

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED
HIGHWAY PLANS

F.A.P. ROUTE 710 & F.A.I. 72 (ILL 105 & I-72)
SECTION D7 BRIDGE PAINTING 2018-1

BRIDGE PAINTING
MACON COUNTY

C-97-003-18

FOR INDEX OF SHEETS, SEE SHEET NO. 2

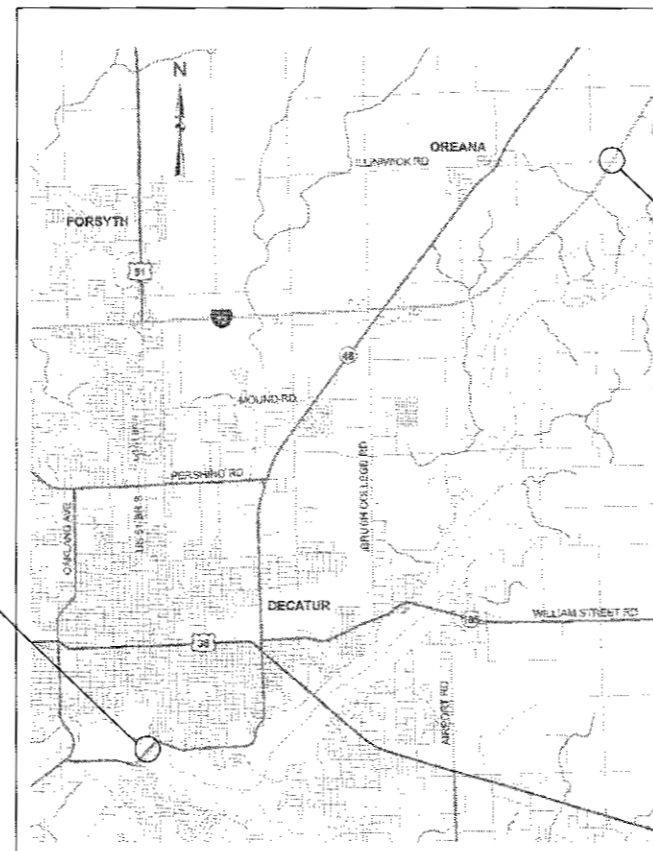
ADT (I-72) = 11,600

ADT (ILL 105) = 24,700

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	**	MACON	13	1
		ILLINOIS	CONTRACT NO. 74815	

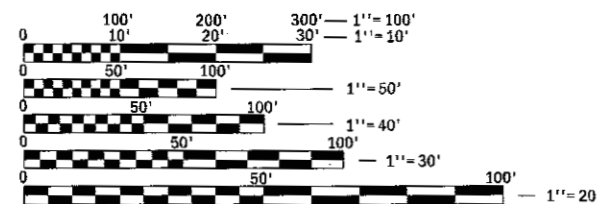
* F.A.I. 72 & F.A.P. 710
** D7 BRIDGE PAINTING 2018-1

D-97-002-18



LOCATION #2
SN 058-0089

LOCATION #1
SN 058-0010 (NB)
SN 058-0049 (SB)



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: TOM RONAN
PROJECT MANAGER: TOM RONAN
PHONE: (217) 342-8320
CONTRACT NO. 74815

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED AUGUST 10 20 17
Jeffrey M South REGIONAL ENGINEER
Oct 13 20 17
Mamoon M. Addis ENGINEER OF DESIGN AND ENVIRONMENT
Oct 13 20 17
Paula [Signature] DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX OF SHEETS, GENERAL NOTES, LOCATION DESCRIPTIONS,
3	SUMMARY OF QUANTITIES
4-13	EXISTING STRUCTURE PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 13:

000001-06 STANDARD SYMBOLS, ABBREVIATIONS, & PATTERNS
 701101-05 OFF-ROAD OPERATIONS, MULTI-LANE, 15' TO 24" FROM PAVEMENT EDGE
 701106-02 OFF-ROAD OPERATIONS, MULTI-LANE, MORE THAN 15' AWAY
 701400-09 APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
 701401-10 LANE CLOSURE, FREEWAY/EXPRESSWAY
 701402-12 LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
 701601-09 URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
 701901-06 TRAFFIC CONTROL DEVICES

LOCATION 1

BRIDGE #1
 ROUTE: FAP 710
 MARKED: ILL 105 NB
 SECTION: (48X-B-2)BR
 STATION: 655+79.10
 STRUCTURE NUMBER: 058-0010

TYPE OF BRIDGE: Girders with cross-frame bracing-3 Spans (4 Girders)
 LOCATION: In Decatur
 FEATURE CARRIED/SPANNED: ILL 105 NB over Lake Decatur

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, on all girders, bearings, and diaphragms/cross-frame bracing, within 10' (measured along the girder) of the abutments shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. Both fascia girders shall be cleaned in their entirety by SSPC-SP10- Near White Metal Blast Cleaning.
 The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - 0Z/E/U.

Four air monitors will be required at this location.

LOCATION 1

BRIDGE #2
 ROUTE: FAP 710
 MARKED: ILL 105 SB
 SECTION: (48BR)BR
 STATION: 655+79.10
 STRUCTURE NUMBERS: 058-0049

TYPE OF BRIDGE: Girders with cross-frame bracing-3 Spans (5 Girders)
 LOCATION: In Decatur
 FEATURE CARRIED/SPANNED: ILL 105 SB over Lake Decatur

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, on all girders, bearings, and diaphragms/cross-frame bracing, within 10' (measured along the girder) of the abutments shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. Both fascia girders shall be cleaned in their entirety by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - 0Z/E/U.

Four air monitors will be required at this location.

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED APRIL 1, 2016; THE SUPPLEMENTAL SPECIFICATIONS, THE RECURRING SPECIAL PROVISIONS, AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

THE PROPOSED PROJECT IS LOCATED AT TWO LOCATIONS IN MACON COUNTY. THERE ARE A TOTAL OF THREE STRUCTURES TO BE PAINTED, LOCATION ONE HAS TWO STRUCTURES.

THE WORK INCLUDED IN THIS SECTION CONSISTS OF CLEANING AND PAINTING THREE BRIDGES AT TWO LOCATIONS AS SPECIFIED IN THE PLANS AND SPECIAL PROVISIONS.

THE STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED AS SPECIFIED IN THE SPECIAL PROVISIONS.

ALL TRASH AND PAINTING DEBRIS, EXCLUDING WASTE BARRELS OR ROLL - OFF DUMPSTERS, SHALL BE REMOVED BEFORE BEGINNING WORK AT ANOTHER LOCATION.

ONLY STRUCTURAL STEEL IS TO BE PAINTED. ALL OTHER SURFACES WILL BE PROTECTED FROM BEING PAINTED. ALL PAINT AND OVERSPRAY WILL BE REMOVED AT THE CONTRACTOR'S EXPENSE.

THE SSPC OP1 AND OP2 PAINTING CONTRACTOR CERTIFICATION WILL BE REQUIRED FOR THIS PROJECT.

LOCATION 2

BRIDGE #3
 ROUTE: FAI 72
 MARKED: I-72
 SECTION: 56-65-HB-1
 STATION: 524+64.21
 STRUCTURE NUMBER: 058-0089

TYPE OF BRIDGE: Girders with cross-frame bracing-2 Spans (5 Girders)
 LOCATION: 1 mile east of Oreana
 FEATURE CARRIED/SPANNED: CH 20 over I-72

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including girders, bearings and diaphragms/cross-frame bracing, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - 0Z/E/U.

One air monitor will be required at this location.

