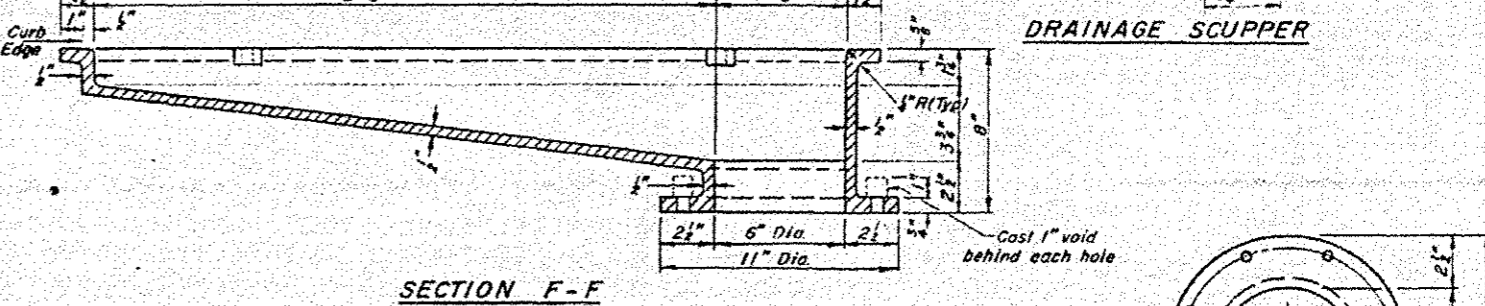
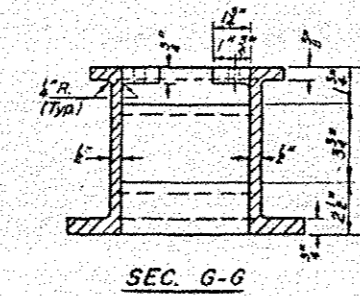
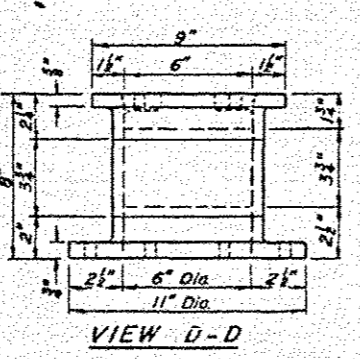
FOR INFORMATION ONLY



NOTES:
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 30.
 Bolts, washers and nuts shall conform to the requirements of ASTM A-307.
 All bolts, washers and nuts shall be galvanized in accordance with AASHTO M 232.
 The waterproofing membrane system shall be installed such that the membrane covers the frame flanges and extends down into the frame with the grates placed on top of the membrane.
 Cast of the Main Grate, Cleanout Grate, Frame, Downspout, Bolts, Washers and Nuts 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 frames and steel grates or cast frames and cast grates, but will not be allowed to use steel grates with cast frames nor cast grates with steel frames.

DESIGNED	EXAMINED	19
CHECKED	PASSED	
DRAWN P. Barnett	APPROVED	
CHECKED		

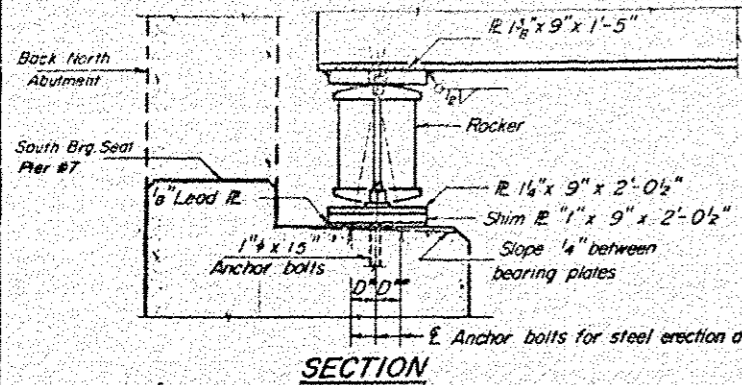
DS-2 7-23-75 (W.T. to inside of exterior stringer flange shall not be 3'-11")



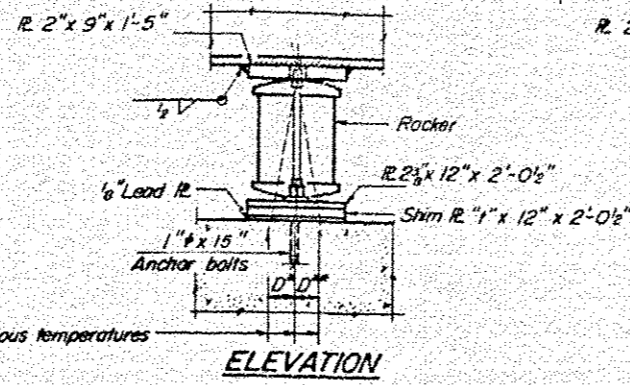
(Sheet 2 of 2)
**ALTERNATE - CAST IRON
 DRAINAGE SCUPPER**
 F.A. RT. 412 SEC. 58-20B-1
 MACON COUNTY
 STA. 346+44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

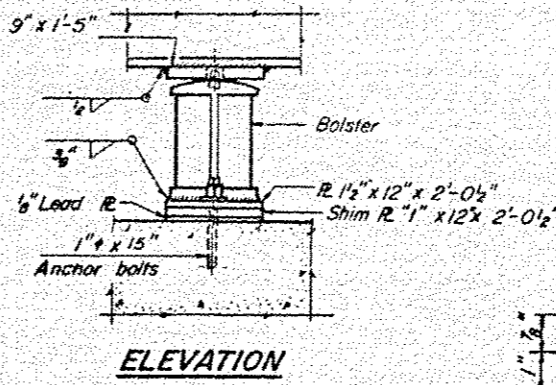
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612	58-20	1964	60	21
MACON				30 SHEETS



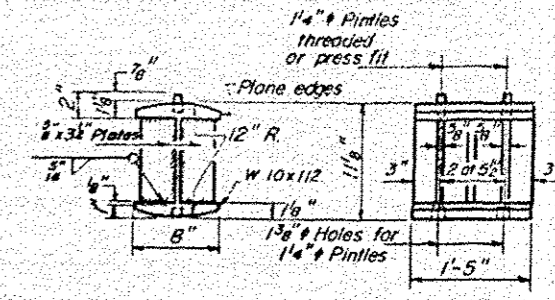
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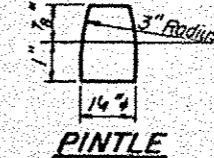
ELEVATION



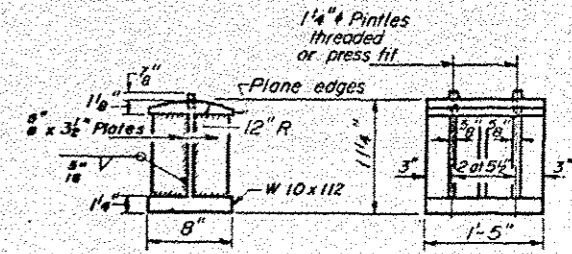
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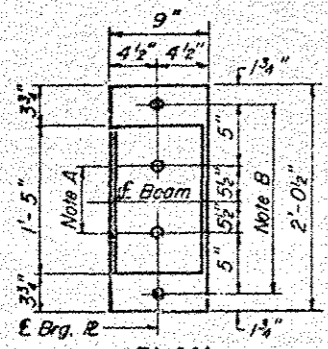
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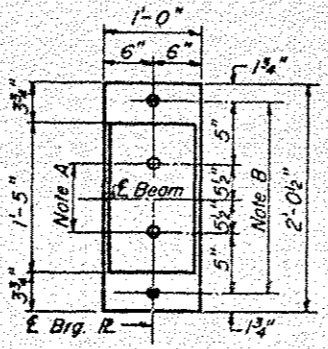
PINTLE



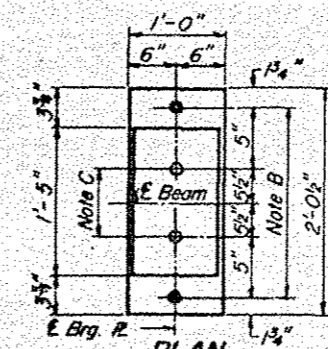
BOLSTER



PLAN
N. BRG. PIER #7
& N. ABUTMENT



PLAN
AT PIER #9



PLAN
AT PIER #8

NOTE A
1 3/8 inch Holes - 1 inch deep in top R.
for pintles. Thread or press fit
pintles into bottom R.

NOTE B
1 1/2 inch Holes for 1 inch anchor bolts.
1 5/8 x 2 1/2 x 2 1/2 inch R. Washers
under nut.

NOTE C
1 3/8 inch Holes 1 inch deep in top R.
only for 1 1/4 inch pintles.

BEARING ASSEMBLY DETAILS

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

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

	0.4 Sp. 1 or 3	Pier #8 or #9	0.5 Sp #2
I _s (in ⁴)	13,370	27,839	13,370
I _c (in ⁴)	35,973		35,973
S _z (in ³)	688	1,231	688
S _c (in ³)	971		971
Q	912	1,446	912
M _P (k)	481	1,639	483
I _s Q	8.4	16.0	8.4
S _R (k/1)	414		414
M _s Q	256		310
M _L (k)	772	690	855
M _{Imp} (k)	177	149	174
Total (k)	1,205	839	1,339
I _s & S _Q (ksi)	14.9	8.2	16.5
I _s Total (ksi)	23.3	24.2	24.9
VR (k)	573		507

	Pier #7 or N. Abut.	Pier #8 or #9
R _P (k)	44.8	161.1
R _L (k)	41.8	69.4
Imp. (k)	9.6	15.0
R Total (k)	96.2	245.5

I_s and S_z are the moment of inertia and section modulus of the steel section.
I_c and S_c are the moment of inertia and section modulus of the composite section used in computing I_s.
VR is the maximum L + Impact shear range in span used to determine shear connector spacing.

TABLE OF "I" DIMENSIONS

LOCATION	Girder #3	Girder #4
Pier #7 (So. Bound Lane)		
Pier #8 (So. Bound Lane)	1 1/2"	1 1/2"
Pier #9 (So. Bound Lane)		
N. Abut. (So. Bound Lane)		
Pier #7 (No. Bound Lane)		
Pier #8 (No. Bound Lane)	5 1/2"	0
Pier #9 (No. Bound Lane)		
N. Abut. (No. Bound Lane)		

FOR INFORMATION ONLY

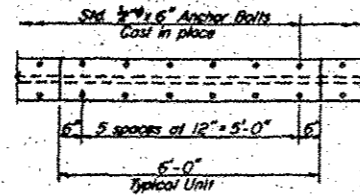
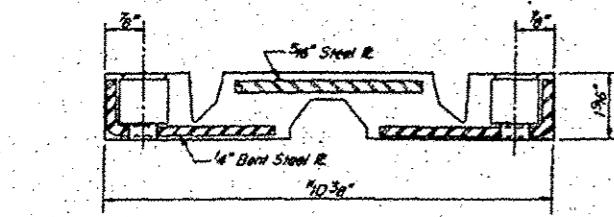
DESIGNED R. F. ROCKEY
CHECKED [Signature]
DRAWN P. G. BARNETT
CHECKED [Signature]

EXAMINED [Signature] JUN 10 1965
PASSED [Signature]
APPROVED [Signature]
DIRECTOR OF HIGHWAYS

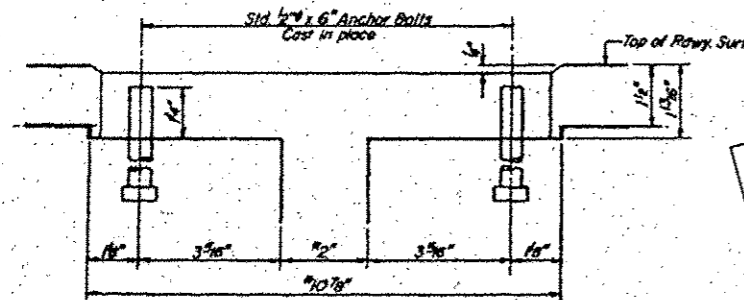
STRUCTURAL STEEL
F.A.R.T. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SUBJECT	DATE	BY	SHEET NO. 122A
F.A. RT. 412	SEC. 58-20B-1	MACON	60	EIA	30 SHEETS



PLAN



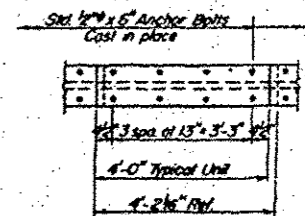
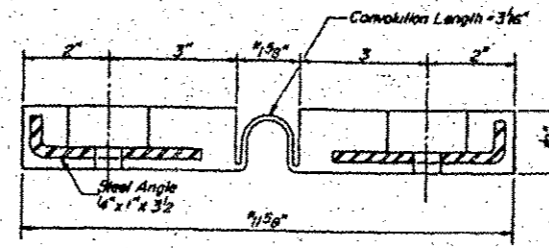
CROSS SECTION

At 50°F
Dimensions are at right angles.

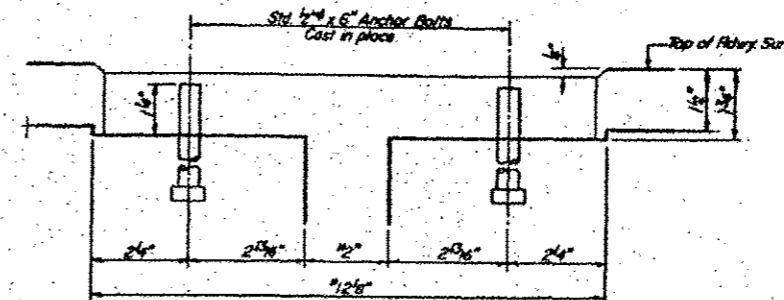
FOR INFORMATION ONLY

Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

TRANSFLEX MODEL 200A
(Structural Rubber Products Co.)



PLAN

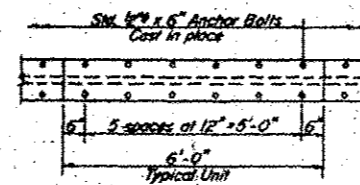
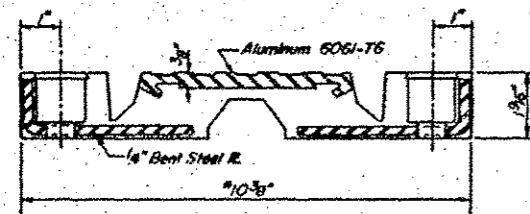


CROSS SECTION

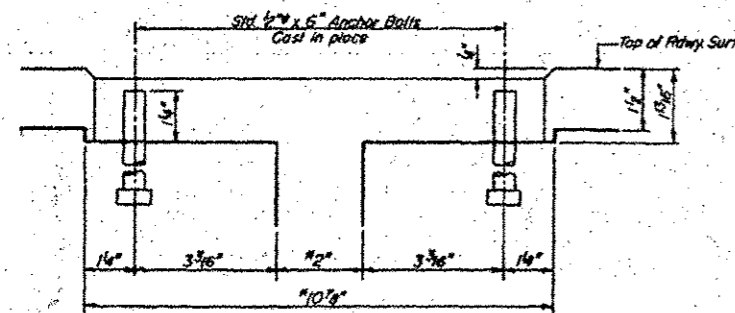
At 50°F
Dimensions are at right angles.

Note: Anchor bolts require a flat washer and locknut.

FEL-SPAN MODEL T-30
(Fel-Pro Building Products Inc.)



PLAN

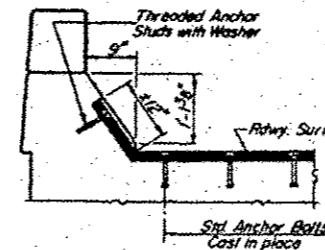


CROSS SECTION

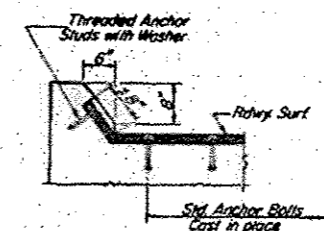
At 50°F
Dimensions are at right angles.

Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

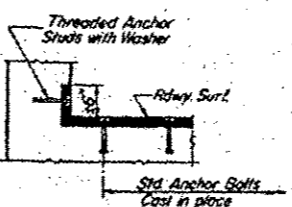
WABOFLEX MODEL SR 2
(Watson-Bowman Associates Inc.)



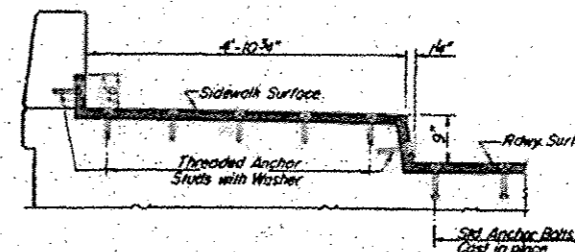
AT CURBS



AT SIDEWALK



AT ABUTMENT



TYPICAL END TREATMENTS

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

NEOPRENE EXPANSION JOINTS (2")
FOR EXPANSION LENGTH OF DECK = 0 TO 150 ft.

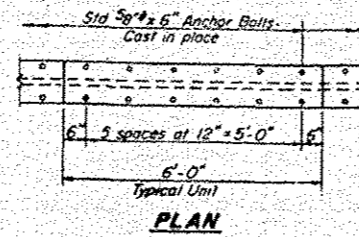
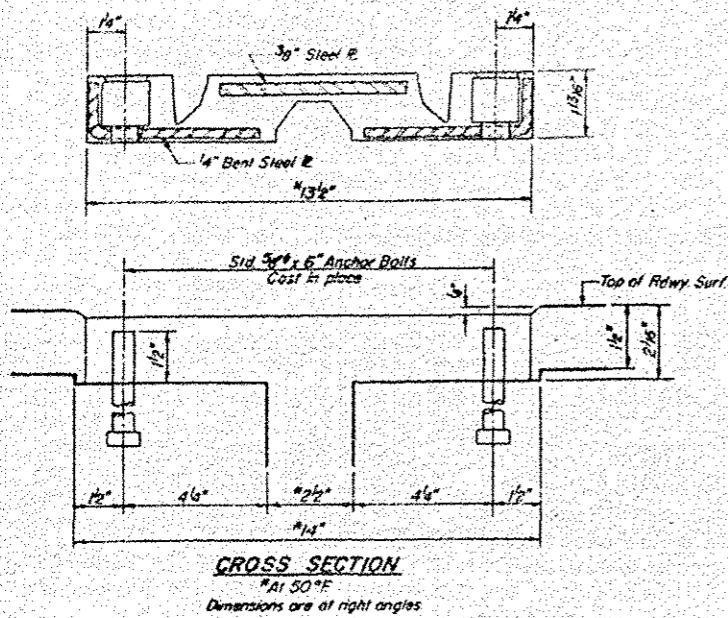
F.A. RT. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

DESIGNED	IP
CHECKED	
DRAWN	P. Barnett
CHECKED	
REVIEWED	
PASSED	
APPROVED	

EJ-1 4-15-75

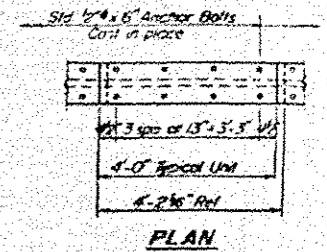
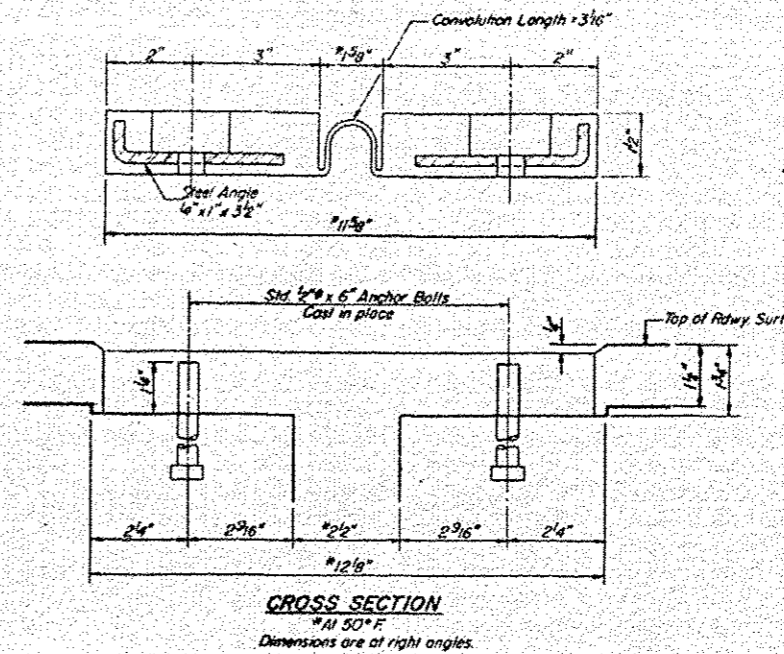
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	58-20	SECTION	MACON	POST	60	TYPE	21B	SHEET NO. 1220
DATE	8-1	SCALE						30 SHEETS
DESIGNED BY		CHECKED BY		DRAWN BY		APPROVED BY		



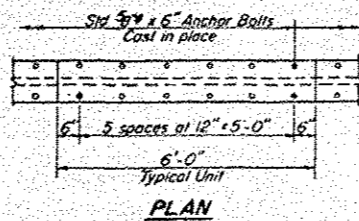
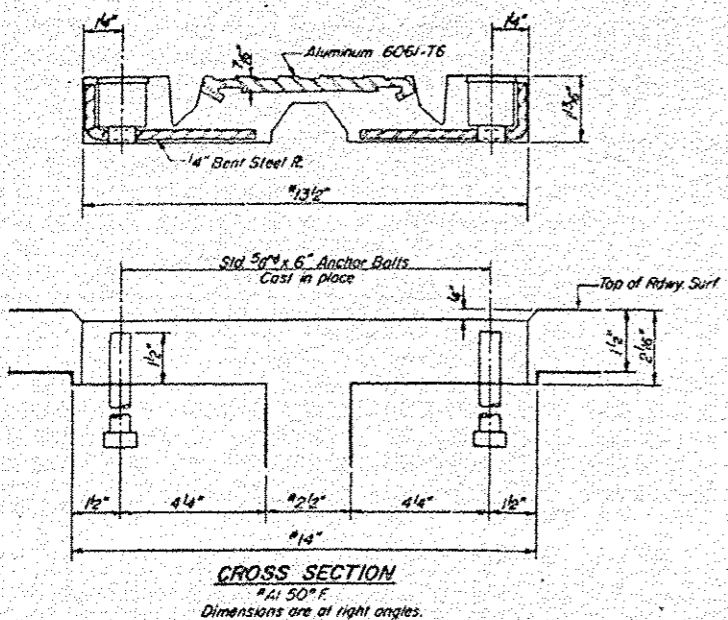
Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

TRANSFLEX MODEL 250
(Structural Rubber Products Co.)