* F.A.I. 72 & F.A.P. 710
 ** D7 BRIDGE PAINTING 2018-1

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USER NAME = steffenmk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, GENERAL NOTES & LOCATION DESCRIPTIONS				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN -	REVISED -	*						**	MACON	13	2	
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -		CONTRACT NO. 74815								
PLOT DATE = 8/18/2017	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	ILLINOIS	FED. AID PROJECT

100 %
STATE

100 %
STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		URBAN 0014	RURAL 0014
67100100	MOBILIZATION	LSUM	1	0.67	0.33
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2		2
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	LSUM	1		1
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	LSUM	1	1	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	275		275
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	825		825
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	1		1
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	3		3
X7010410	SPEED DISPLAY TRAILER	CAL MO	2		2
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	28	28	
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	120		120

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		URBAN 0014	RURAL 0014
Z0007112	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	LSUM	1	0.67	0.33
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	LSUM	1	1	
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	LSUM	1	1	
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	LSUM	1		1

MODEL DRAWN BY: 02/18/2017
FILE NAME: D:\GIS\Projects\2018\2018-1\Drawings\2018-1\2018-1\S04101.dwg

* F.A.I. 72 & F.A.P. 710
** D7 BRIDGE PAINTING 2018-1

USER NAME: steffenmk	DESIGNED -	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 02/18/2017	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

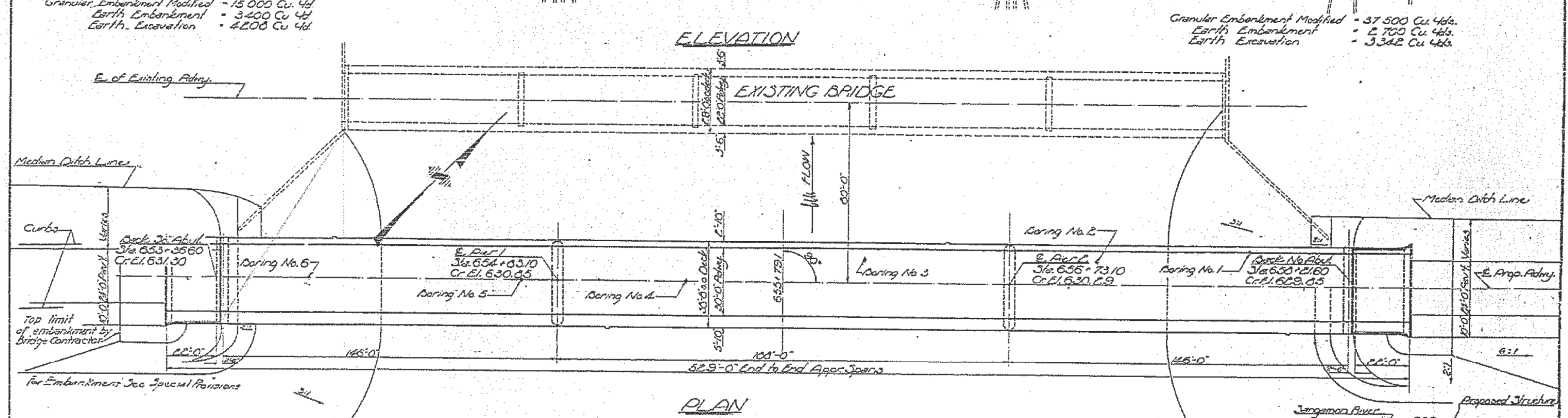
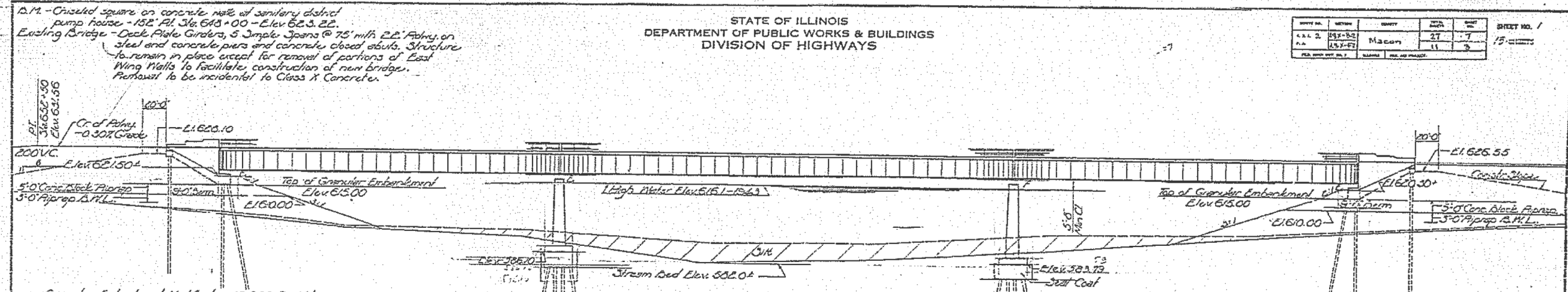
SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	**	MACON	13	3
CONTRACT NO. 74815				
ILLINOIS FED. AID PROJECT				

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

PROJECT NO.	SECTION	SHEET	TOTAL SHEETS	SHEET NO.
157-82	Macou	27	7	15
157-F2		11	2	



STATION 655+79.1
BUILT 186 B4
STATE OF ILLINOIS
S.B.I.R.T. 2 - SEC. 48X-B2 & F2
F.A. PROJ. U-576(19)
LOADING H20-316
NAME PLATE

DESIGN STRESSES
F_c = 1400 p.s.i. Super
F_s = 20 000 p.s.i. Reinfr.
F_s = 18 000 p.s.i. Struct.
W_c = 75 p.s.i. Piers & Abut. Flgs.
n = 10
LOADING H20-316-44

GENERAL PLAN & ELEVATION
PROJ. U-576(19)
S.B.I.R.T. 2 - SEC. 48X-B2 & F2
MACON COUNTY
STA. 655+79.1

July 29 1960

DESIGNED	W.E. Bantelmann
CHECKED	W.E. Bantelmann
DRAWN	W.E. Bantelmann
CHECKED	W.E. Bantelmann

APPROVED: R.H. Bantelmann

WATERWAY INFORMATION

Drainage Area	579 840 Acres
Character	Level, Rolling & Cultivated
Proposed Opening (50 Yr. Flood)	9 000 Sq. Ft.
Present Opening	9 570 Sq. Ft.
Proposed Opening (Main Structure)	10 000 Sq. Ft.
Ordinary Water Elev.	± 612.0
Low Water Elev.	

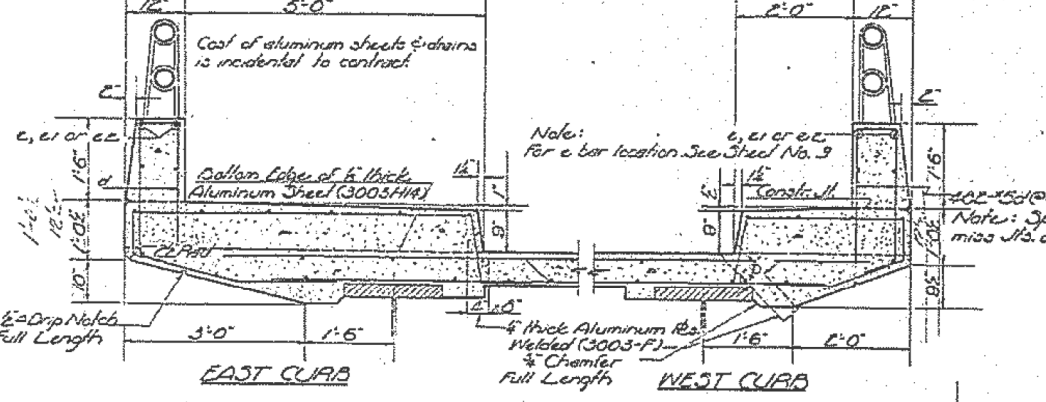
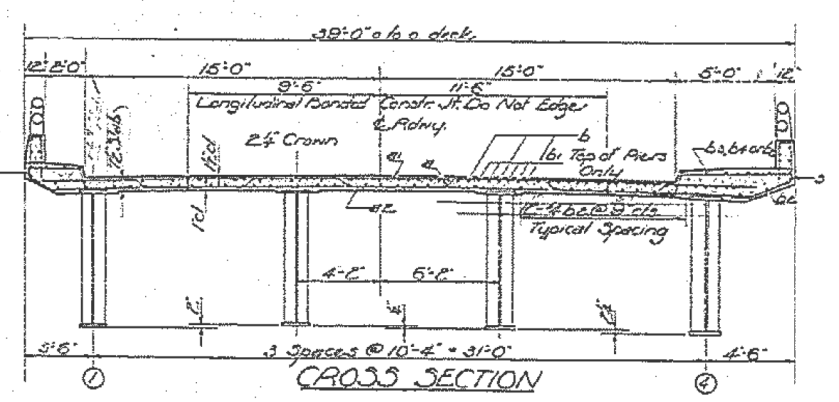
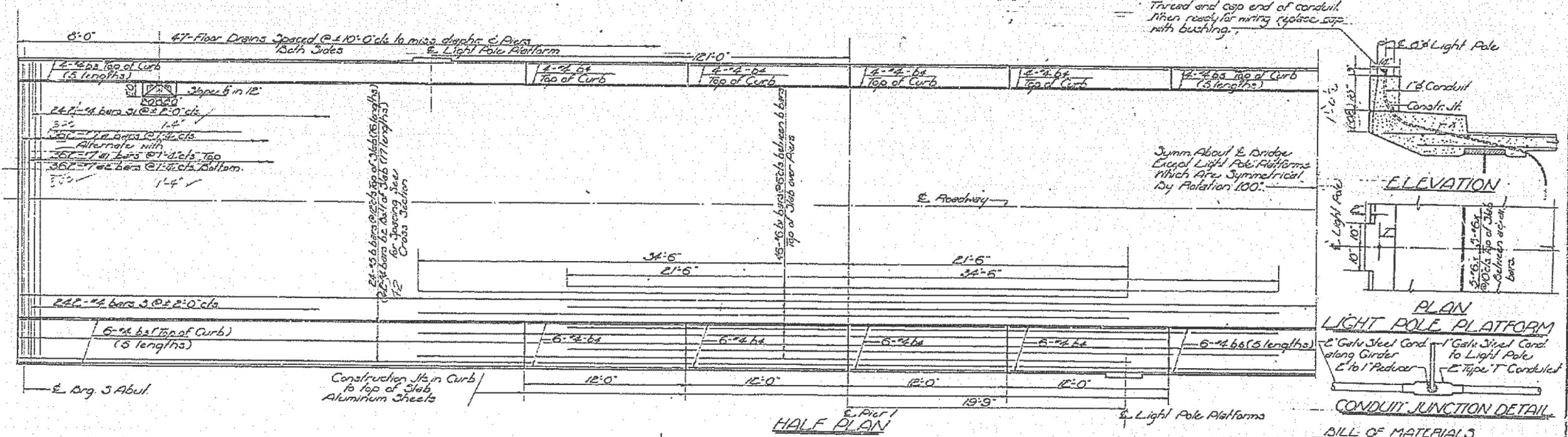
* Includes Area of Piers