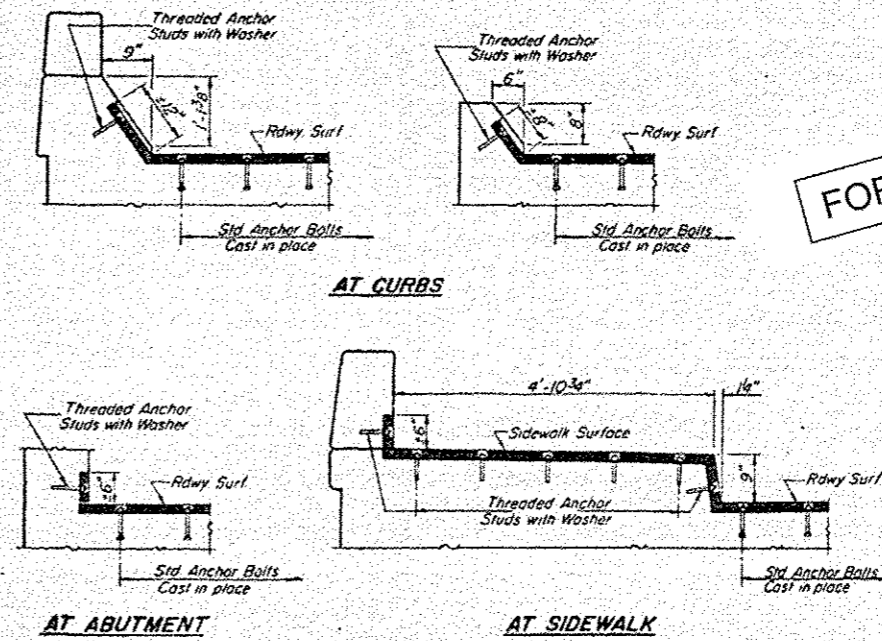
Note: Anchor bolts require a flat washer and locknut.

FEL-SPAN MODEL T-30
(Fel-Pro Building Products Inc.)



Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

WABOFLEX MODEL SR 2.5
(Watson-Bowman Associates Inc.)



FOR INFORMATION ONLY

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.

TYPICAL END TREATMENTS

NEOPRENE EXPANSION JOINTS (2 1/2")
FOR EXPANSION LENGTH OF DECK = 160" to 200"

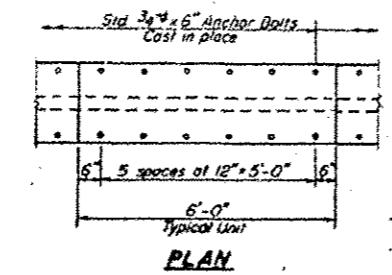
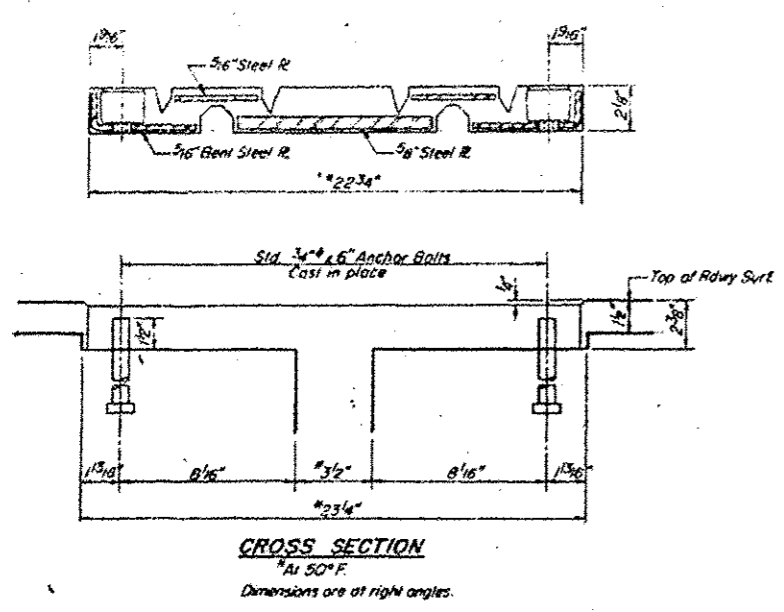
F.A. RT. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

DESIGNED	19
CHECKED	EXAMINED
DRAWN P. Barnett	PASSED
CHECKED	APPROVED

EJ-2 4-15-75

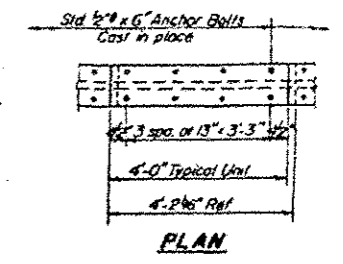
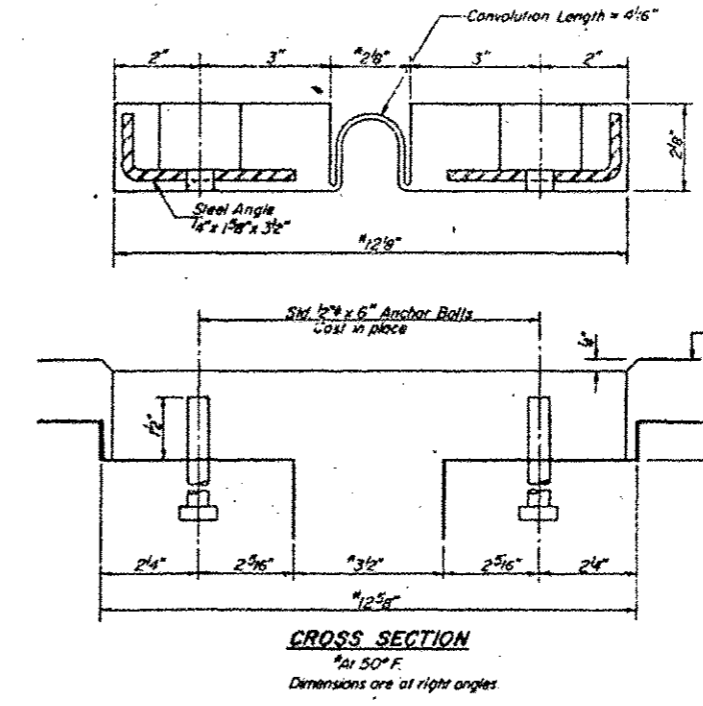
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	APPROX.	DATE	SHEET NO.
412	58-20 B-1	MACON	60	122
SHEET NO. 122C				30 SHEETS



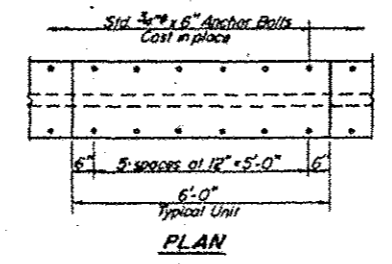
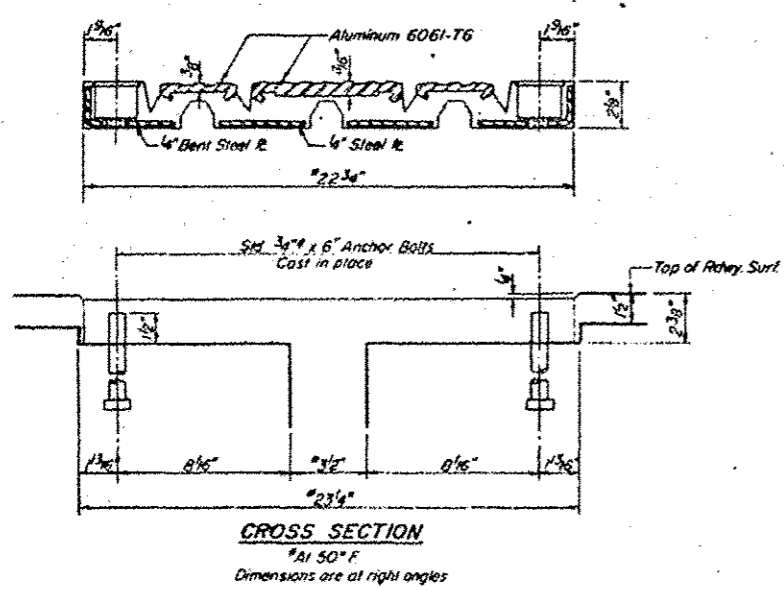
Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

TRANSFLEX MODEL 400A
(Structural Rubber Products Co.)



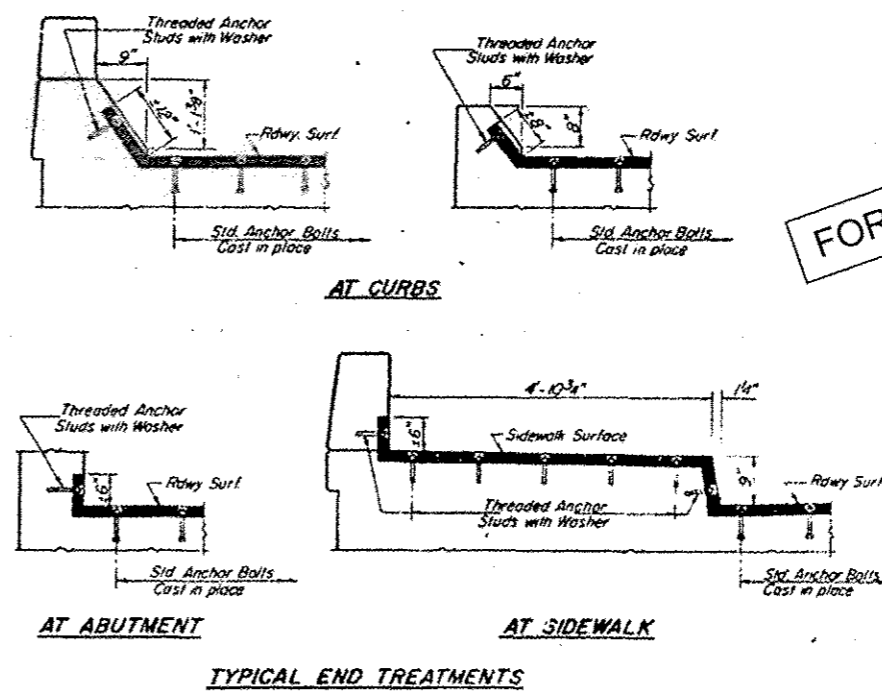
Note: Anchor bolts require a flat washer and locknut.

FEL-SPAN MODEL T-40
(Fel-Pro Building Products Inc.)



Note: Anchor bolts require a clipped washer, lockwasher and hex nut.

WABOFLEX MODEL SR 4
(Watson-Bowman Associates Inc.)



FOR INFORMATION ONLY

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

*Max. Expansion Length for the Fel-Span Model T-40 = 300/11

NEOPRENE EXPANSION JOINTS (4")
FOR EXPANSION LENGTH OF DECK = 200/11 to 320/11

DESIGNED	19
CHECKED	
DRAWN	P. Bonnell
CHECKED	

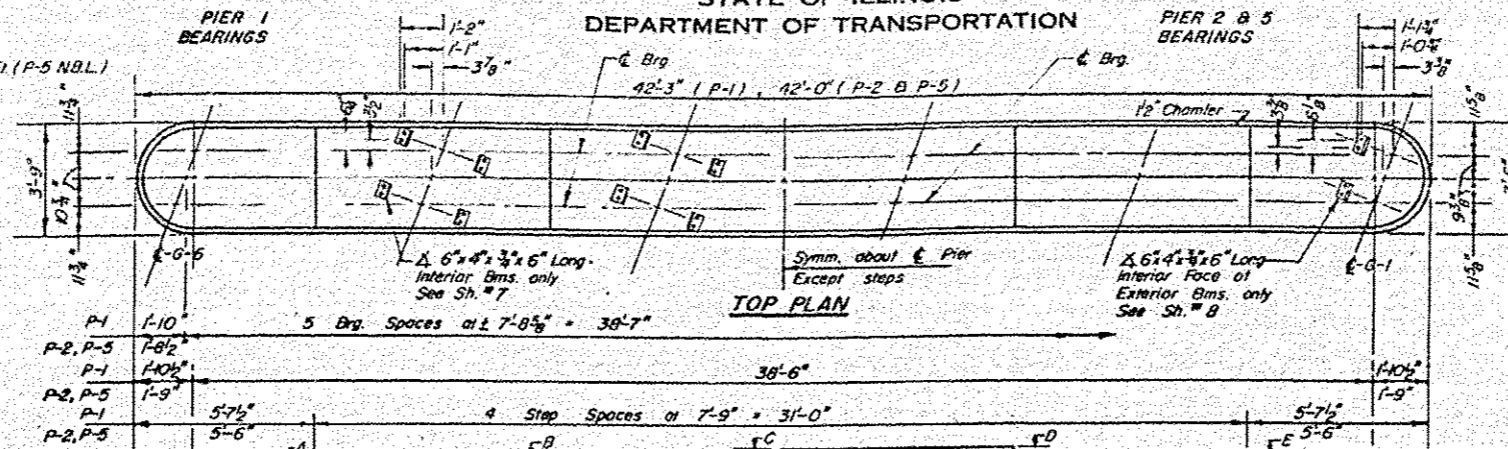
F.A. RT. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

EJ-3 4-15-75

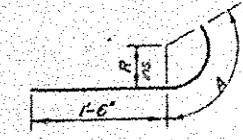
PILE DATA

Type: Conc. (Precast Pile Only)
 Capacity: 45 Ton
 Est. Length: 54 Ft. (P-1&P-2); 59 Ft. (P-5 SBL); 56 Ft. (P-5 NBL)
 No. Req'd: 13 (P-1 & P-5); 12 (P-2)
 (Each Pier including Test Pile)
 Test Pile: 1 in P-1 SBL
 1 in P-2 NBL
 1 in P-5 SBL
 Elev. 601.37 (SBL) P-1
 Elev. 601.49 (NBL) P-1
 Elev. 601.47 (SBL) P-2
 Elev. 601.64 (NBL) P-2
 Elev. 602.21 (SBL) P-5
 Elev. 602.52 (NBL) P-5

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NO.	DATE	BY	CHKD.	REV.
412	58-20	B-1	Mason	60
SHEET NO. 13				
30 SHEETS				



Bar	R	A
h ₅	1-3/8"	3'-0"
h ₆	1-6"	3'-9"
h ₇	1-1/2"	2'-9"
h ₈	1-4"	3'-2"

DETAIL OF BARS h₅ THRU h₆

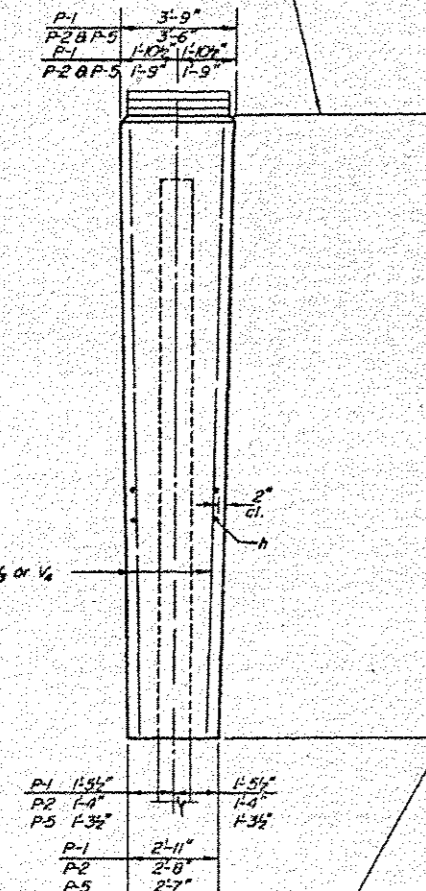
STEP DIMENSIONS

	A	B	C	D	E
P-1 (SBL)	17 1/2"	17 1/2"	17 1/2"	17 1/2"	17 1/2"
P-1 (NBL)	17 1/2"	17 1/2"	17 1/2"	17 1/2"	17 1/2"
P-2 (SBL)	17 1/2"	17 1/2"	17 1/2"	17 1/2"	17 1/2"
P-2 (NBL)	17 1/2"	17 1/2"	17 1/2"	17 1/2"	17 1/2"
P-5 (SBL)	17 1/2"	17 1/2"	17 1/2"	17 1/2"	17 1/2"
P-5 (NBL)	17 1/2"	17 1/2"	17 1/2"	17 1/2"	17 1/2"

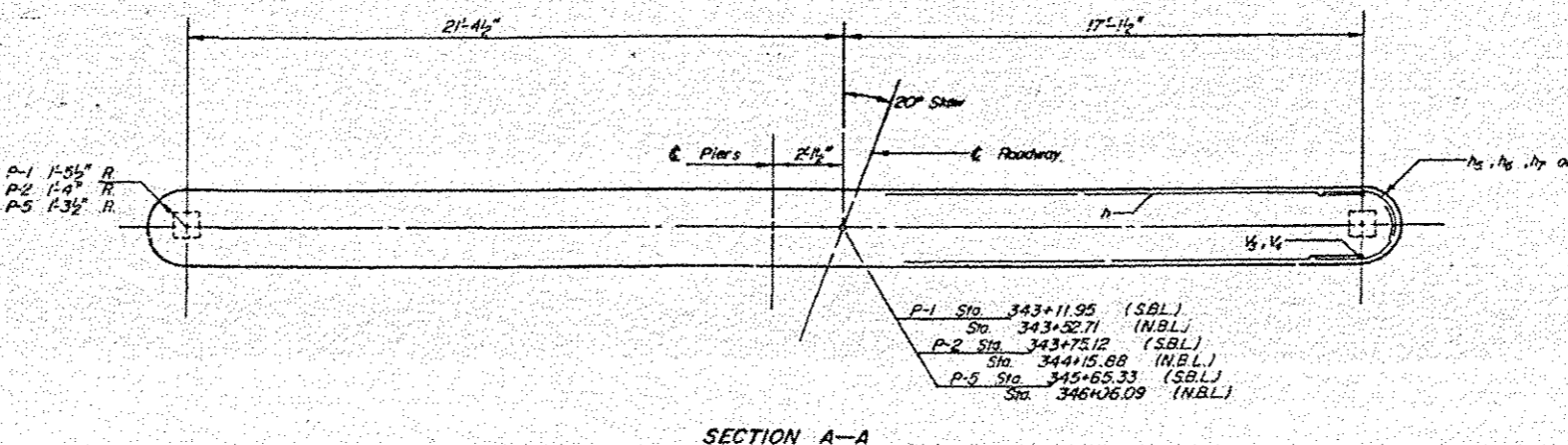
**SIX PIERS
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h	200	# 5	38'-6"	—
h ₅	32	# 5	4'-6"	—
h ₆	32	# 5	4'-10"	—
h ₇	72	# 5	4'-3"	—
h ₈	72	# 5	4'-8"	—
v ₃	344	# 5	15'-9"	—
v ₄	172	# 5	17'-9"	—
Class A Concrete Cu Yds. 4272				
Reinforcement Bars Lbs. 17,850				
Concrete Piles Lin. Ft. 4028				
Test Piles (Conc.) Each 3				

FOR INFORMATION ONLY



ELEVATION
[SOUTH BOUND LANE (LOOKING NORTH)
NORTH BOUND LANE (LOOKING SOUTH)]



DESIGNED R. F. ROOPER	EXAMINED [Signature] JUN 10 1955
CHECKED [Signature]	PASSED [Signature]
DRAWN [Signature]	APPROVED [Signature]
CHECKED [Signature]	

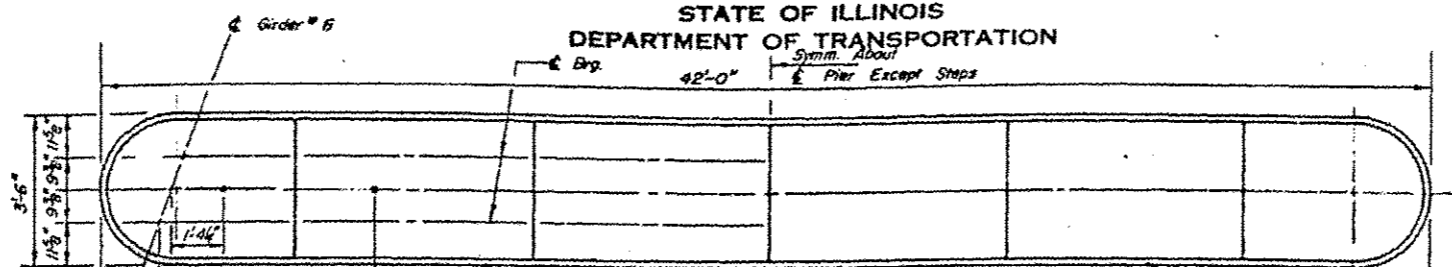
PIER 1, 2 & 5
F.A. RT. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

PILE DATA

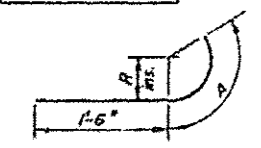
Type: Conc.
 Capacity: 45 Ton
 Est. Length: 40 Ft (P-3 & P-6, N.B.L.); 43 Ft (P-6, S.B.L.)
 No. Req'd: 15 (Each Pier Including Test Pile)
 Test Pile: 1 in P-3 S.B.L.
 1 in P-6 N.B.L.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

NO. 412	58-20	MACON	60	23	SHEET NO. 14
					30 SHEETS



FOR INFORMATION ONLY



Bar	R	A
h1	1'-1"	2'-9"
h2	1'-4"	3'-0"

DETAIL OF BARS h1 & h2

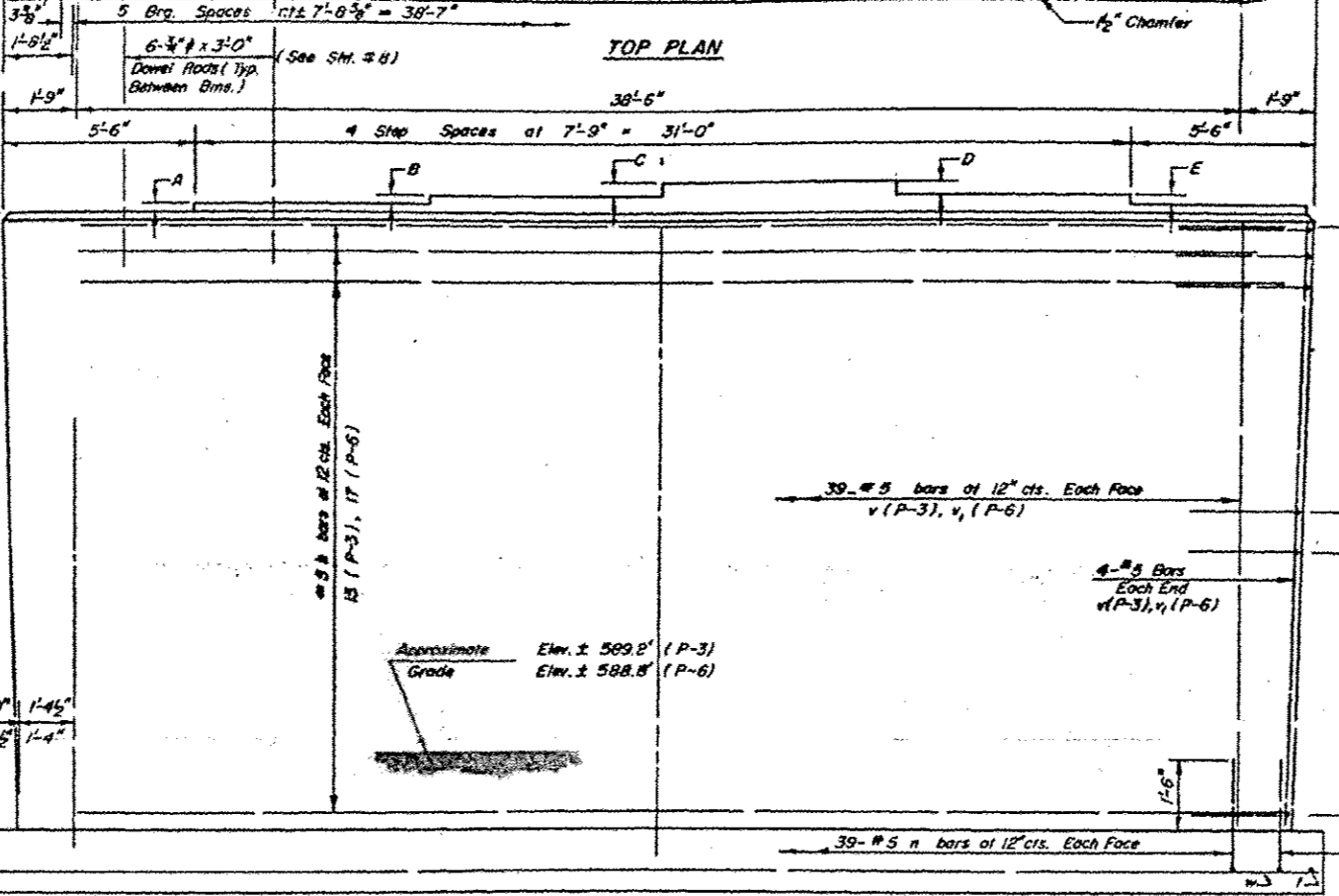
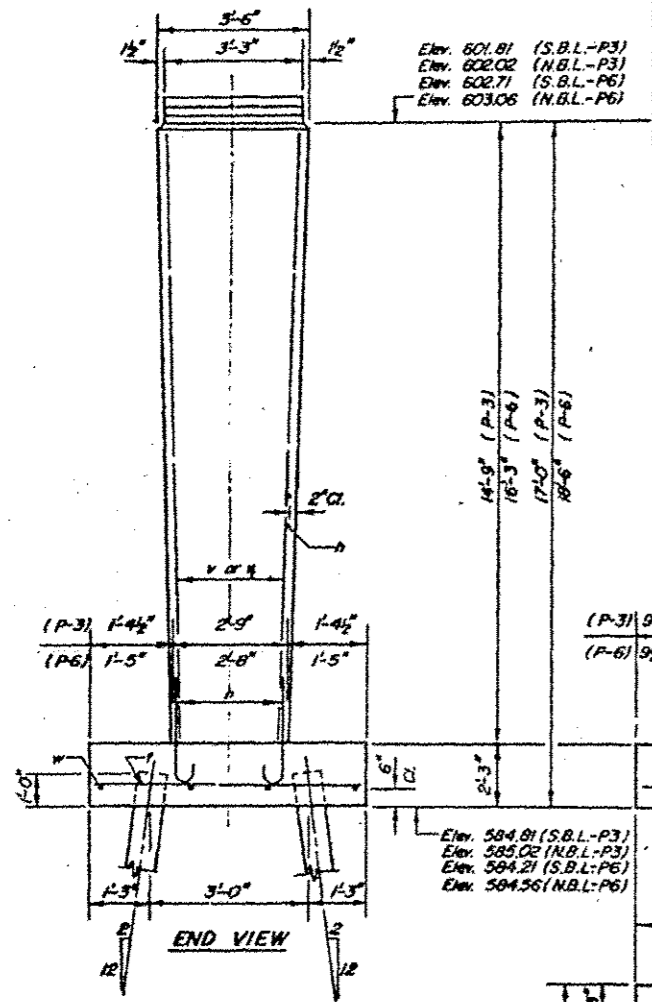
STEP DIMENSIONS

	A	B	C	D	E
P-3 (S.B.L.)	1 7/8"	1 5/8"	7/8"	1 1/4"	1 3/8"
P-3 (N.B.L.)	1 5/8"	1 3/8"	3/4"	1 1/8"	1 1/8"
P-6 (S.B.L.)	2"	1 3/4"	7/8"	1 1/8"	1 3/8"
P-6 (N.B.L.)	1 7/8"	1 3/4"	3/4"	1 1/8"	1 3/8"

**FOUR PIERS
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
h	128	# 5	38'-6"	—	
h1	136	# 5	4'-3"	—	
h2	120	# 5	4'-6"	—	
n	344	# 5	3'-10"	—	
l	176	# 5	5'-3"	—	
v	172	# 5	14'-6"	—	
y	172	# 5	16'-0"	—	
w	32	# 5	22'-0"	—	
Class A Concrete				Cu. Yds.	374.3
Reinforcement Bars				Lbs.	14,850
Concrete Piles				Ln. Ft.	2528
Test Piles (Conc.)				Each	2

PIER 3 & 6
 E.A. RT. 412 SEC. 58-20B-1
 MACON COUNTY
 STA. 346+44.50



DESIGNED R. F. ROSEY
 CHECKED [Signature]
 DRAWN [Signature]
 CHECKED [Signature]

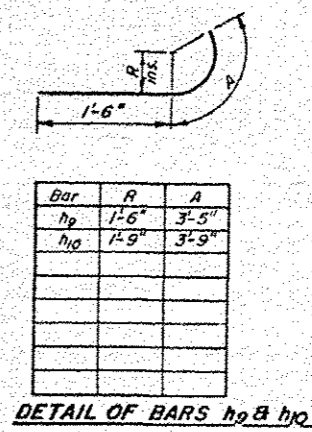
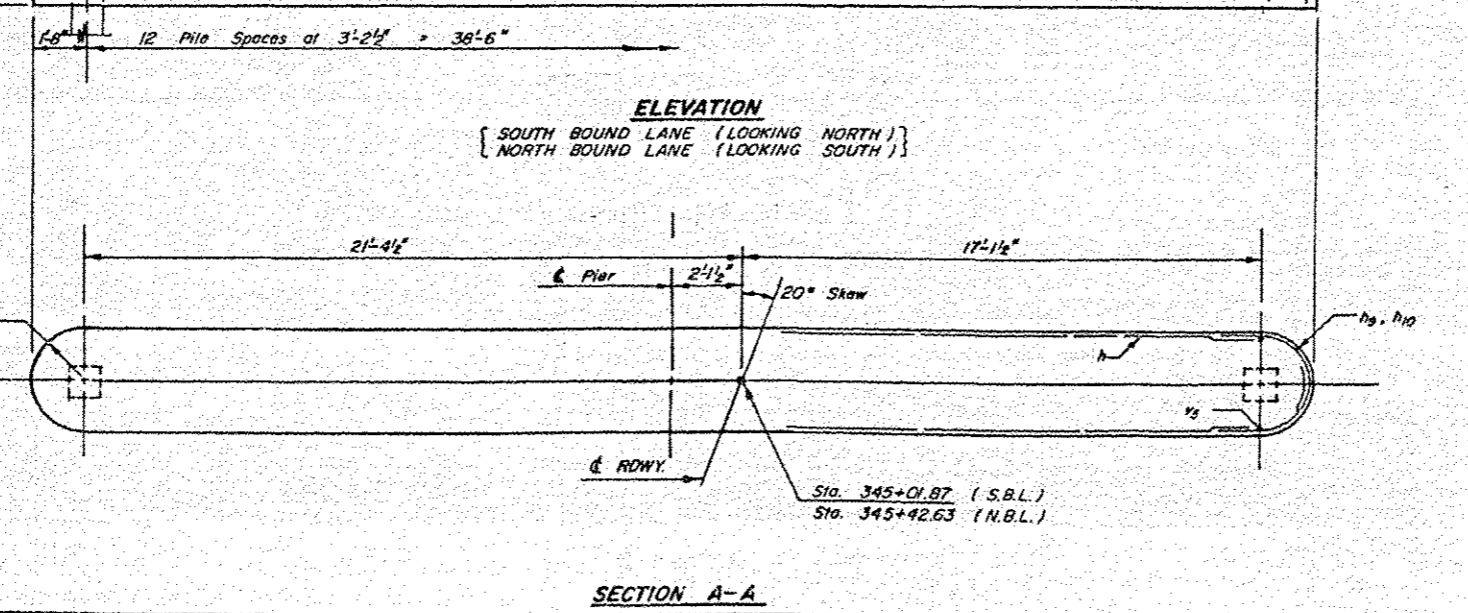
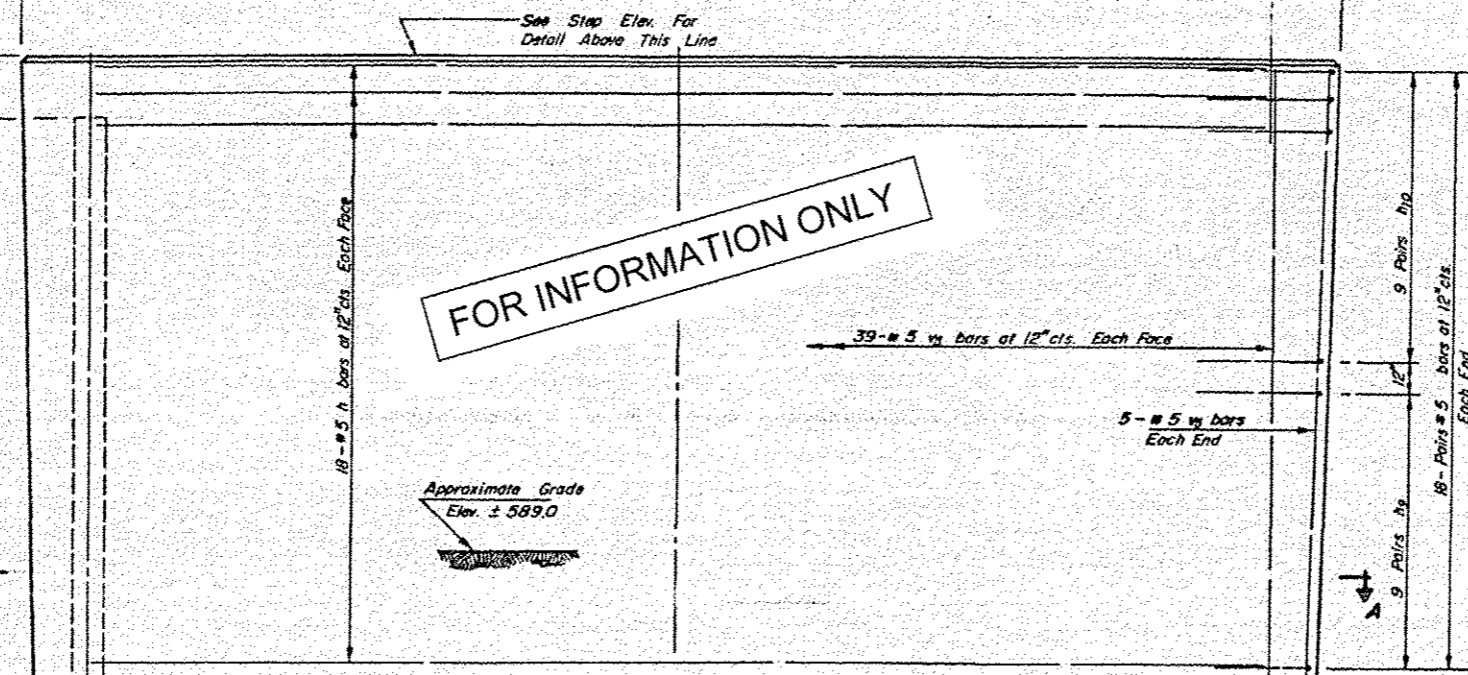
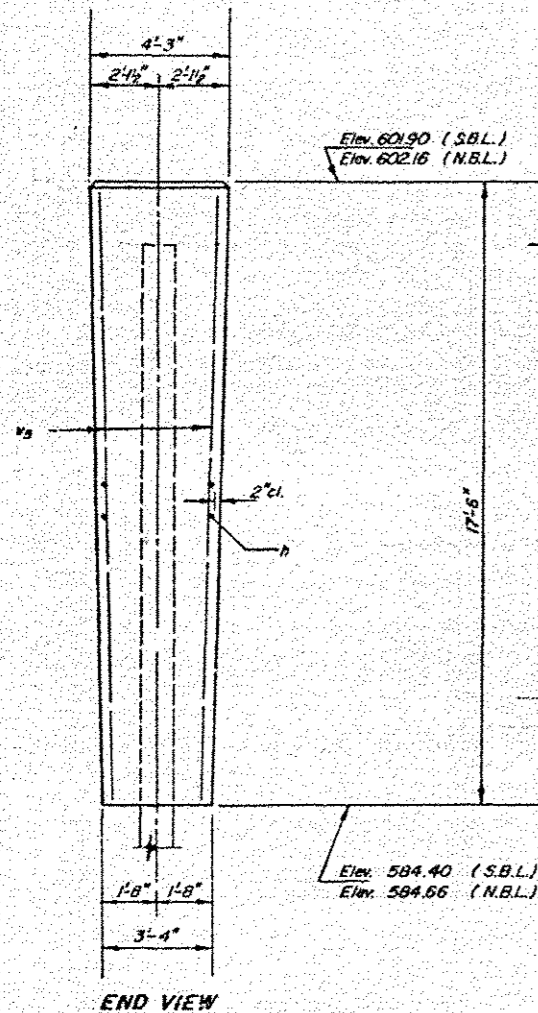
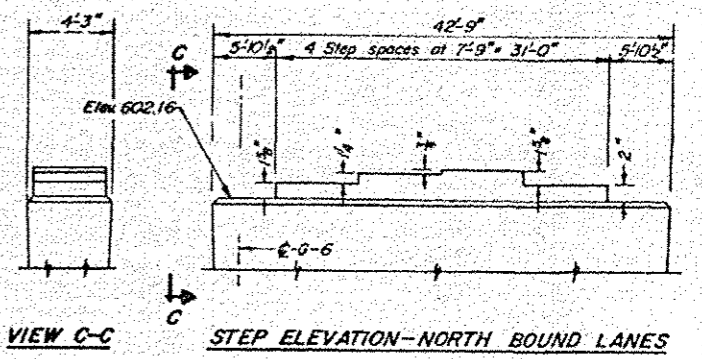
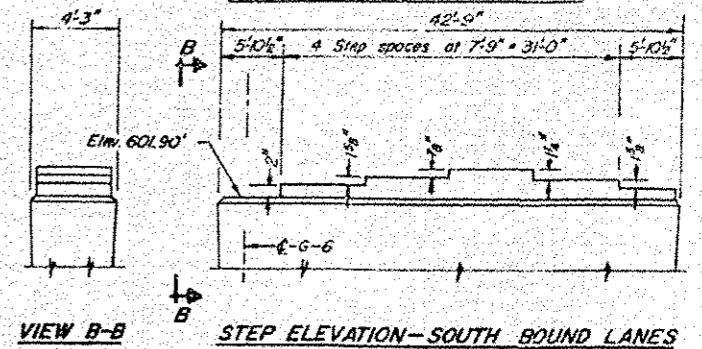
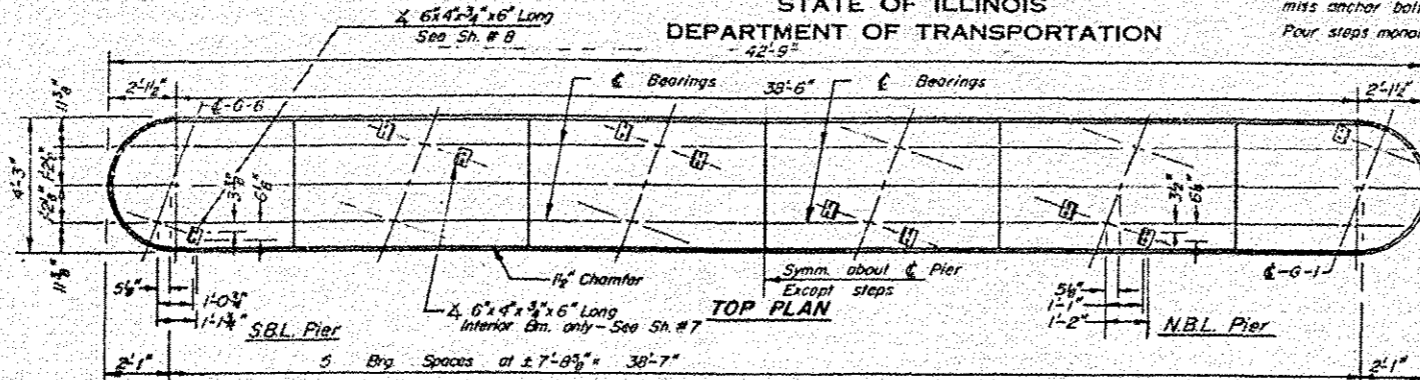
EXAMINED [Signature] JAN 10 1915
 PARSED [Signature]
 APPROVED [Signature]