Revised: Current Econ 4080 Cu Yds. to Earth Econ 4200 Cu Yds. & Barron Econ 2240 Cu Yds. to Earth Econ 3342 Cu Yds.
Elev. 502.10 to 506.10 ± Elev 533.33 to 533.75-761.3160 G.P.

USER NAME = stefenmk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				EXISTING PLAN SHEETS 058-0010				TOTAL SHEETS 13				SHEET NO. 4	
PLOT SCALE = 100,000' / in.	DRAWN -	REVISED -	SCALE:				SHEET OF SHEETS				CONTRACT NO. 74815					
PLOT DATE = 8/18/2017	CHECKED -	REVISED -	F.A. RTE.				SECTION				COUNTY				ILLINOIS FED. AID PROJECT	
	DATE -	REVISED -	TO STA.				STA.				TO STA.					

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

DATE	BY	REVISION	NO.	DATE	BY	REVISION	NO.
7/29/60	W.C. Beckman	DESIGNED	1				
	G.P. Small	CHECKED	2				
	G.P.	DRAWN	3				
		CHECKED	4				



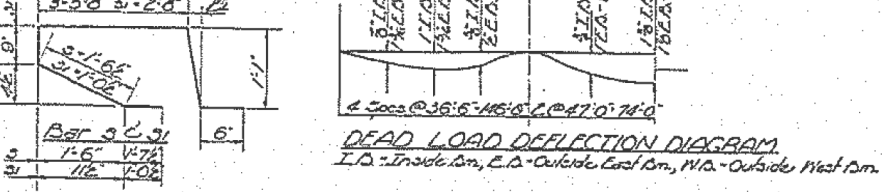
BILL OF MATERIALS

Bar No.	Size	Length	Quantity
9	3/8"	37'-6"	1
10	3/8"	35'-0"	1
6	3/8"	31'-0"	1
61	3/8"	36'-0"	1
52	1/4"	29'-0"	1
63	1/4"	25'-3"	1
64	1/4"	11'-9"	1
65	1/4"	20'-6"	1
d	5/8"	5'-0"	1
e	1/4"	11'-0"	1
e1	5/8"	11'-9"	1
e2	5/8"	11'-6"	1
g	1/4"	11'-2"	1
h	1/4"	7'-1"	1
x	40	8'-0"	1

Class A Concrete Cu Yds 650.0
Reinforcement Bars Lbs 17340
Structural Steel Lbs 614100
Name Plate Each 1

DESIGNED	W.C. Beckman
CHECKED	G.P. Small
DRAWN	G.P.
CHECKED	

METHOD OF DETERMINING FILLET HEIGHT "f"
After all Structural Steel has been erected elevations of the top flanges of the beams shall be taken at intervals not to exceed 10 ft. From these elevations subtract the increment of deflections for these points, determined from the D.L. Deflection Diagram. The elevations so obtained subtracted from the theoretical grade elevations, minus floor thickness equals the fillet heights above top of beam.

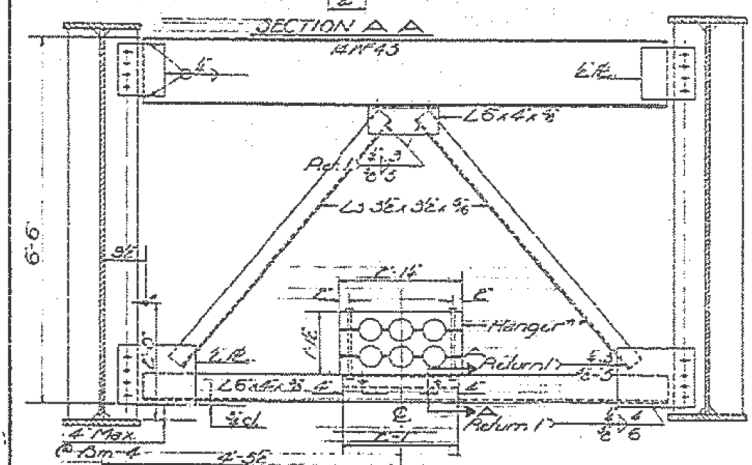
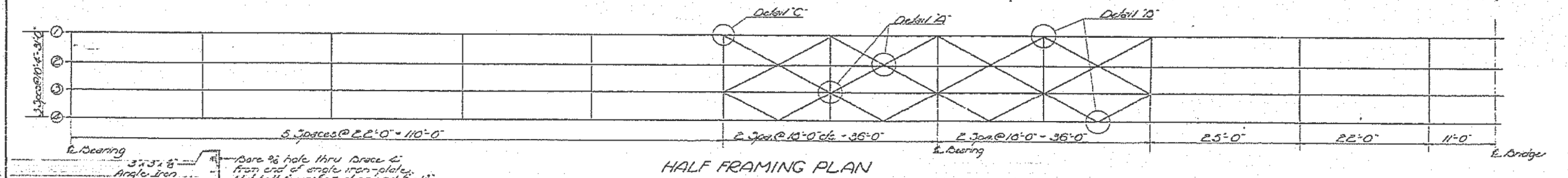
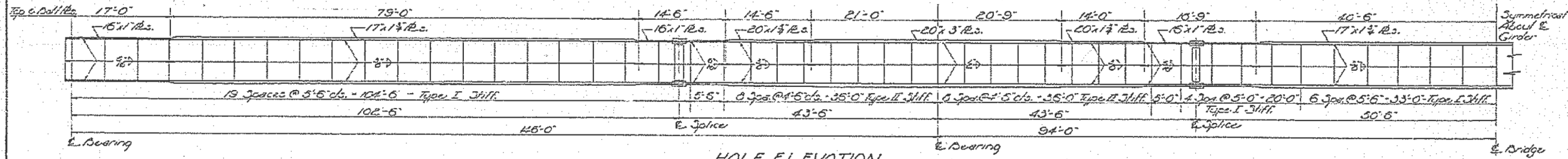


SUPERSTRUCTURE
S.B.I. RT 2 - SEC. 48X-B2 & F2
MACON COUNTY
STA. 655+79.1

Revised: 7/29/60 to 7/6/60 - E-30 - 7/8" bars @ 1'-0" c/c to 362 - 7/8" bars @ 1'-4" c/c, 229 - 7/8" (2 ea) bars @ 1'-0" c/c to 352 - 7/8" (2 ea) bars @ 1'-4" c/c.
E-39 - 7/8" bars @ 6" to 40 - 7/8" bars @ 6" (total from 655 to 741) to 44 - 7/8" bars @ 9" c/c.
East & West Curbs Thickness from 12" to 1'-0"
Cross A Concrete Cu Yds. from 621.2 to 650.0 - Reinforcement Bars Lbs from 17250 to 17340 - Oct 3, 1960 - G.P.