PILE DATA
 Type: Conc. (Precast Pile Only)
 Capacity: 45 Ton
 Est. Length: 55 Ft
 No. Req'd: 13 (Each Pier Including Test Pile)
 Test Pile: 1 in P-4 N.B.L.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.

PROJECT NO.	DATE	LOCATION	SCALE	SHEET NO.
S.A. 312	2-10-50	Macon	60	24
SHEET NO. 15				
30 SHEETS				



TWO PIERS
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	72	#5	38'-6"	—
h9	72	#5	4'-11"	—
h10	72	#5	5'-3"	—
v2	176	#5	17'-3"	—
Class A Concrete		Cu. Yds.	185.9	
Reinforcement Bars		Lbs.	6820	
Concrete Piles		Lin. Ft.	1375	
Test Piles (Conc.)		Each	1	

DESIGNED R. F. RODKEY
 CHECKED [Signature]
 DRAWN [Signature]
 CHECKED [Signature]

EXAMINED [Signature] JAN 10 1955
 PASSED [Signature]
 APPROVED [Signature]

PIER 4
 F.A. RT. 412 SEC. 58-20B-1
 MACON COUNTY
 STA. 346+44.50

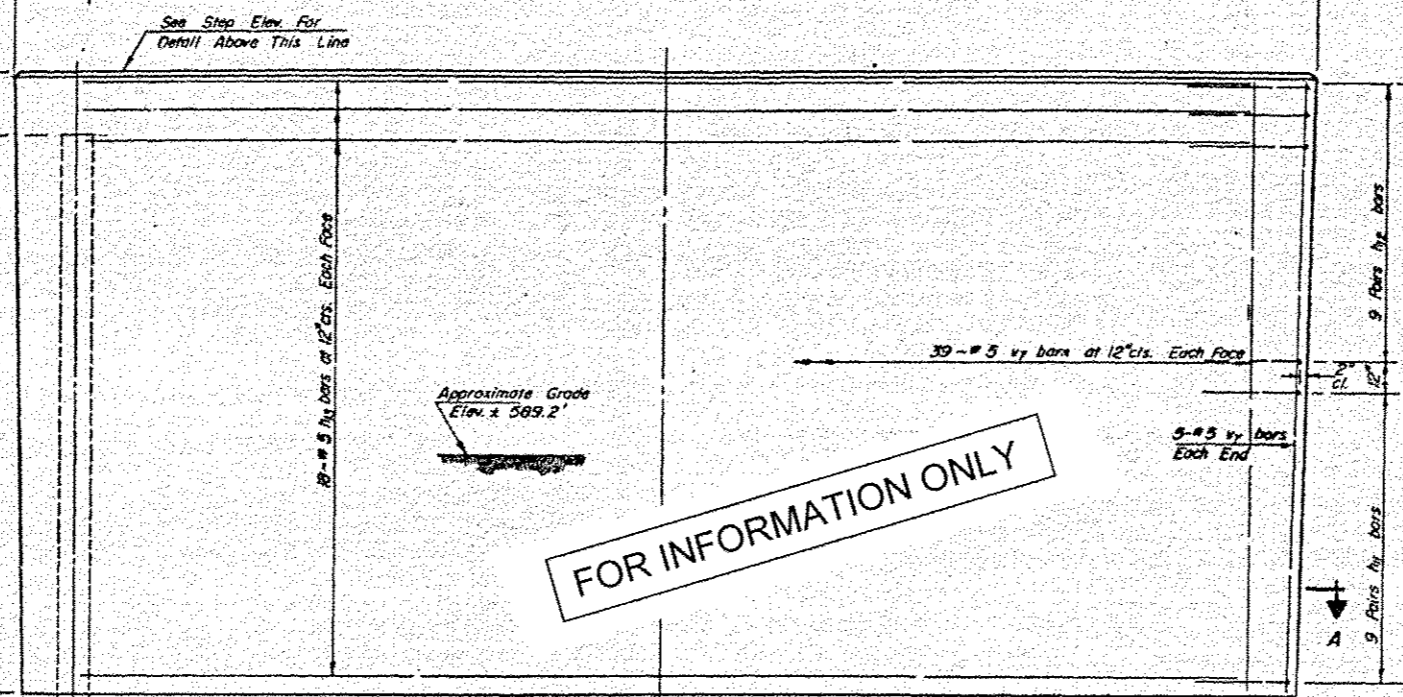
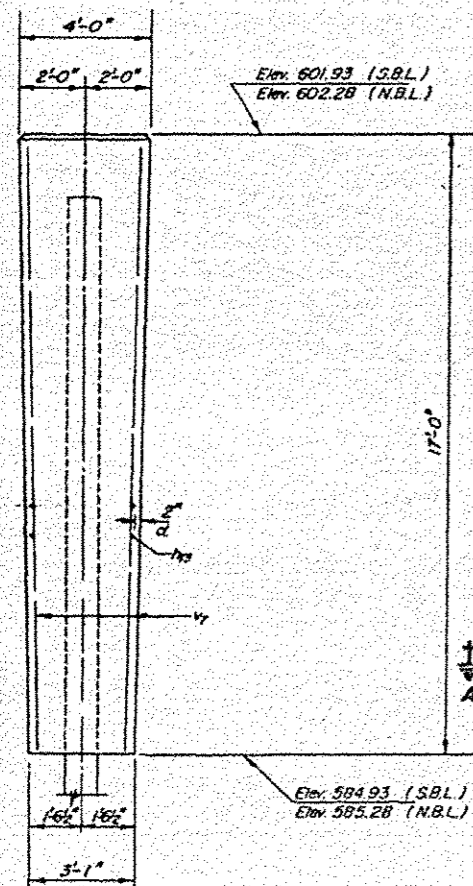
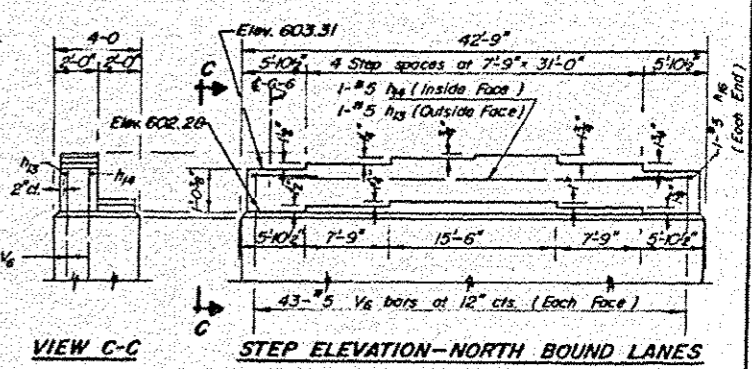
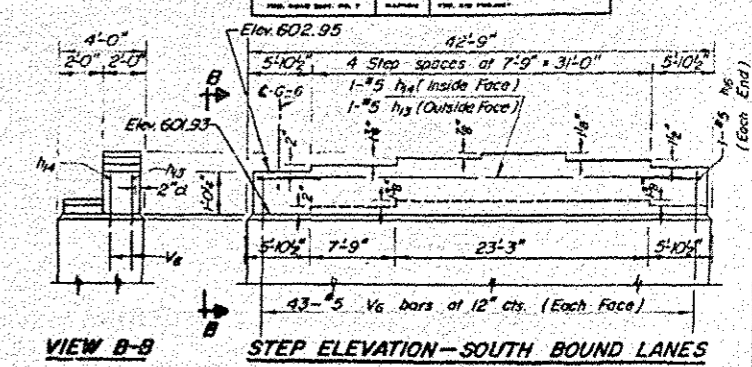
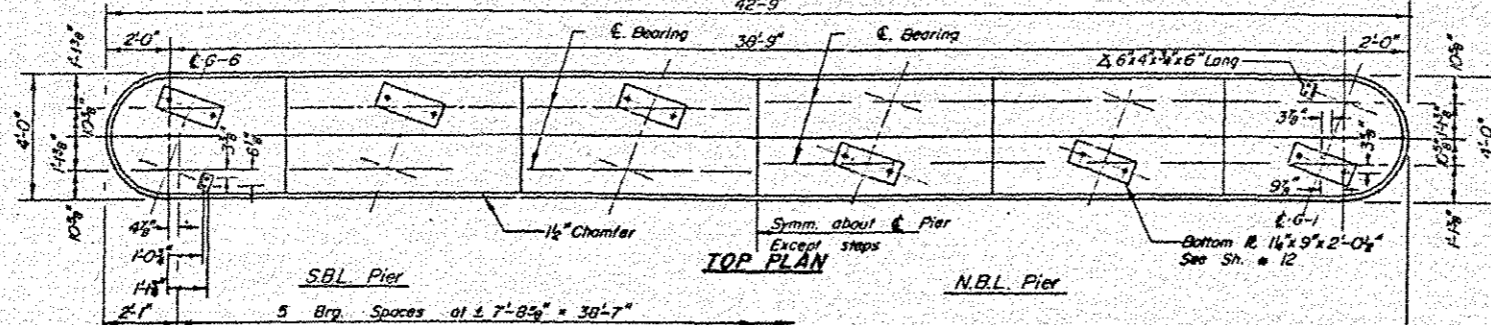
PILE DATA

Type: CONC. (Precast Pile Only)
 Capacity: 45 Ton
 Est. Length: 58 Ft. (S.B.L.) 55 Ft. (N.B.L.)
 No. Req'd: 13 (Each Pier Including Test Pile)
 Test Pile: 1 in P-7 S.B.L.

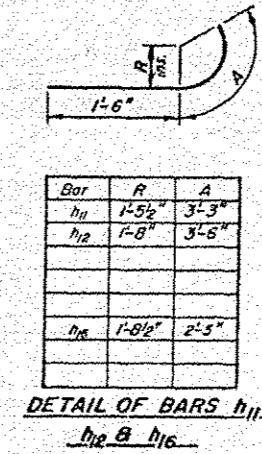
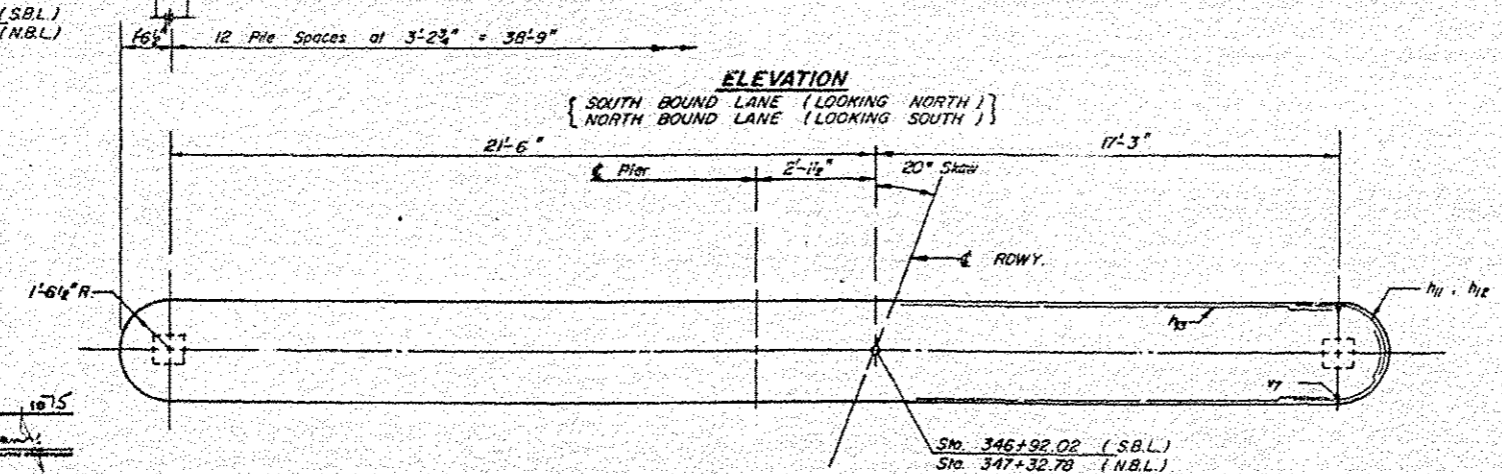
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

Space reinforcement in cap to miss anchor bolts.
 Four steps monolithically with cap.

PROJECT NO.	DATE	SCALE	SHEET NO.	TOTAL SHEETS
412	58-20	Macon	60	25
SHEET NO. 16		30 SHEETS		



FOR INFORMATION ONLY



TWO PIERS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{11}	72	# 5	4'-9"	U
h_{12}	72	# 3	5'-0"	U
h_{13}	74	# 5	38'-9"	—
h_{14}	2	# 5	42'-3"	—
h_{15}	4	# 5	3'-11"	U
h_{16}	172	# 5	3'-0"	—
h_{17}	176	# 5	16'-9"	—

Class A Concrete	Cu. Yds.	173.6
Reinforcement Bars	Lbs.	7440
Concrete Pile	Lin. Ft.	1411
Test Piles (Conc.)	Each	1

DESIGNED R. F. ROONEY
 CHECKED *W.H.*
 DRAWN *R.D. Sweet*
 CHECKED *W.H.*
 EXAMINED *Jan 10 1955*
 PASSED
 APPROVED

PIER 7
 E.A. RT. 412 SEC. 58-20B-1
 MACON COUNTY
 STA. 346+44.50

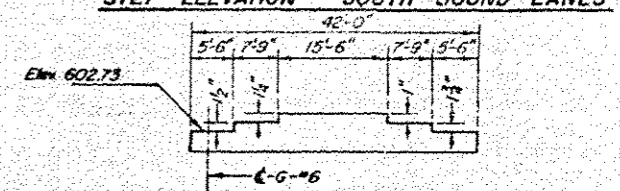
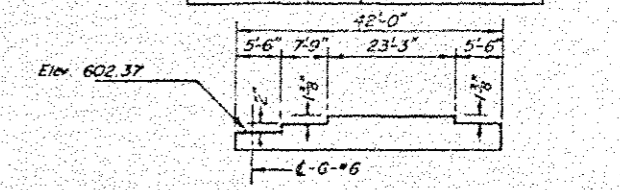
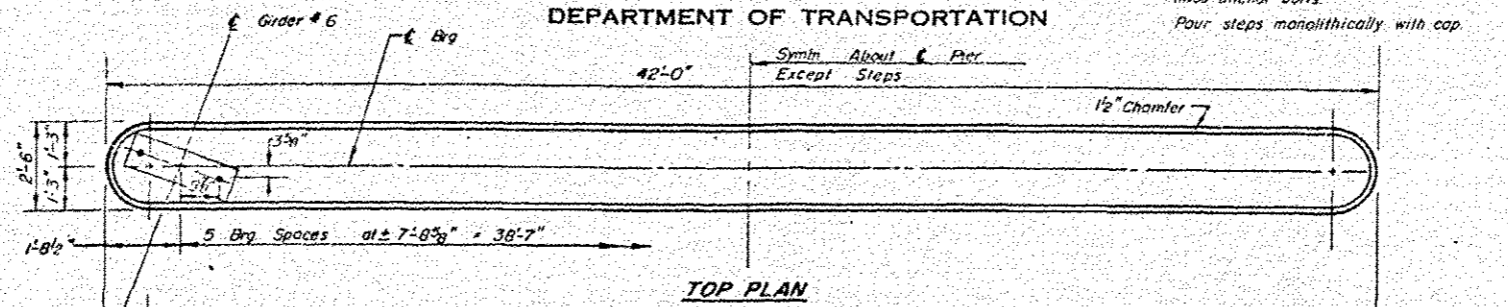
PILE DATA

Type: Conc.
 Capacity: 45 Ton
 Est. Length: 33 Ft (S.B.L.), 30 Ft (N.B.L.)
 No. Req'd: 24 (Each Pier including Test Pile)
 Test Pile: 1 in P-B N.B.L.

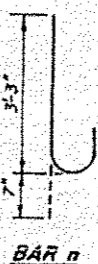
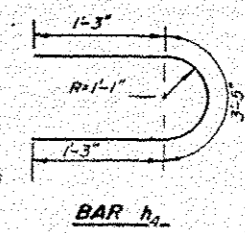
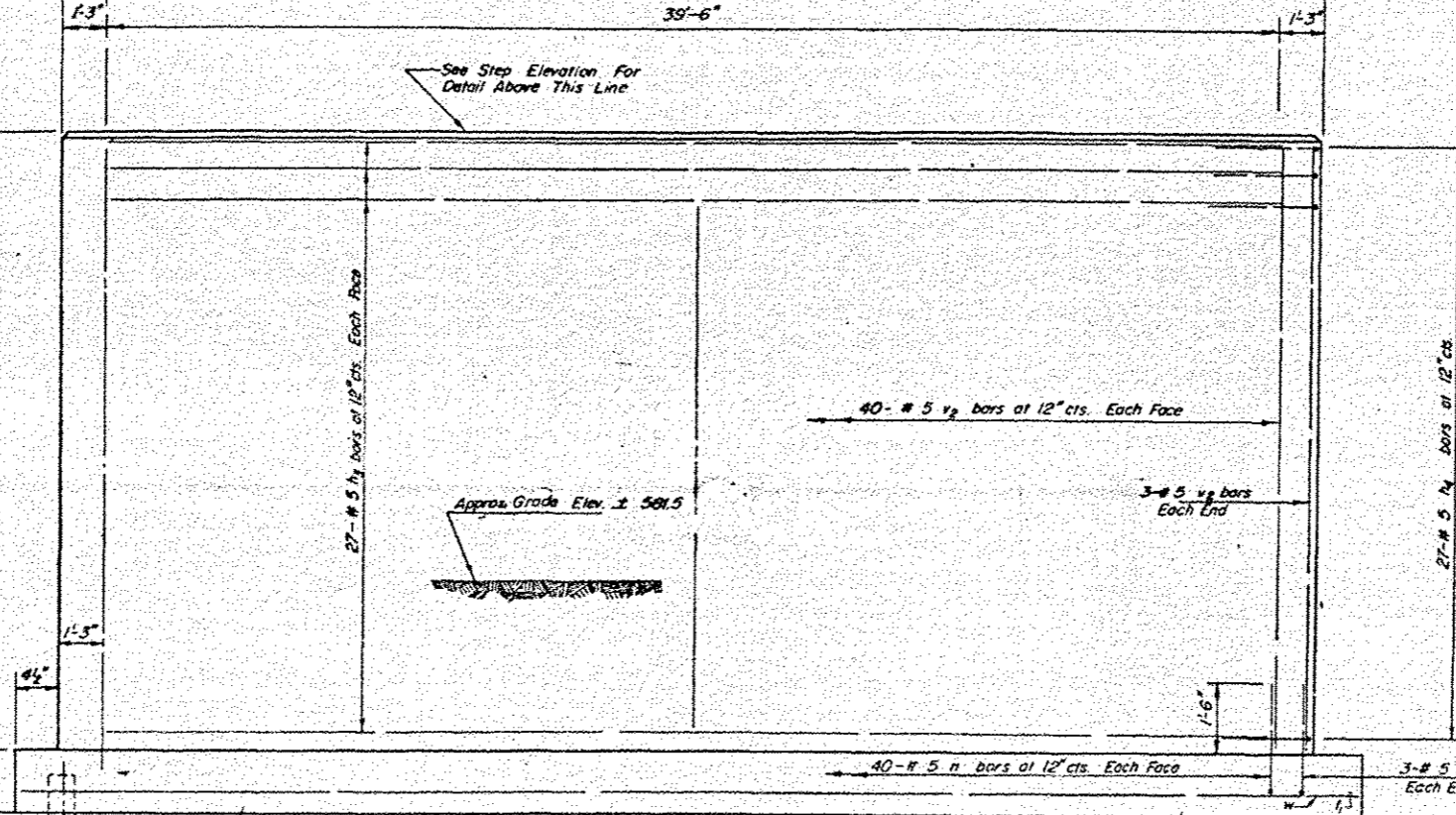
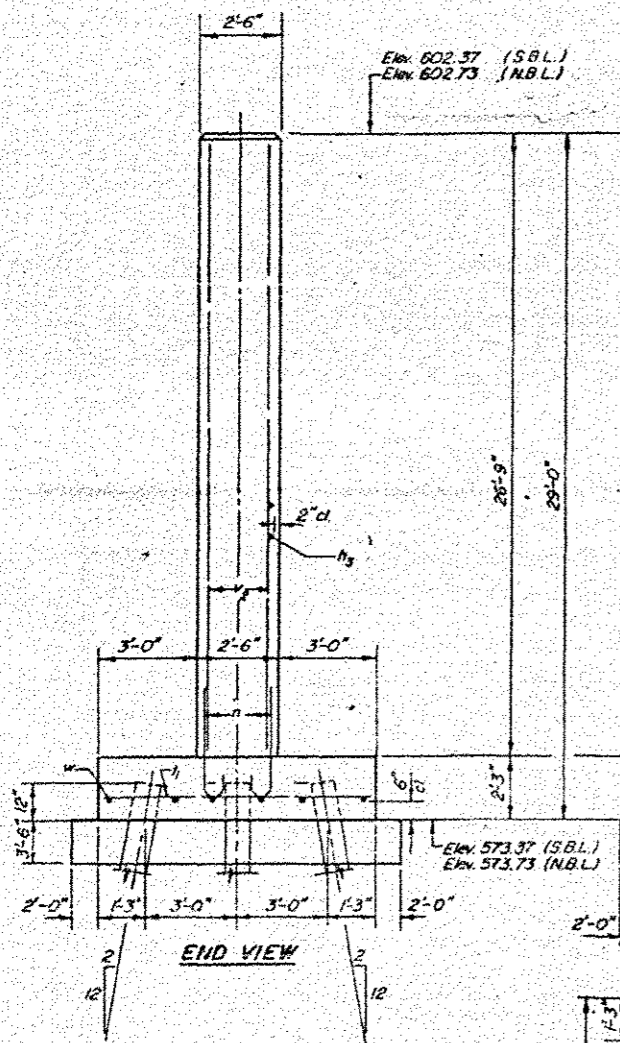
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

Space reinforcement in cap to
 miss anchor bolts.
 Pour steps monolithically with cap.

Sheet No.	74351	Sheet	122U	Sheet No.	17
Contract	58-20B-1	Location	MACON	Scale	40
Project		Sheet		Quantity	26
SHEET NO. 17 30 SHEETS					



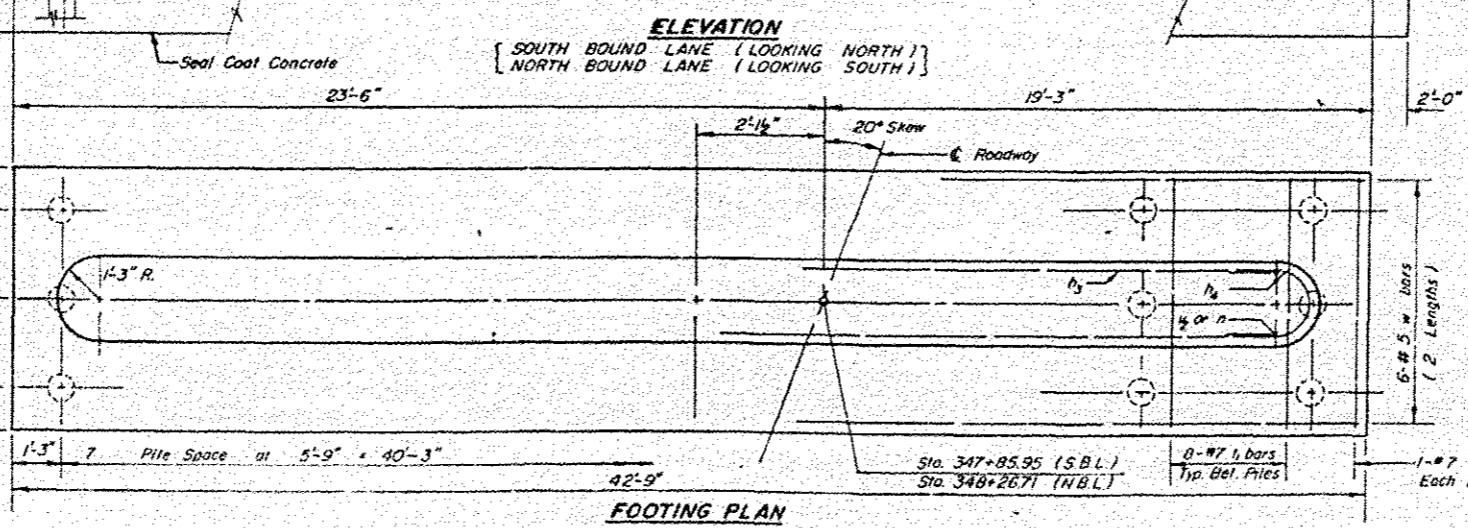
FOR INFORMATION ONLY



**TWO PIERS
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h ₃	108	#5	39'-6"	—
h ₄	108	#3	5'-11"	—
n	172	#5	3'-10"	—
l	116	#7	8'-3"	—
v ₂	172	#5	26'-6"	—
w	24	#5	22'-0"	—
Class A Concrete				Cu.Yds. 267.2
Reinforcement Bars				Lbs. 3,300
Concrete Piles				Lin. Ft. 1482
Test Piles (Conc.)				Each 1
Seal Coat Concrete				Cu.Yds. 152

DESIGNED R. F. ROGNEY
 CHECKED [Signature]
 DRAWN [Signature]
 CHECKED [Signature]
 EXAMINED [Signature] Jan 10 1975
 PASSED [Signature]
 APPROVED [Signature]

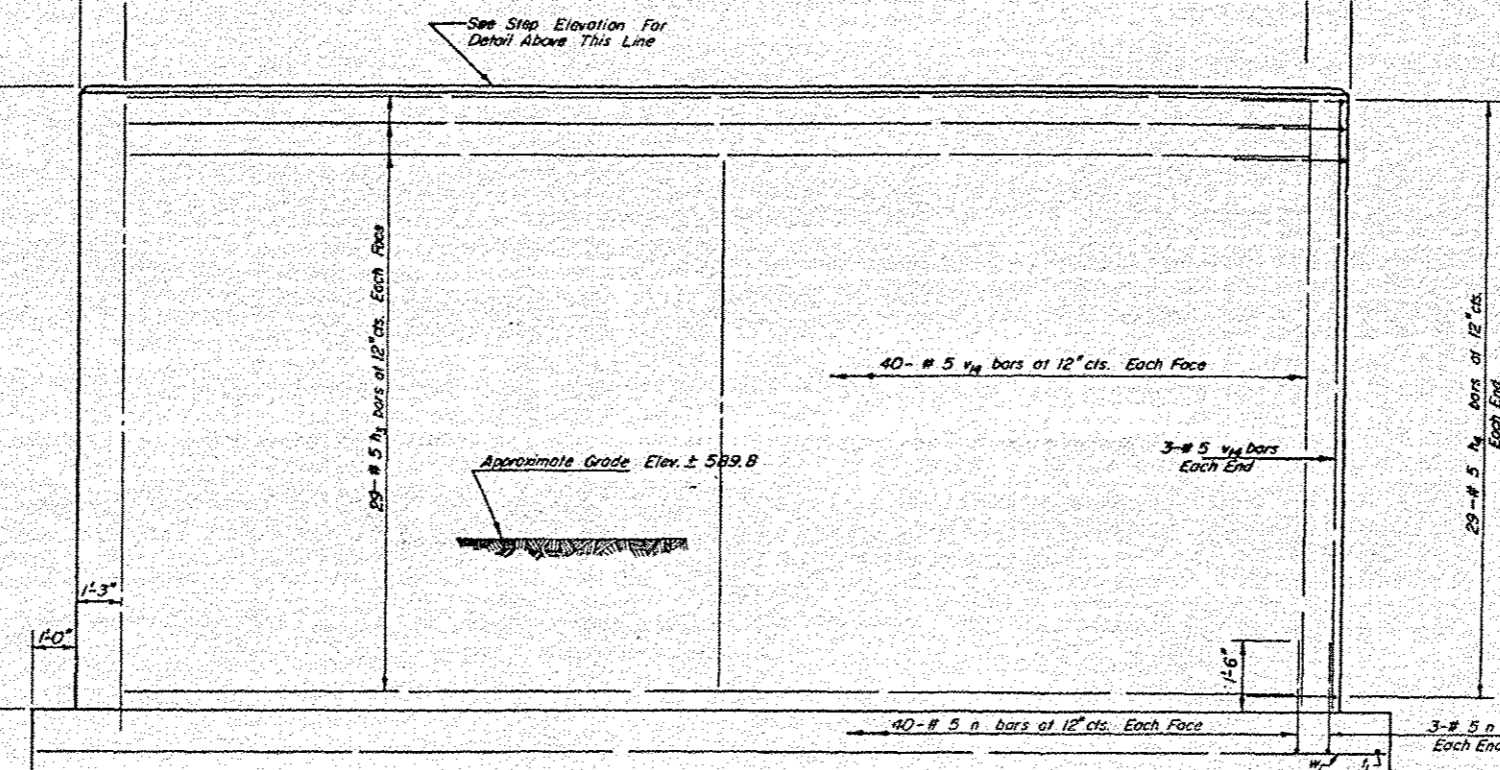
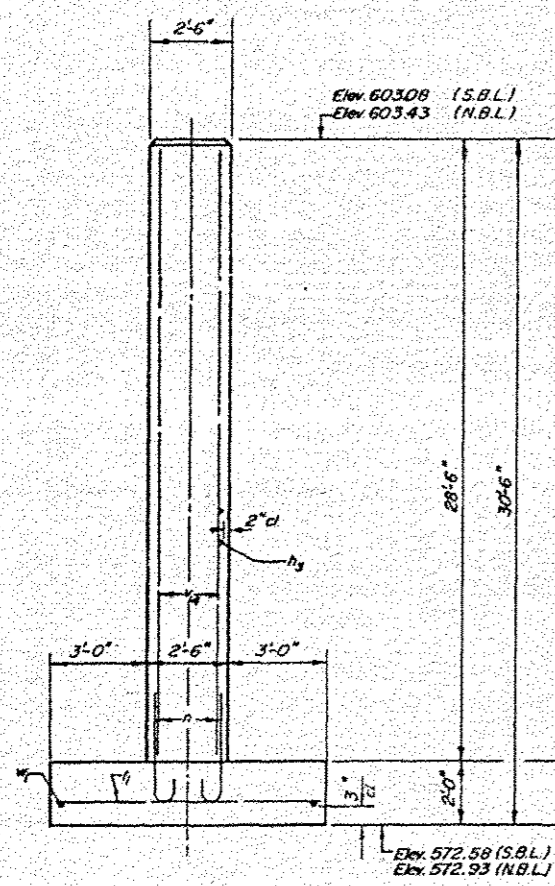
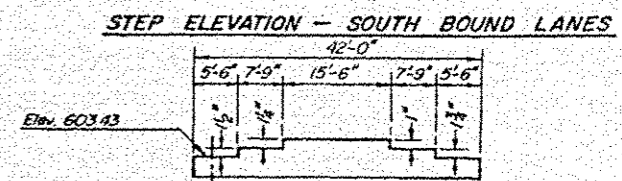
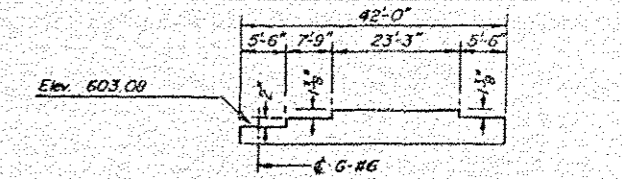
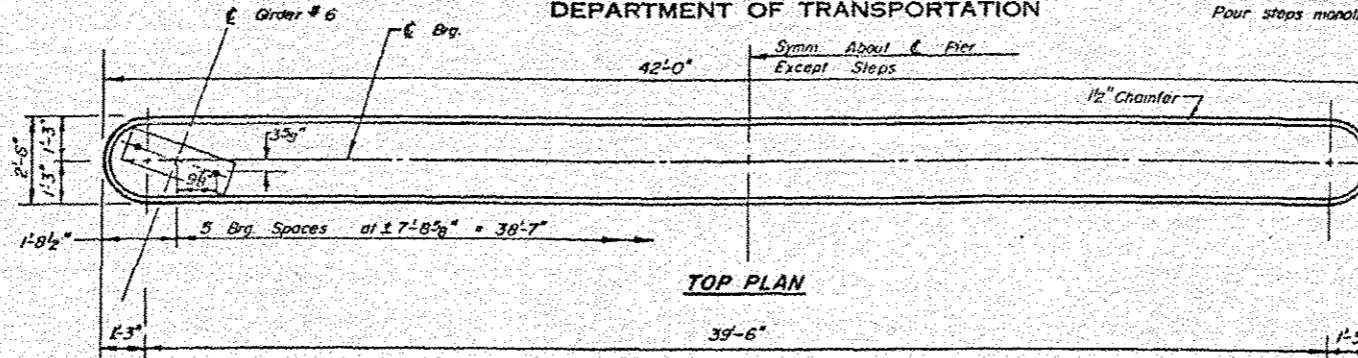


PIER B
 E.A. RT. 412 SEC. 58-20B-1
 MACON COUNTY
 STA. 346+44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Space reinforcement in cap to
miss anchor bolts.
Pour steps monolithically with cap.

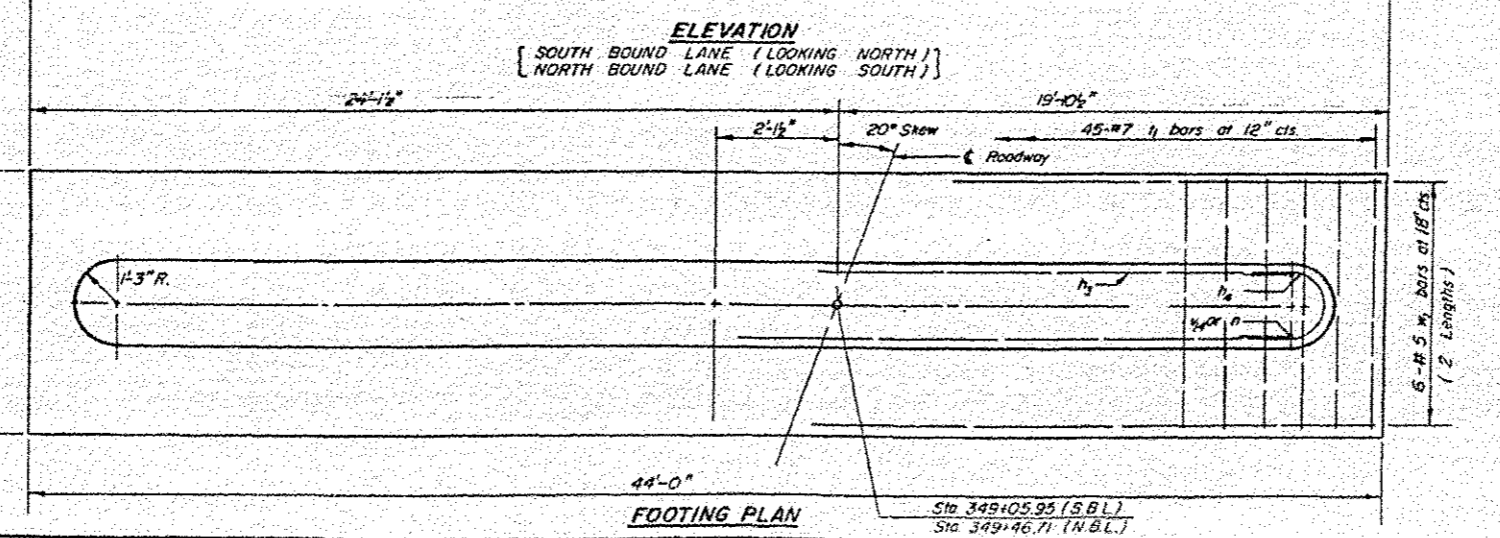
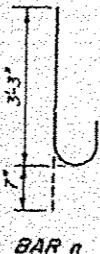
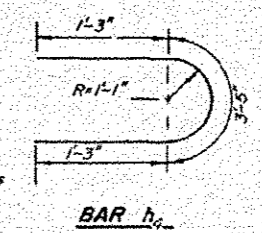
PROJECT NO.	SECTION	QUANTITY	UNIT PRICE	TOTAL
58-20	B-1	MASSON	40	27
SHEET NO. 18 30 SHEETS				



FOR INFORMATION ONLY

**TWO PIERS
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h_s	116	#5	39'-6"	—
h_n	116	#5	5'-11"	—
n	172	#5	3'-10"	—
h	90	#7	8'-3"	—
h_n	172	#5	28'-3"	—
w_1	24	#5	22'-6"	—
Class A Concrete		Cu Yds.	275.4	
Reinforcement Bars		Lbs.	13,330	