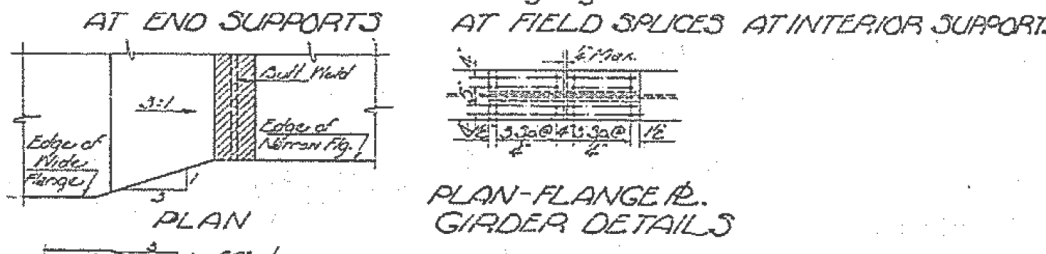
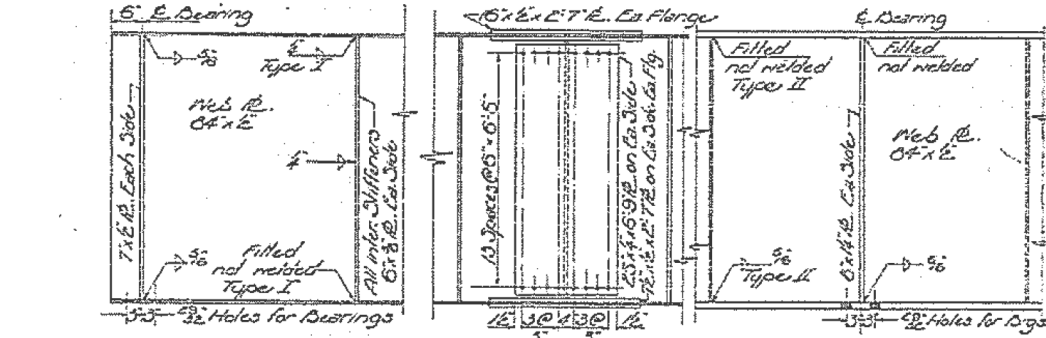
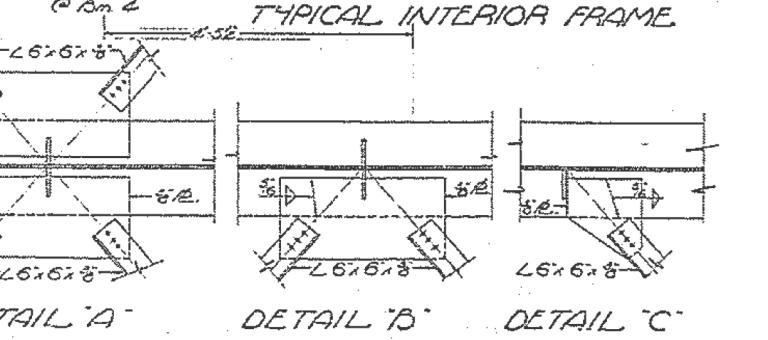
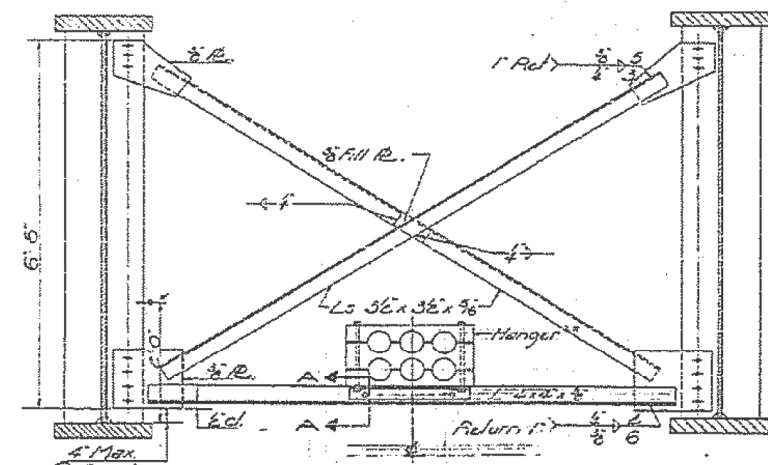
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PROJECT NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
058-0010	2	MACON	27	13
SHEET NO. 7				
13 SHEETS				



TYPICAL END FRAME

Note: Telephone Hangers to be placed between Rms. 1 & 2 only.
Note: The electrical contractor shall provide a 5/8" welded fastener at each of the inside stiffeners of the outside beams, subject to approval of the Engineer.



TYPICAL FLANGE BUTT WELD

FRAMING DETAILS
S.B.I.R.T. 2 - SEC. 40X DE
MACON COUNTY
STA. 655+79.1

DESIGNED	W.E. Deussen	DATE	July 29 1960
CHECKED	C. L. Lummell	PASSED	
DRAWN	W.L. Jacobs	APPROVED	R.H. Bartholomew
CHECKED			

Revised: Added Telephone Hangers in Typical End & Interior Frame Details. 9/19/60. GR

MODEL: Default
FILE: \\nas01\pwworkspace\BIBID\ITC\Illinois\pwworkspace\BIBID\Documents\10071\Project\31813\CD\Drawings\058-0010\74815-Framing Plan Sheets.dwg

USER NAME = steffemk	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/18/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN SHEETS
058-0010

SCALE: SHEET OF SHEETS STA. TO STA.

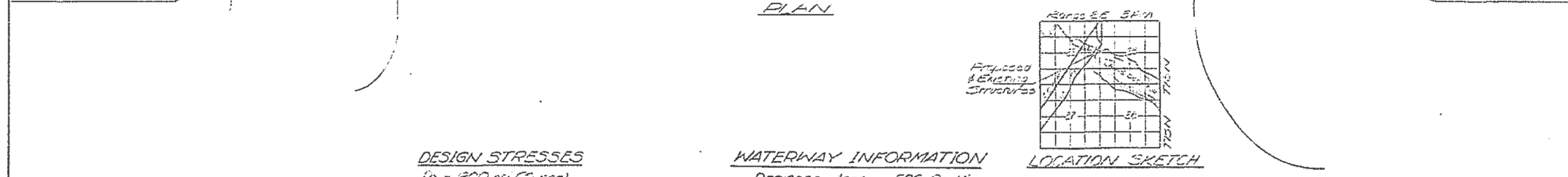
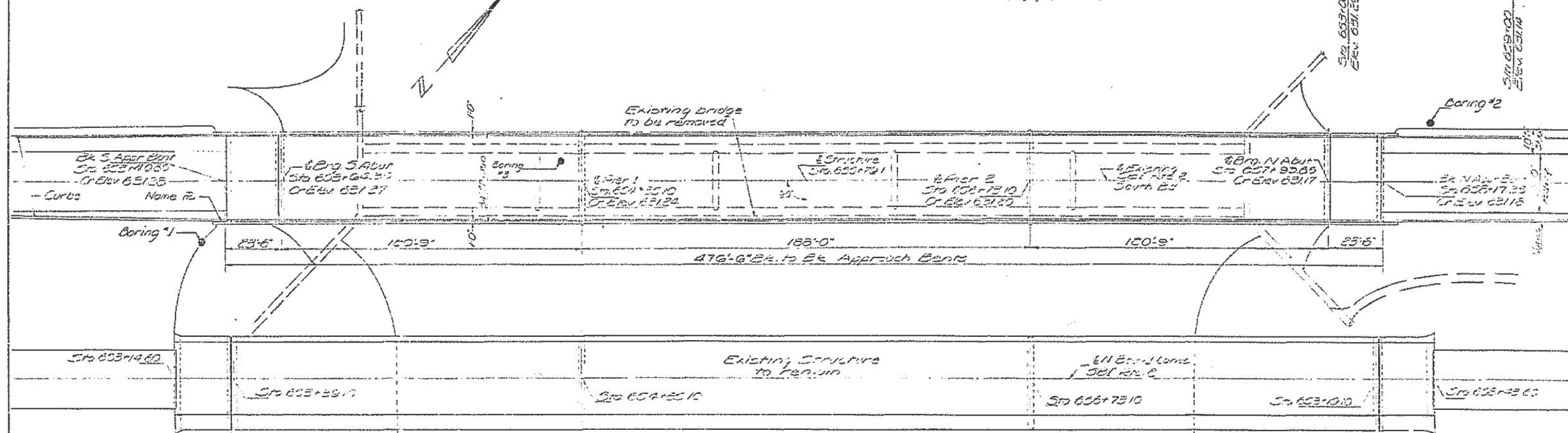
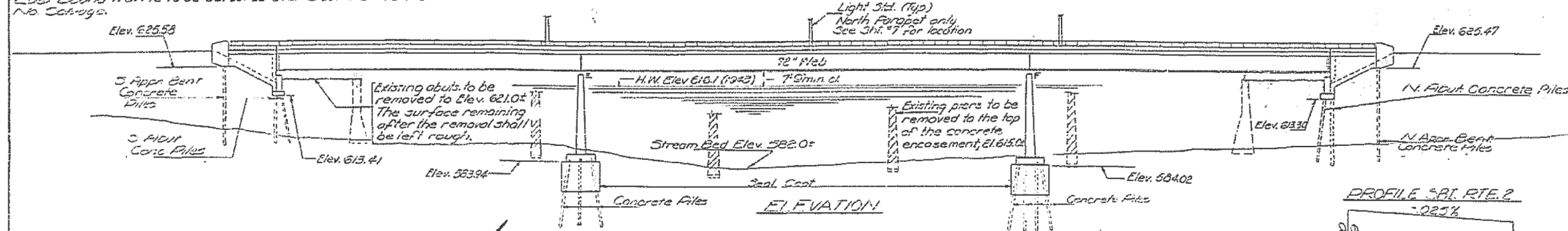
* F.A.I. 72 & F.A.P. 710
** D7 BRIDGE PAINTING 2018-1

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	**	MACON	13	6
CONTRACT NO. 74815				
ILLINOIS FED. AID PROJECT				

BM N. Eng. Curb Top NW Corner of headgates (U.S.S. TIC-22F) Elevation 622.89
 Existing Structures: Deck Piers Bored 30" dia. spars of 75" with 28" Rwy. on steel and concrete piers and concrete cross abutments. Existing N Structure to be removed by Bridge Contractor before starting new construction. East Bound traffic to be detoured over South Structure. No. Columns.

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

PROJECT NO.	SECTION	DATE	SHEET NO.	TOTAL SHEETS
7482	488A	MACON	26	11



DESIGNED	EXAMINED
CHECKED	PASSED
DRAWN	APPROVED
CHECKED	

DESIGN STRESSES
 $f_c = 200 \text{ psi (Super)}$
 $f_r = 25,000 \text{ psi (Reinf)}$
 $f_s = 20,000 \text{ psi (Struct)}$
 $f_b = 1400 \text{ psi (Curb, Parapet & Sub)}$
 $w_c = 75 \text{ pcf (Figs)}$
 $n = 10$
 $f_{c, comp} = 41250 \text{ (Composite)}$
 $f_{s, comp} = 41000 \text{ (steel-composite)}$
 Design Specs. 1969 AASHTO (as applicable)

WATERWAY INFORMATION
 Drainage Area - 906 Sq. Mi.
 Character - Level, rolling & cultivated
 Present Opening - 9570 Sq. Ft.
 Req'd Opening - 9000 Sq. Ft.
 Proposed Opening - 10,000 * Sq. Ft.
 * Incl. area for piers
LOADING HS20-14

GENERAL PLAN & ELEVATION
 So. Bound FA. RTE 2 OVER
 LAKE DECATUR
 FA. RTE 2 OVER
 MACON COUNTY
 STA 653+14.60

MODEL: Default
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USER NAME = steffenk	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/18/2017	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLAN SHEETS
 058-0049

SCALE: SHEET OF SHEETS STA. TO STA.

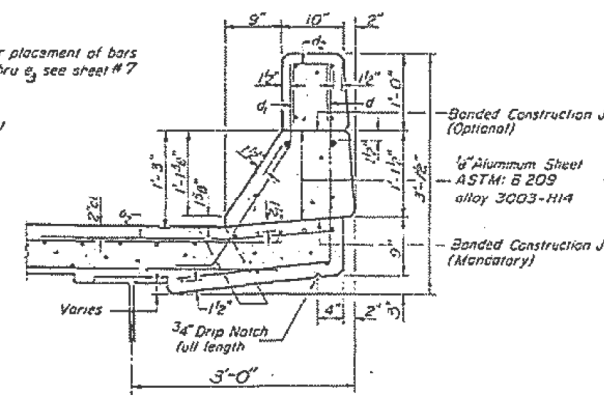
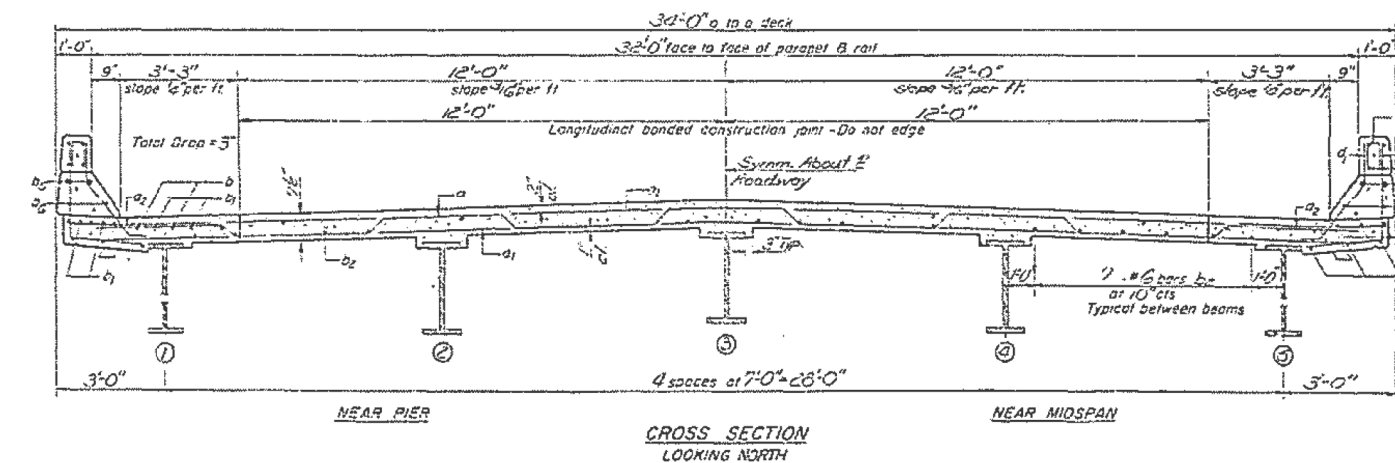
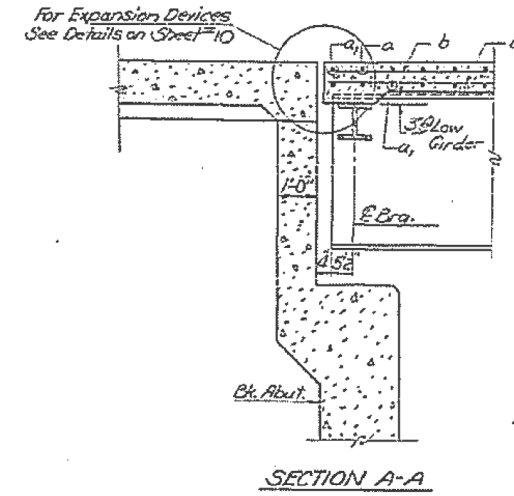
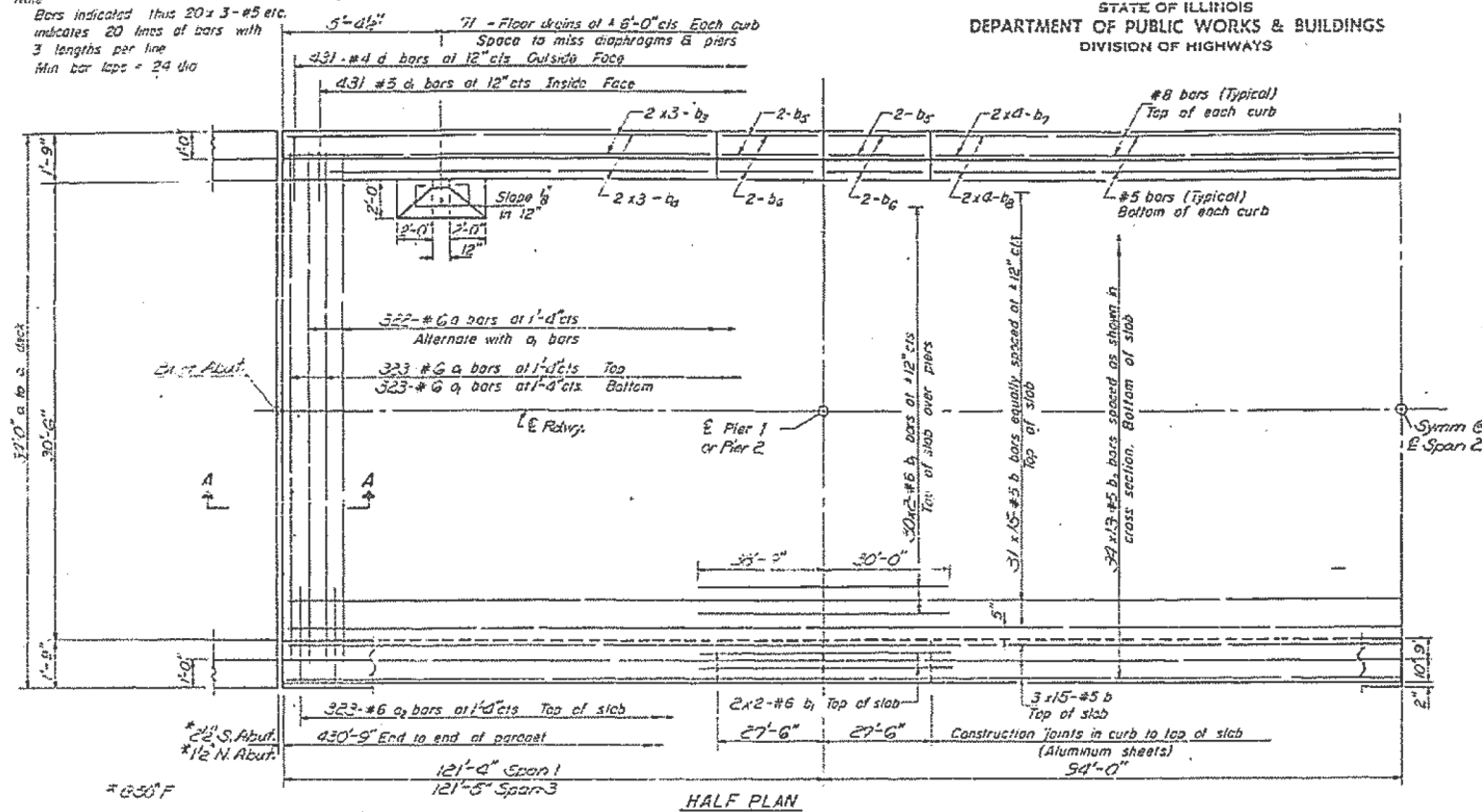
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 ** D7 BRIDGE PAINTING 2018-1