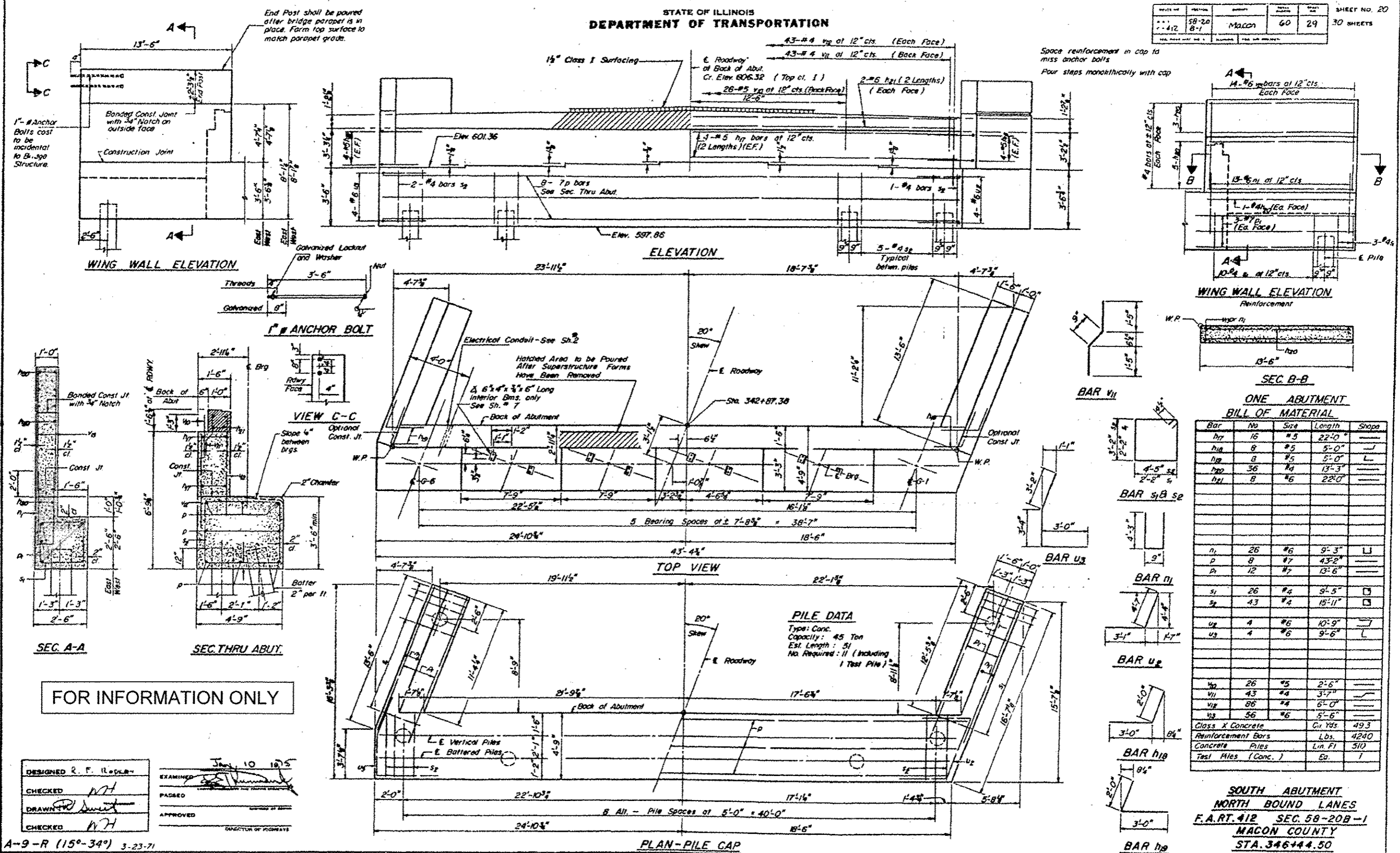


DESIGNED R. F. Roeker	EXAMINED Jan 10 1975
CHECKED WH	PASSED
DRAWN R. Sweet	APPROVED
CHECKED WH	

PIER 9
E.A. RT. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SUBJECT	DATE	DATE	SHEET NO.
412	58-20	Macon	60	29	30 SHEETS



ONE ABUTMENT
BILL OF MATERIAL

Bar	No	Size	Length	Shops
hr	16	#5	22'-0"	
hig	8	#5	5'-0"	
hpg	8	#5	5'-0"	
hpg	36	#5	13'-3"	
hpl	8	#6	22'-0"	
u1	26	#6	9'-3"	
u2	8	#7	43'-2"	
u3	12	#7	13'-6"	
s1	26	#4	9'-5"	
s2	43	#4	18'-11"	
u4	4	#6	10'-9"	
u5	4	#6	9'-6"	
u6	26	#5	2'-6"	
u7	43	#4	3'-7"	
u8	86	#4	6'-0"	
u9	56	#6	5'-6"	
Glass X Concrete				Cu Yds. 493
Reinforcement Bars				Lbs. 4240
Concrete Piles				Lin. Ft. 510
Test Piles (Conc.)				Eq. 1

SOUTH ABUTMENT
NORTH BOUND LANES
F.A.R.T. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

FOR INFORMATION ONLY

DESIGNED R. F. Hoyle
CHECKED [Signature]
DRAWN [Signature]
CHECKED [Signature]

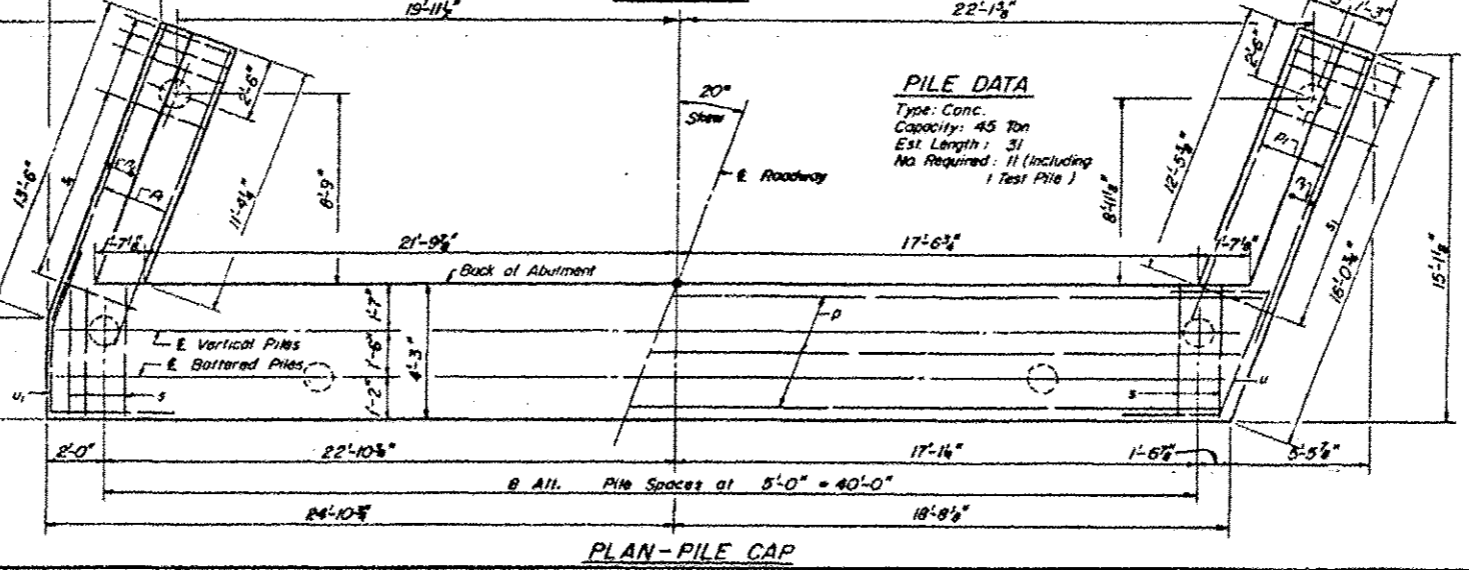
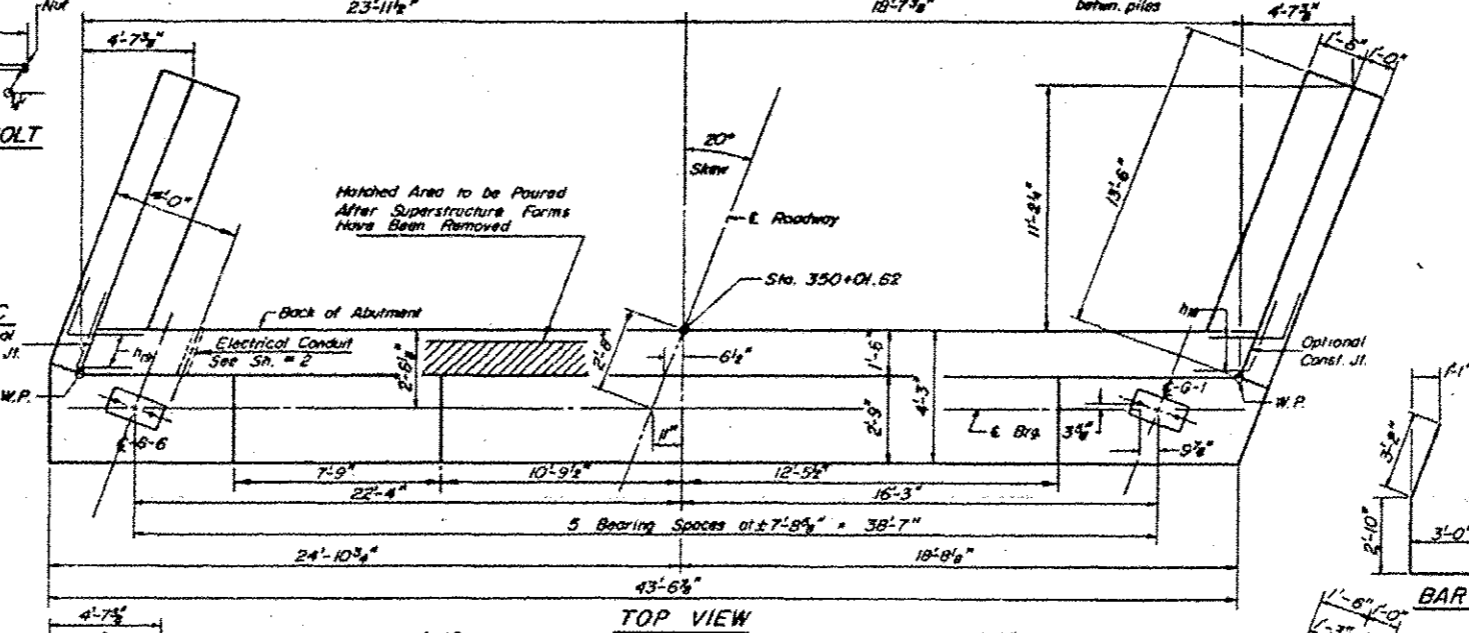
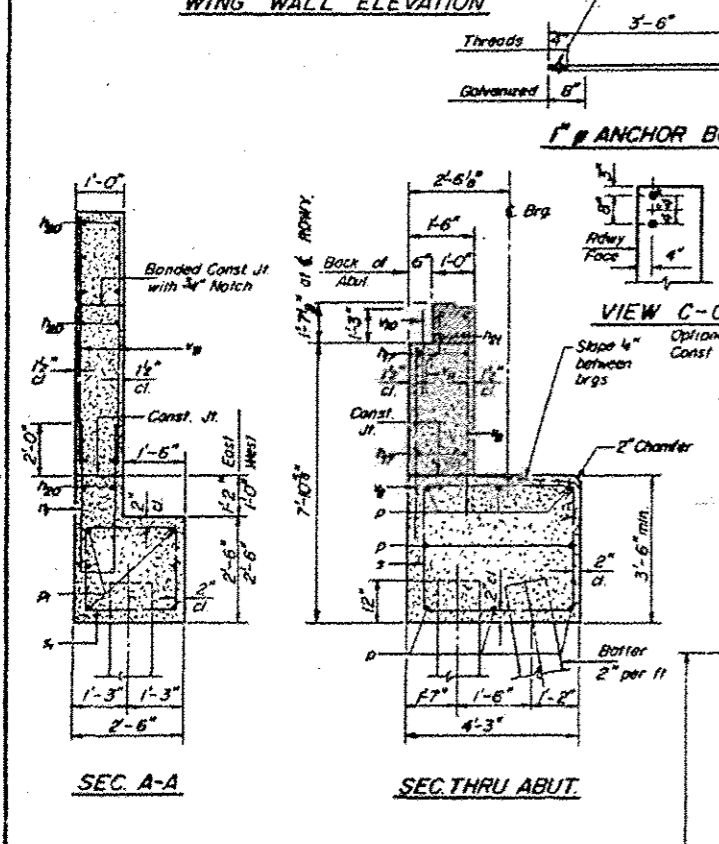
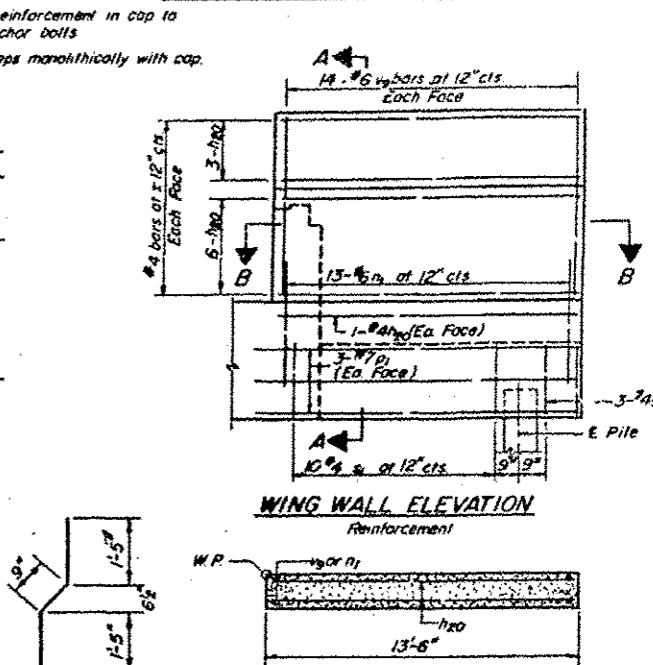
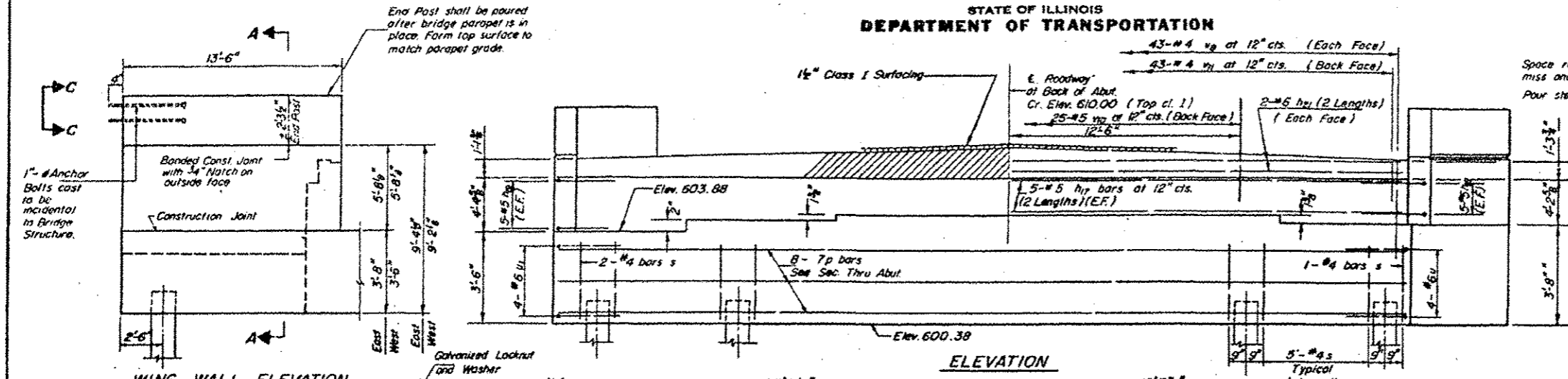
EXAMINED [Signature]
PASSED [Signature]
APPROVED [Signature]

Jan 10 1965
DIRECTOR OF HIGHWAYS

A-9-R (15°-34°) 3-23-71

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	PROJECT	POST-MILE	POST-MILE	SHEET NO.
412	58-20 B-1	MACON	60	30	30 SHEETS



PILE DATA
 Type: Conc.
 Capacity: 45 Ton
 Est. Length: 31
 No. Required: 11 (including 1 Test Pile)

ONE ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
hr	20	#5	22'-0"	—
hm	10	#5	5'-0"	—
hn	10	#5	5'-0"	L
hno	40	#4	13'-3"	—
hnl	8	#6	22'-0"	—
nl	26	#6	9'-3"	L
pn	8	#7	43'-2"	—
pl	12	#7	13'-6"	—
s	43	#4	14'-11"	□
sn	26	#4	9'-5"	□
u	4	#6	10'-3"	—
ul	4	#6	9'-0"	L
va	86	#4	7'-0"	—
vp	56	#6	7'-9"	—
vo	26	#5	2'-6"	—
vl	43	#4	3'-7"	—
Class X Concrete		Cu Yds.	50.2	
Reinforcement Bars		Lbs	4510	
Concrete Piles		Lin Ft	310	
Test Piles (Conc.)		Eq.	1	

**NORTH ABUTMENT
 SOUTH BOUND LANES
 F.A.R.T. #12 SEC. 58-20B-1
 MACON COUNTY
 STA. 346+44.50**

DESIGNED R. F. ROBLER
 CHECKED WH
 DRAWN PD
 CHECKED WH

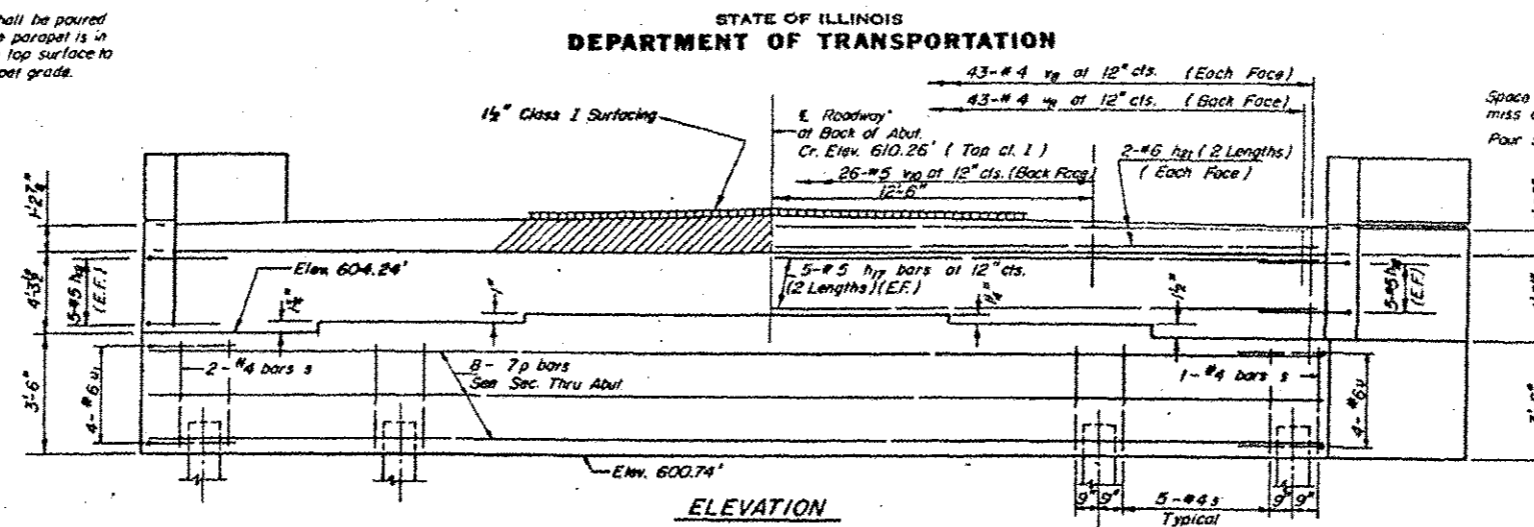
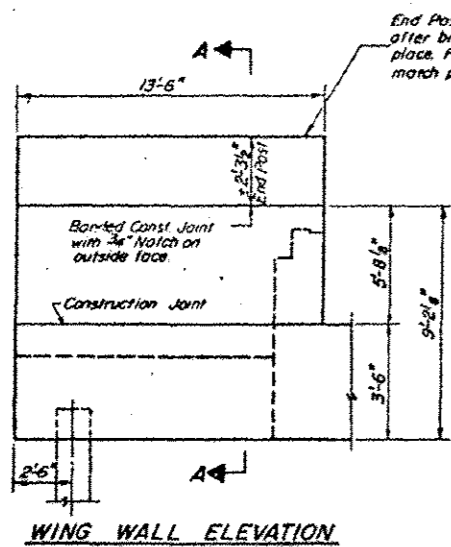
EXAMINED
 PASSED
 APPROVED
 DIRECTOR OF HIGHWAYS