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	**	MACON	13	7
CONTRACT NO. 74815				
		ILLINOIS	FED. AID PROJECT	

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

PROJECT NO.	DATE	SCALE	SHEET NO.
2 ABBA	MAR 26 16	1/8" = 1'-0"	16

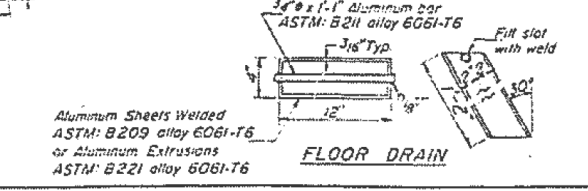
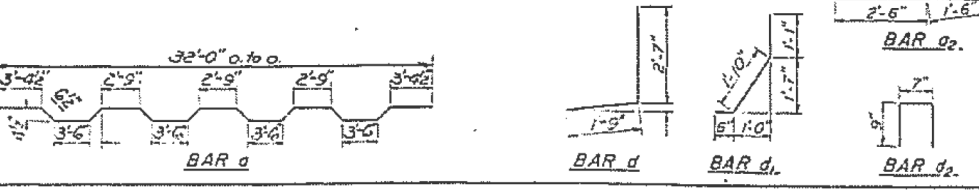
Note
Bars indicated thus 20 x 3-#5 etc.
indicates 20 lines of bars with
3 lengths per line
Min bar laps = 24 dia



BILL OF MATERIAL

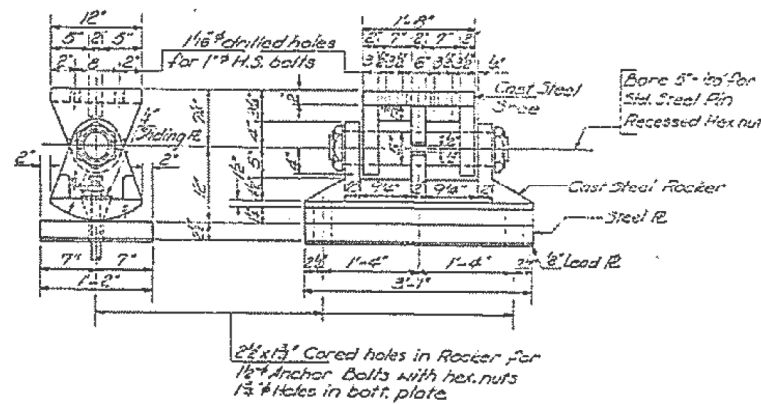
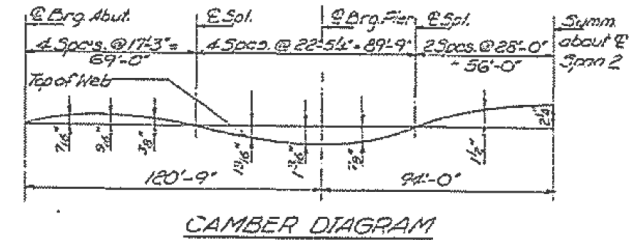
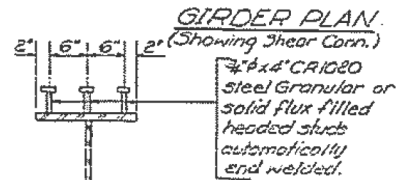
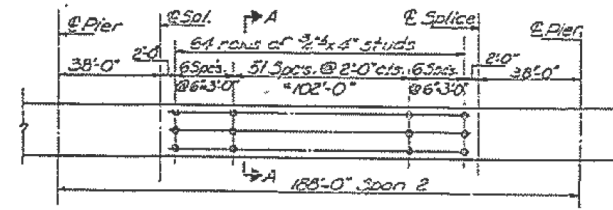
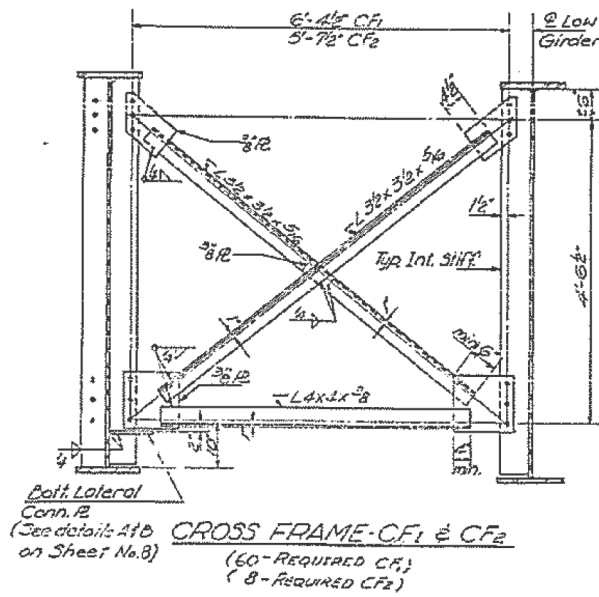
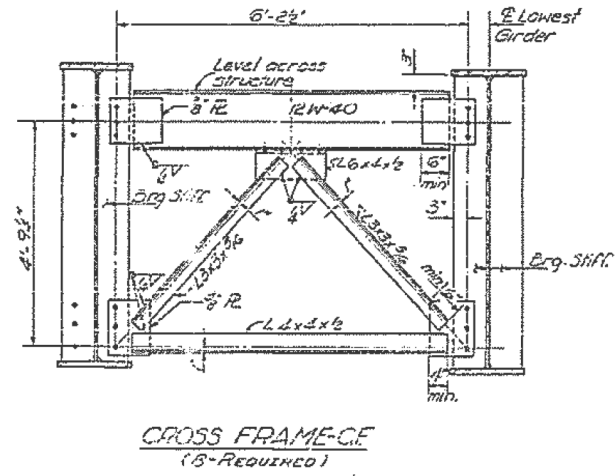
Bar	No	Size	Length	Shape	
a	322	#6	33'-0"	—	
a1	626	#6	33'-0"	—	
a2	626	#6	4'-0"	—	
b	555	#5	30'-0"	—	
b1	136	#6	35'-3"	—	
b2	622	#6	37'-0"	—	
b3	24	#8	32'-9"	—	
b4	20	#5	32'-3"	—	
b5	16	#5	27'-3"	—	
b6	16	#5	30'-9"	—	
b7	16	#5	34'-5"	—	
b8	16	#5	34'-5"	—	
d	862	#4	4'-4"	J	
d1	862	#5	3'-5"	J	
d2	176	#4	2'-1"	Π	
Reinforcement Bars				Lbs	110920
Class X Concrete				Cu Yds	409.7

DESIGNED: [Signature]
CHECKED: [Signature]
DRAWN: J. Sutherland
APPROVED: [Signature]

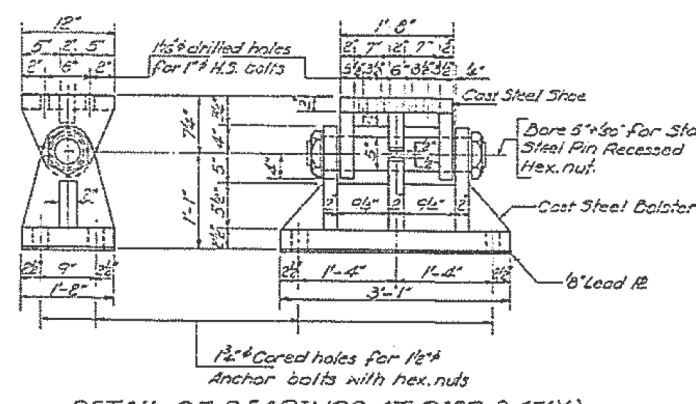


The lengths and quantities of longitudinal reinforcement and Class X Concrete in parapets are not included in above quantities. See sheet #7.

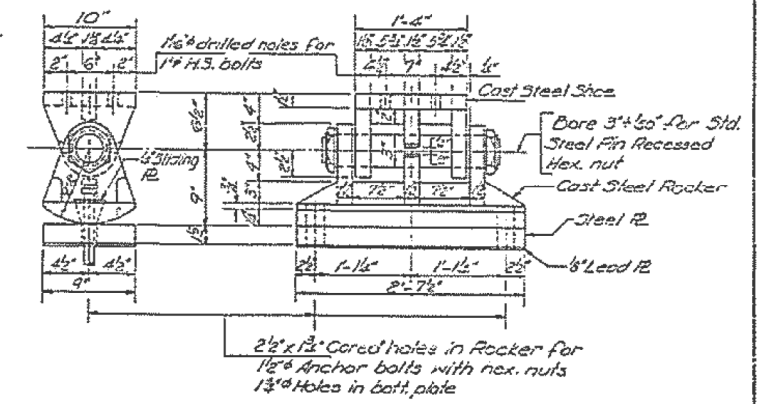
SUPERSTRUCTURE
FA RT2 SEC. 48 BR
MACON COUNTY
SECTION 655+79.1W



DETAIL OF BEARINGS AT PIER 1 (EXP)



DETAIL OF BEARINGS AT PIER 2 (FIX)



DETAIL OF BEARINGS AT ABUTS (EXP)

DESIGNED	<i>[Signature]</i>	DATE	Dec 30 1970
CHECKED	<i>[Signature]</i>	EXAMINED	<i>[Signature]</i>
DRAWN	A. BORFOSA	PASSED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>

STRUCTURAL STEEL DETAILS
FA. RTE. 2 SEC. 48BR
MACON COUNTY
STA. 655+791 W

* F.A.I. 72 & F.A.P. 710
** D7 BRIDGE PAINTING 2018-1

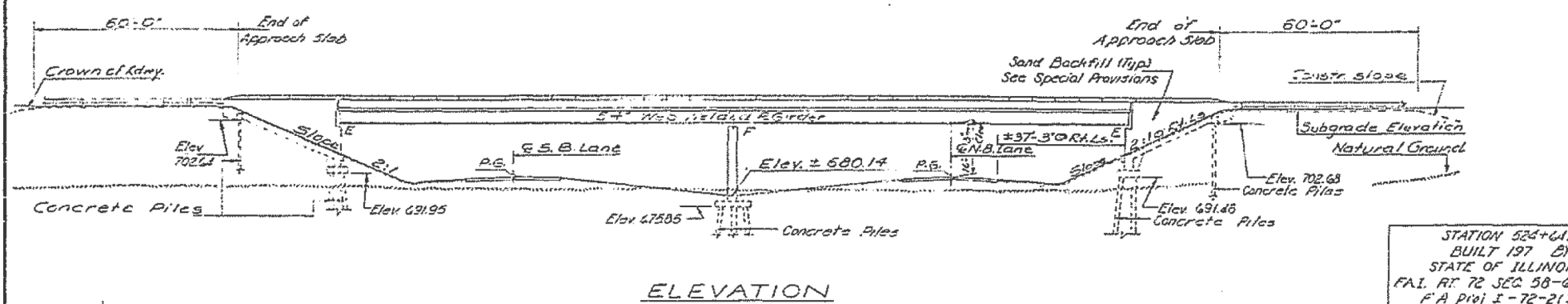
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PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 8/18/2017	CHECKED -	REVISED -
	DATE -	REVISED -

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	**	MACON	13	10
CONTRACT NO. 74815				
ILLINOIS FED. AID PROJECT				

B. M. Spike in Tree 66'± E. & 25'± N of N.E. Cor.
N.W. 1/4, N.W. 1/4 Sec. 14-17-3 Elev. 690.19

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS	SHEET NO. / TOTAL SHEETS
FAI 72	58-65 HB-1	MACON 37	11	12 SHEETS



STATION 524+64.21
BUILT 197 BY
STATE OF ILLINOIS
FAI RT. 72 SEC. 58-65-HB-1
F.A. Proj I-72-2(33)
LOADING HS20
NAME PLATE
See Std. 2113

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Fasteners shall be high strength bolts. Bolts 1/2"; open holes 1 1/2", unless otherwise noted.

Calculated weight of Structural Steel = 32147.0 lb

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 to the flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting cross-frames over supports.

Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq. ft.

Concrete piles 24" dia shall be driven in holes prepared through the embankment in accordance with Article 513.09(c) of the Standard Specifications.

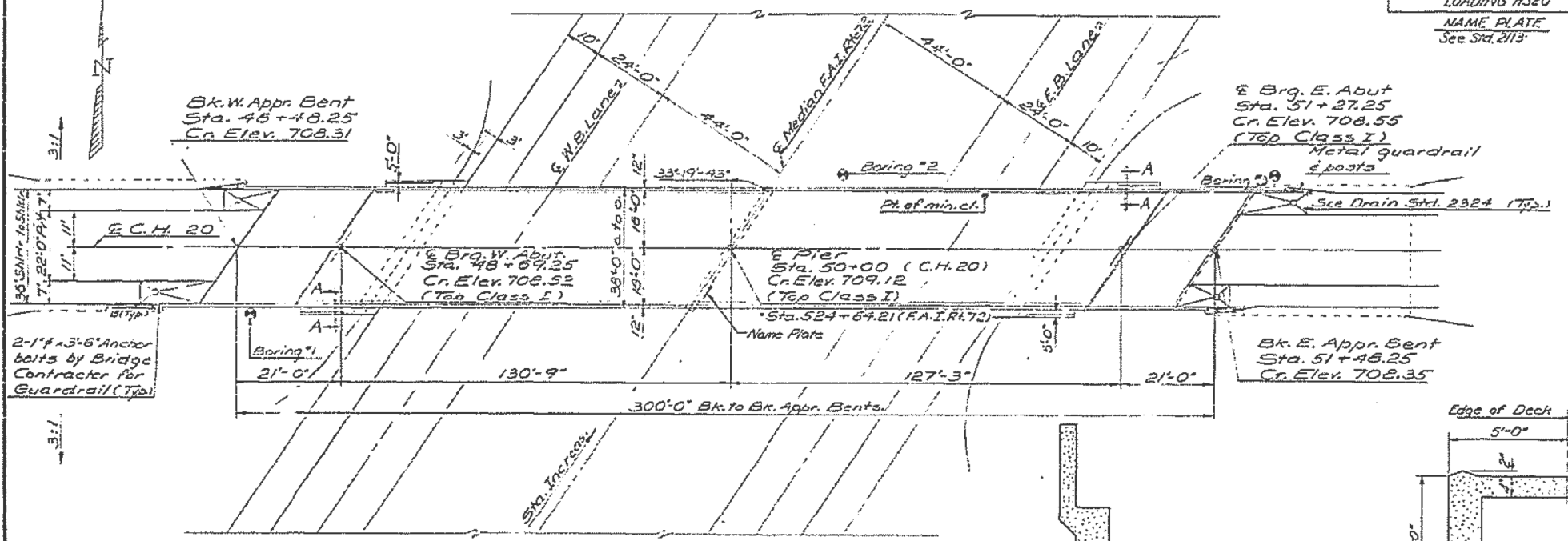
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

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 Cool Top Interlayer Protective Coat is applied.