JAN. 10 1955

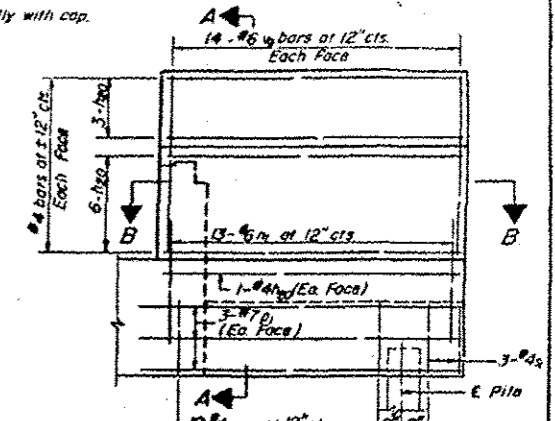
A-9-R (15°-34°) 3-23-71

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

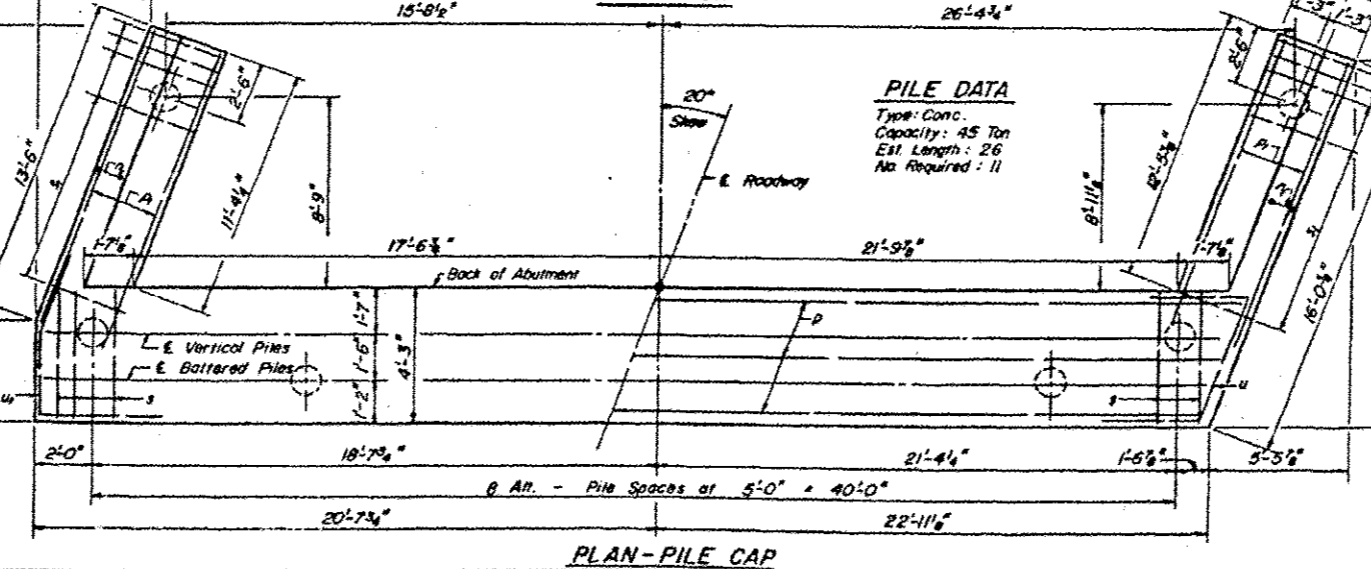
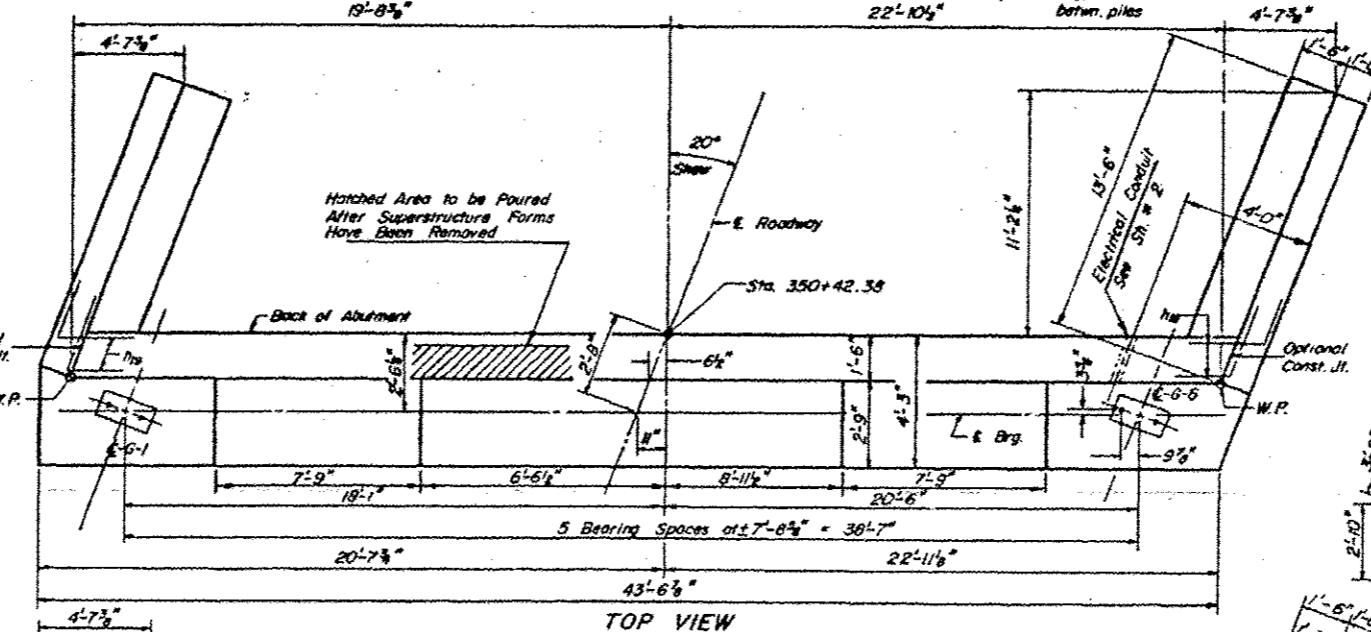
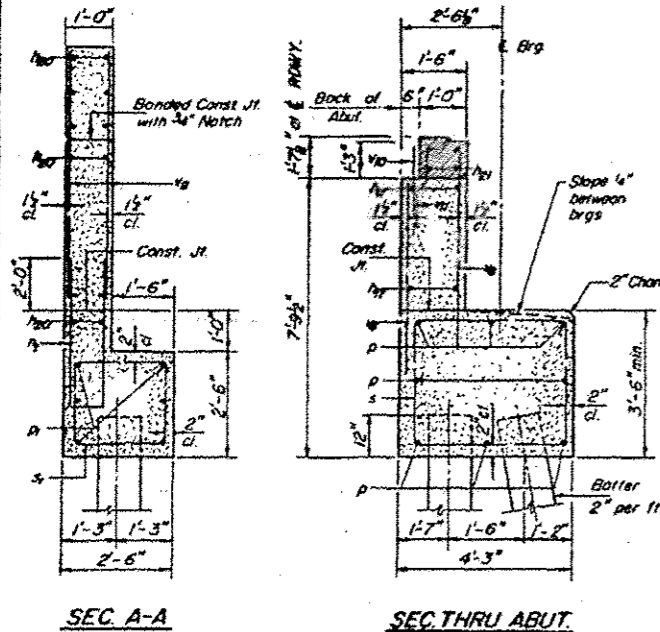
PROJECT NO.	SECTION	DATE	BY	CHECKED	SHEET NO.
412	58-20	1/20/55	60	31	22
					30 SHEETS



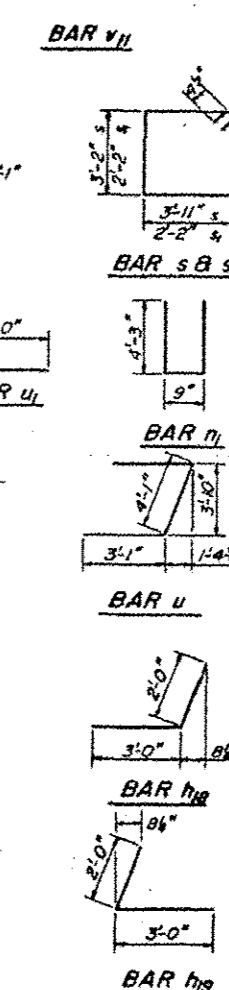
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.



FOR INFORMATION ONLY



PILE DATA
Type: Conc.
Capacity: 45 Ton
Est. Length: 26
No. Required: 11



ONE ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1	20	#5	22'-0"	—
h2	10	#5	5'-0"	—
h3	10	#5	5'-0"	—
h4	40	#4	13'-3"	—
h5	8	#6	22'-0"	—
h6	26	#6	9'-3"	□
p	8	#7	43'-2"	—
p1	12	#7	13'-5"	—
s	43	#4	14'-11"	□
w	26	#4	9'-5"	□
u	4	#6	10'-3"	—
u1	4	#6	9'-0"	—
v1	86	#4	7'-0"	—
v2	56	#6	7'-9"	—
v3	26	#5	2'-6"	—
v4	43	#4	3'-7"	—
Class X Concrete		Cu Yds.	49.5	
Reinforcement Bars		Lbs.	4510	
Concrete Piles		Lin. Ft.	286	

NORTH ABUTMENT
NORTH BOUND LANES
F.A.R.T. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

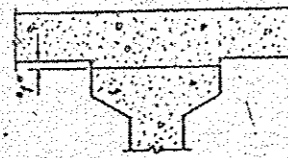
DESIGNED R. F. ROONEY
CHECKED [Signature]
DRAWN [Signature]
CHECKED [Signature]

EXAMINED [Signature]
PASSED [Signature]
APPROVED [Signature]
DIRECTOR OF HIGHWAYS

A-9-R (15°-31°) 3-23-71

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

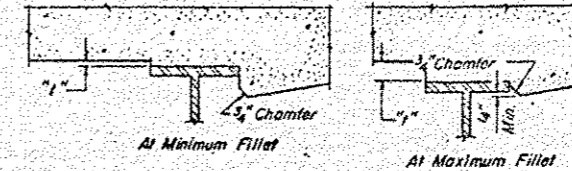
PROJECT NO.	SECTION	DATE	SCALE	SHEET NO.
412	58-20 B-1	MACON	60	32
SHEET NO. 23				30 SHEETS



To determine "f": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted algebraically from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on Sh. #24 thru #29, minus slab thickness, equals the fillet heights "f". A positive value of "f" equals the fillet height above the top of the beam. A negative value of "f", not to exceed 2, equals the embedment of the beam above the theoretical bottom of slab elevation.

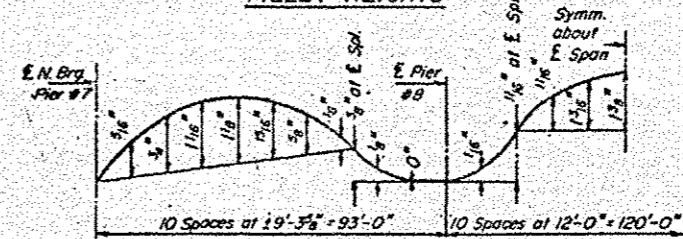
FILLET HEIGHTS

FOR INFORMATION ONLY

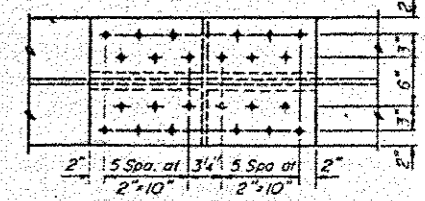
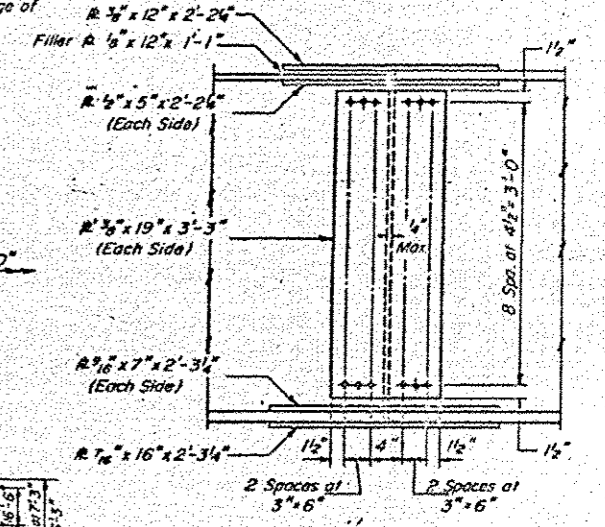


To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sh. #24 thru #29, minus slab thickness, equals the fillet heights "f" above top flange of beams.

FILLET HEIGHTS

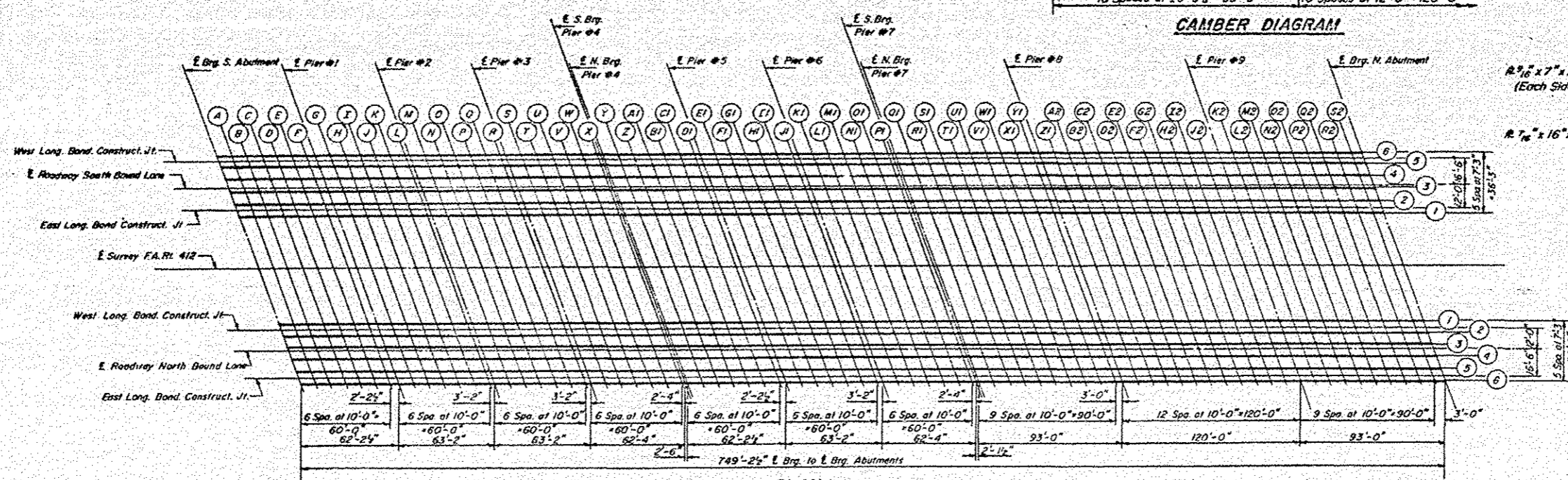


CAMBER DIAGRAM

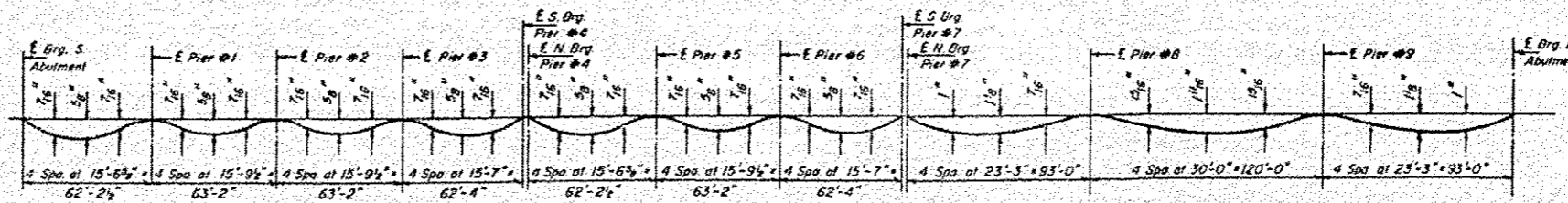


SPLICE DETAILS

Use 7/8" High Strength Bolts



PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete 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 on Sh. #24 thru #29.

PLAN & DEFLECTION DIAGRAM

TOP OF SLAB ELEVATIONS

F.A.R.T. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

DESIGNED	R. F. ROONEY	EXAMINED	[Signature]
CHECKED	[Signature]	PASSED	[Signature]
DRAWN	P. Barnett	APPROVED	[Signature]
CHECKED	[Signature]		

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Table with project details: PROJECT NO. 412, DISTRICT 58-20, COUNTY Macou, ROAD NO. 60, SHEET NO. 24, TOTAL SHEETS 30.

GIRDER #1

Table for GIRDER #1 showing Station, Offset, Theoretical Grade Elevations, and Theoretical Grade Elevations Adjusted For Dead Load Deflection for various locations and bridge piers.

WEST LONG BONDED CONSTRUCTION JOINT

Table for WEST LONG BONDED CONSTRUCTION JOINT showing Station, Offset, Theoretical Grade Elevations, and Theoretical Grade Elevations Adjusted For Dead Load Deflection for various locations and bridge piers.

FOR INFORMATION ONLY

GIRDER #2

Table for GIRDER #2 showing Station, Offset, Theoretical Grade Elevations, and Theoretical Grade Elevations Adjusted For Dead Load Deflection for various locations and bridge piers.

DESIGNED R. F. ROBBY, CHECKED W.H., DRAWN P. BARNETT, CHECKED W.H.

EXAMINED JAN 10 1955, PASSED, APPROVED, DIRECTOR OF HIGHWAYS

NORTH BOUND LANES TOP OF SLAB ELEVATIONS F.A.R.T. 412 SEC. 58-20B-1 MACON COUNTY STA. 346+44.50

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Table with columns: SHEET NO. 25, 412, 58-20, B-1, MACON, 60, 34, 30 SHEETS

GIRDER #3

E ROADWAY NORTH BOUND LANE

Table for GIRDER #3 showing stationing, offsets, and elevations for various locations and piers.

Table for E ROADWAY NORTH BOUND LANE showing stationing, offsets, and elevations for various locations and piers.

FOR INFORMATION ONLY

GIRDER #4

Table for GIRDER #4 showing stationing, offsets, and elevations for various locations and piers.

DESIGNED R. F. RODNEY, CHECKED, DRAWN P. BARNETT, APPROVED

NORTH BOUND LANES TOP OF SLAB ELEVATIONS F.A.R.T. 412 SEC. 58-20B-1 MACON COUNTY STA. 346+44.50

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Table with project details: SHEET NO. 26, 412, 58-20, Macon, 40, 35, 30 SHEETS

GIRDER #5

EAST LONG BONDED CONSTRUCTION JOINT

Main table for GIRDER #5 with columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection

Main table for EAST LONG BONDED CONSTRUCTION JOINT with columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection

FOR INFORMATION ONLY

GIRDER #6

Main table for GIRDER #6 with columns: Location, Station, Offset, Theoretical Grade Elevations, Theoretical Grade Elevations Adjusted For Dead Load Deflection

DESIGNED R. F. RODNEY, CHECKED, DRAWN P. Barnett, APPROVED, JAN 10 1965

NORTH BOUND LANES, TOP OF SLAB ELEVATIONS, F.A.R.T. 412 SEC. 58-20B-1, MACON COUNTY, STA. 346+44.50

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Table with project details: STA. 346+44.50, MAISON COUNTY, 60 SHEETS, SHEET NO. 27

GIRDER #1

Table for GIRDER #1 showing theoretical grade elevations and adjusted elevations for dead load deflection across various locations and stations.

EAST LONG BONDED CONSTRUCTION JOINT

Table for EAST LONG BONDED CONSTRUCTION JOINT showing theoretical grade elevations and adjusted elevations for dead load deflection across various locations and stations.

FOR INFORMATION ONLY

GIRDER #2

Table for GIRDER #2 showing theoretical grade elevations and adjusted elevations for dead load deflection across various locations and stations.

Approval and signature block with fields for DESIGNED, CHECKED, DRAWN, EXAMINED, PASSED, APPROVED, and dates.

SOUTH BOUND LANES TOP OF SLAB ELEVATIONS F.A.R.T. 412 SEC. 58-20B-1 MACON COUNTY STA. 346+44.50

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Table with columns: SHEET NO., DATE, DRAWN BY, CHECKED BY, SCALE, SHEETS. Values: 28, 20, Macan, 60, 37, 30 SHEETS.

GIRDER #3

Table for GIRDER #3 showing Location, Station, Offset, Theoretical Grade Elevations, and Theoretical Grade Elevations Adjusted For Dead Load Deflection. Includes data for E. Brq. S. Abutment, E. Pier #1, E. Pier #2, E. Pier #3, E. S. Brq. Pier #4, E. N. Brq. Pier #4, E. Pier #5, and E. Brq. N. Abutment.

E. ROADWAY SOUTH BOUND LANE

Table for E. ROADWAY SOUTH BOUND LANE showing Location, Station, Offset, Theoretical Grade Elevations, and Theoretical Grade Elevations Adjusted For Dead Load Deflection. Includes data for E. Brq. S. Abutment, E. Pier #1, E. Pier #2, E. Pier #3, E. S. Brq. Pier #4, E. N. Brq. Pier #4, E. Pier #5, and E. Brq. N. Abutment.

GIRDER #4

Table for GIRDER #4 showing Location, Station, Offset, Theoretical Grade Elevations, and Theoretical Grade Elevations Adjusted For Dead Load Deflection. Includes data for E. Brq. S. Abutment, E. N. Brq. Pier #4, E. Pier #5, E. Pier #6, E. Pier #7, E. S. Brq. Pier #7, and E. Brq. N. Abutment.

Designation and approval table. Includes fields for DESIGNED (R. F. ROSEBY), CHECKED (WH), DRAWN (P. Barnett), and APPROVED (Director of Highways).

FOR INFORMATION ONLY

SOUTH BOUND LANES TOP OF SLAB ELEVATIONS F.A.R.T. 412 SEC. 58-20B-1 MACON COUNTY STA. 346+44.50

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

Table with columns: SHEET NO., DATE, COUNTY, SHEET NO., TOTAL SHEETS. Values: 29, 5/8/20, Macon, 40, 38, 30 SHEETS.

GIRDER #5

Table for GIRDER #5 showing theoretical and adjusted elevations for various locations and stations.

WEST LONG BONDED CONSTRUCTION JOINT

Table for WEST LONG BONDED CONSTRUCTION JOINT showing theoretical and adjusted elevations for various locations and stations.

FOR INFORMATION ONLY

GIRDER #6

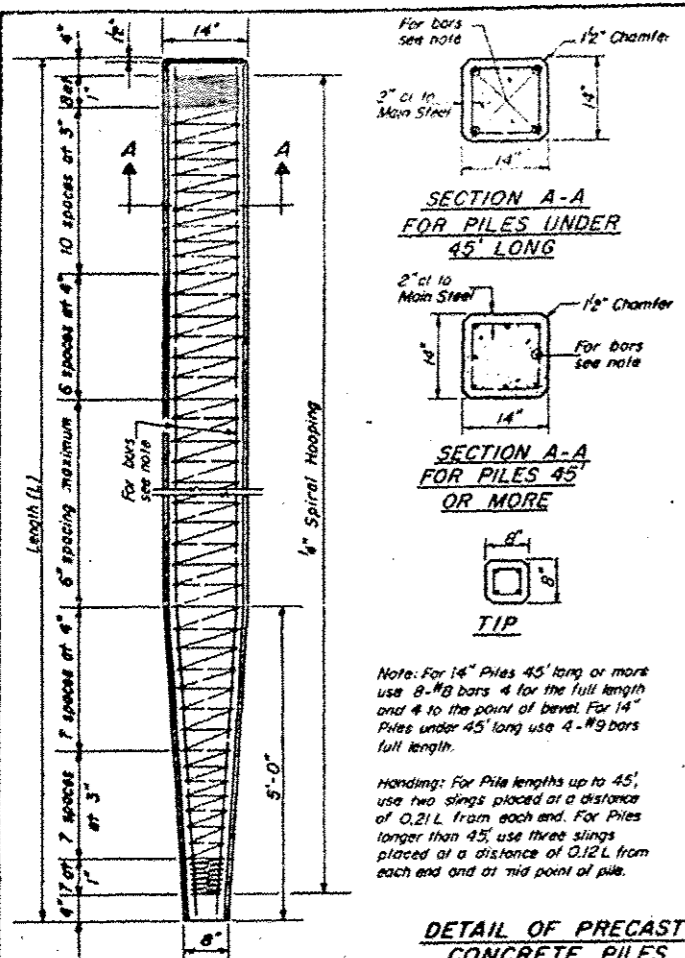
Table for GIRDER #6 showing theoretical and adjusted elevations for various locations and stations.

DESIGNED R. F. RODKEY, CHECKED, DRAWN P. Barnett, APPROVED, DIRECTOR OF HIGHWAYS

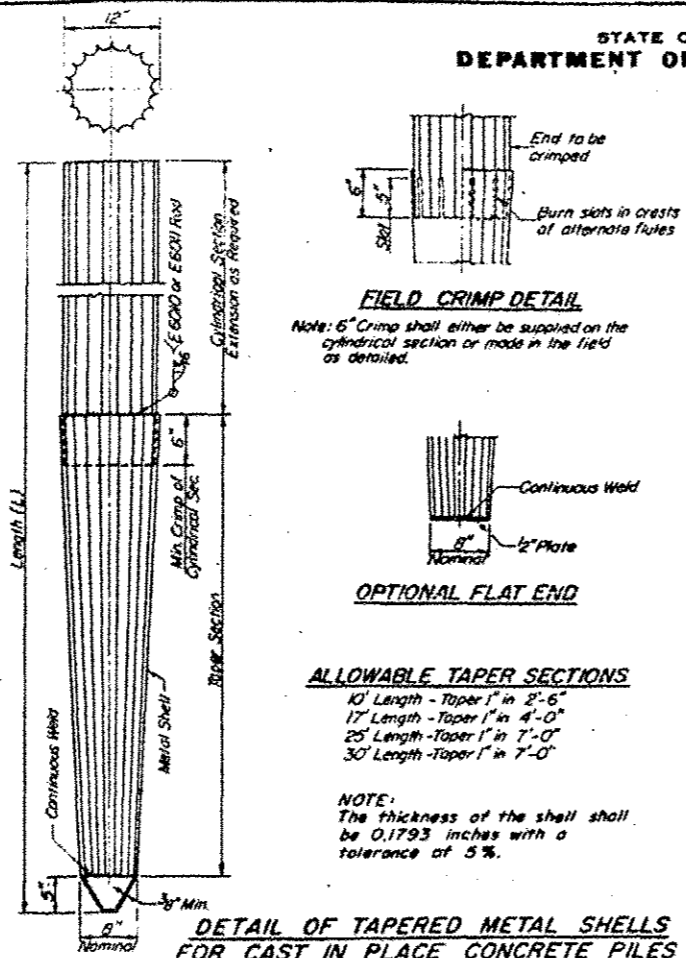
SOUTH BOUND LANES, TOP OF SLAB ELEVATIONS, F.A.R.T. 412 SEC. 58-20B-1, MACON COUNTY, STA. 346+44.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

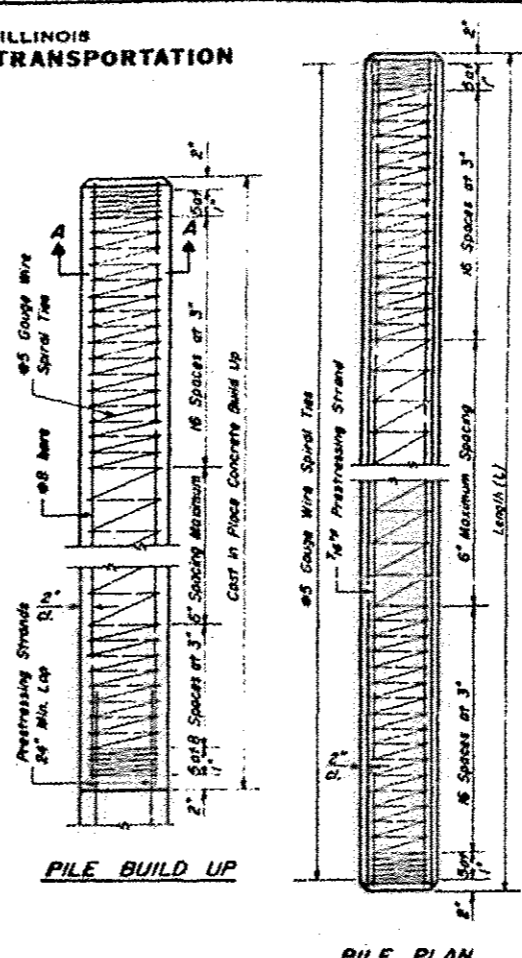
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10-20-51	R-1	Macon	60	39	30 SHEETS



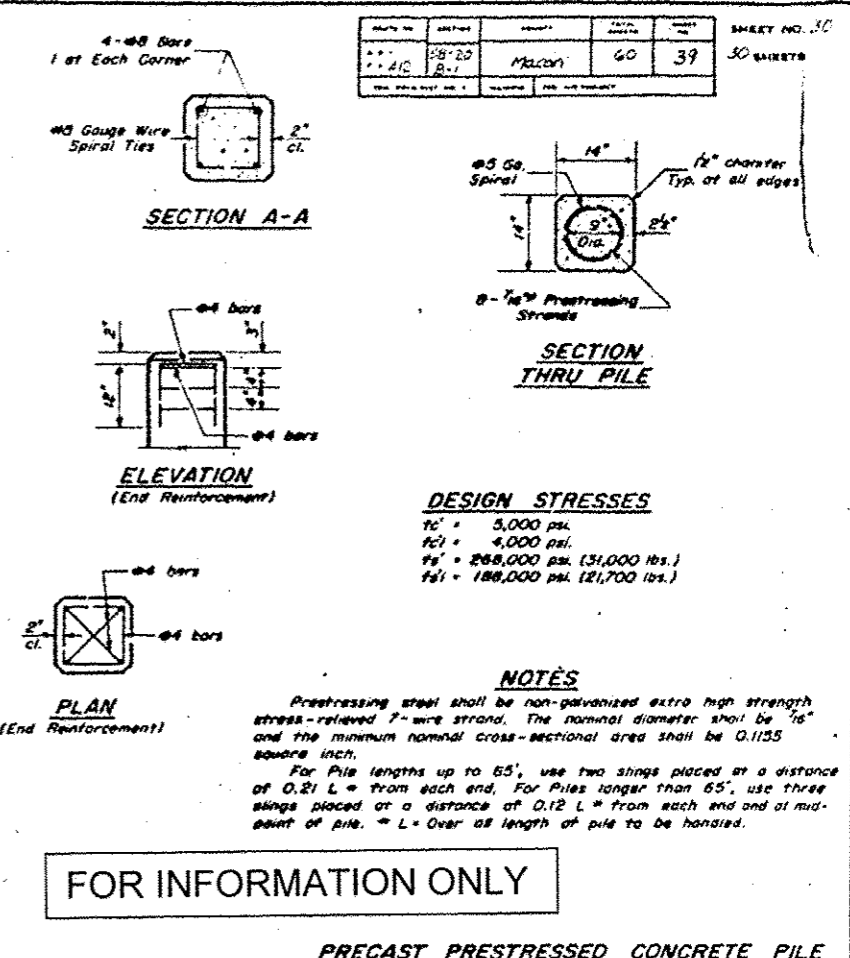
DETAIL OF PRECAST CONCRETE PILES



DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES

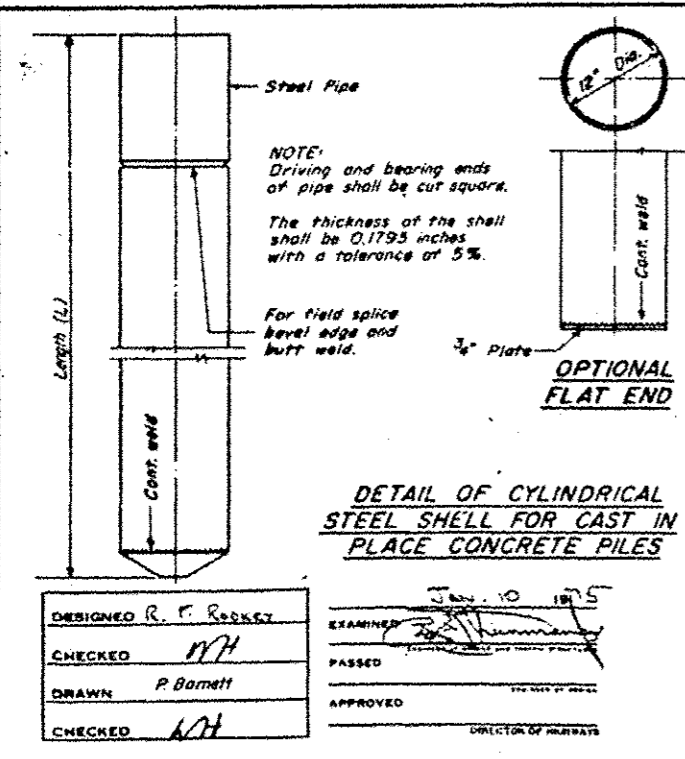


PILE PLAN

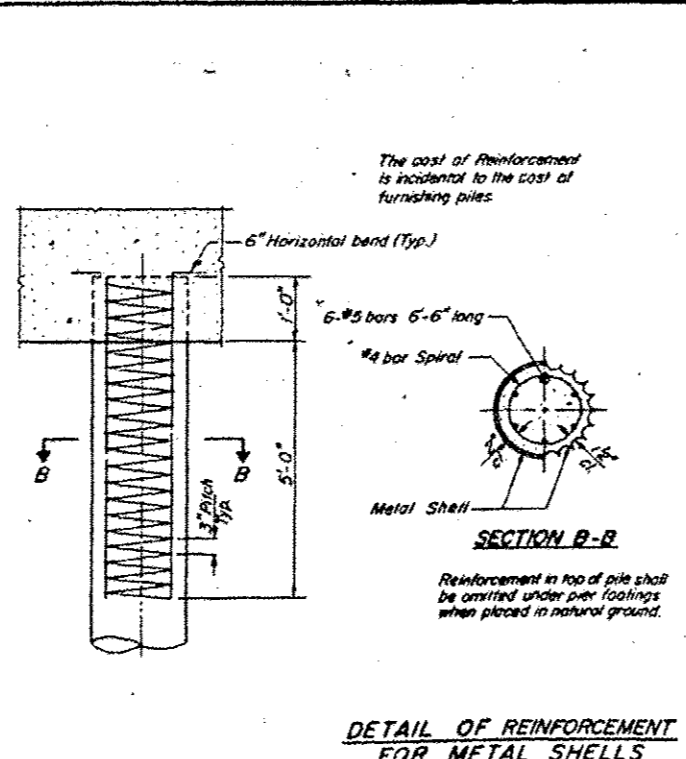


PRECAST PRESTRESSED CONCRETE PILE

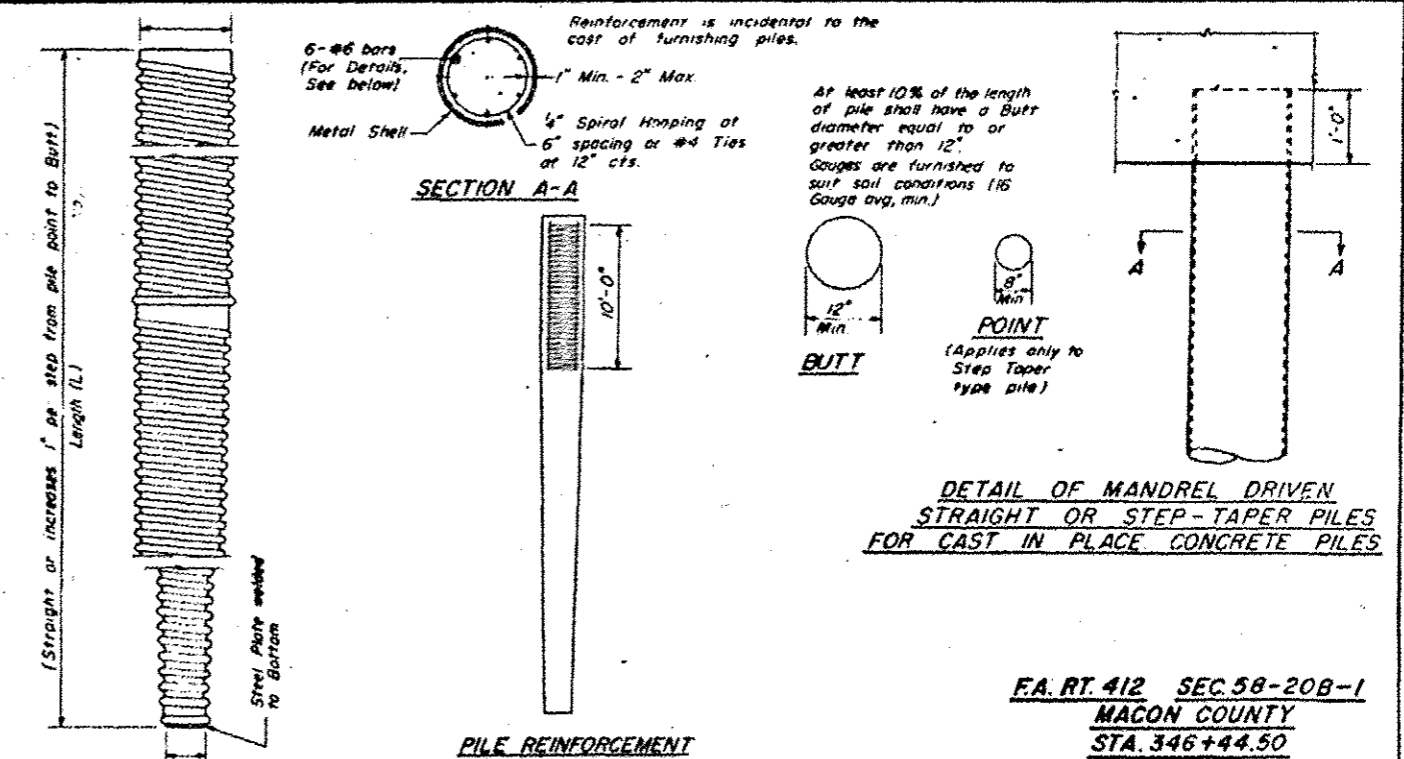
FOR INFORMATION ONLY



DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



DETAIL OF REINFORCEMENT FOR METAL SHELLS



DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES

FA. RT. 412 SEC. 58-20B-1
MACON COUNTY
STA. 346+44.50

DESIGNED R. F. ROCKET
CHECKED P. H.
DRAWN P. Barnett
CHECKED K. H.

EXAMINED [Signature]
PASSED [Signature]
APPROVED [Signature]
DIRECTOR OF HIGHWAYS

X-3 4-15-74