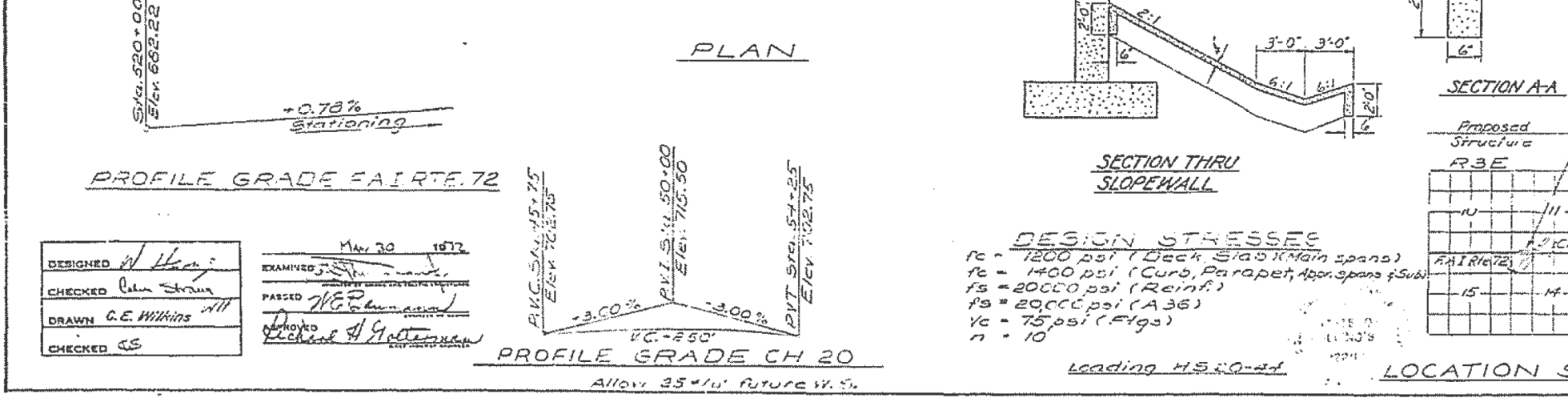
The Contractor shall drive 3 concrete test piles in permanent locations - 1 at West Approach Bent, 1 at Pier & 1 at East Abutment - as directed by the Engineer before ordering the remainder of piles.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ± 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.



TOTAL BILL OF MATERIAL

Item	Unit	Size	Sub	Total
Bit. Concrete Surface Course, Class I	Tons		93	93
Coat for Interlayer Protective Coat	Sq. Yds		1150	1150
Protective Coat	Sq. Yds		220	220
Structure Excavation	Cu. Yds		70	70
Class X Concrete	Cu. Yds		3720	2517
Structural Steel	L.S.		1	1
Stud Shear Connectors	Each		1835	1835
Aluminum Railings	Lin. Ft.		622	622
Reinforcement Bars	Lbs.		38160	26130
Concrete Piles	Lin. Ft.		2767	2767
Test Piles (Concrete)	Each		3	3
Name Plates	Each		1	1
Slope Wall (RT)	Sq. Yds		190	190
Neoprene Expansion Joint (2")	Lin. Ft.		50	50
Sand Backfill	Cu. Yds		100	100



DESIGNED *W. Ham*
CHECKED *John Strain*
DRAWN *G.E. Wilkins*
CHECKED *CS*

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

USER NAME = steffenk	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/18/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

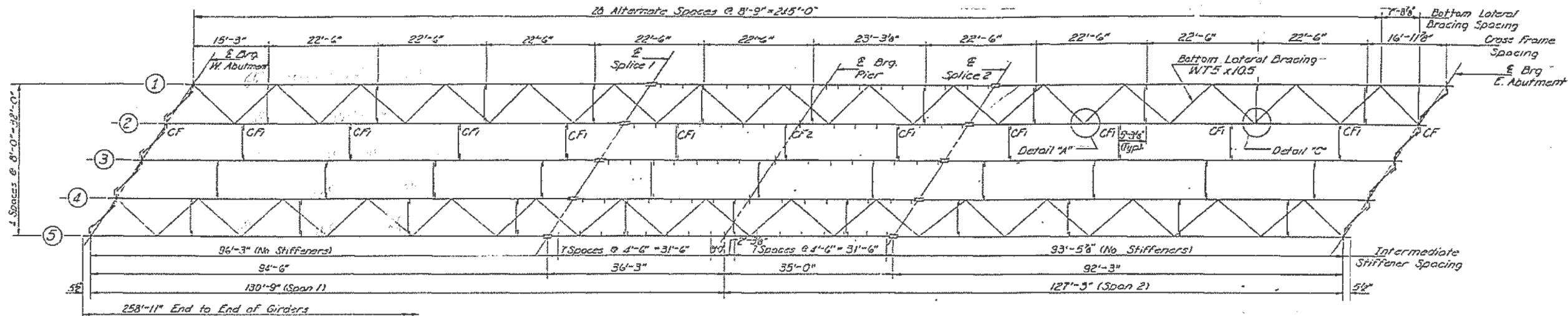
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058-0089

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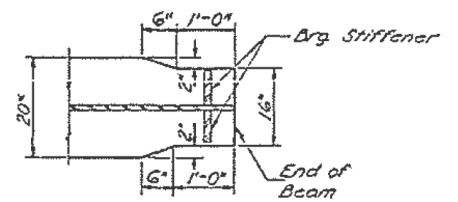
* F.A.I. 72 & F.A.P. 710
** D7 BRIDGE PAINTING 2018-1

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	**	MACON	13	11
CONTRACT NO. 74815				

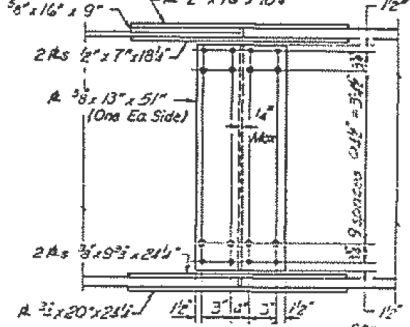
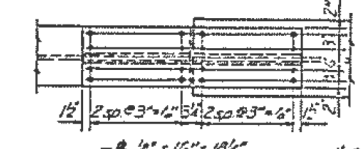
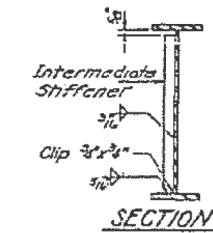
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PLAN



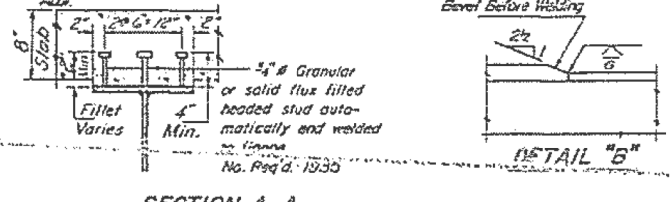
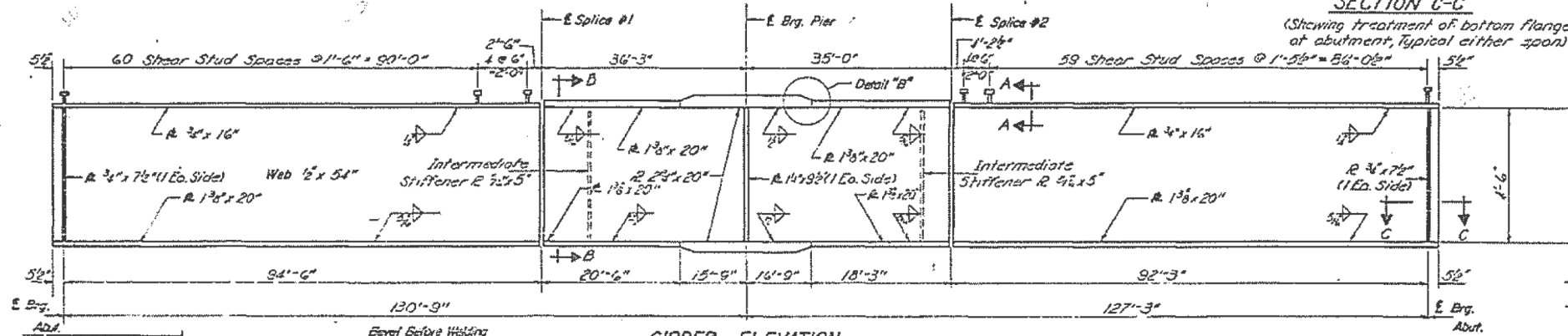
For details of CF, CF1, CF2 & Details 'A' & 'C', See Sheet #6.



SECTION AT PIER

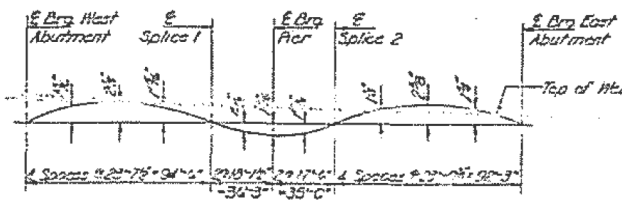
SECTION AT ABUTMENT

FIELD SPICE DETAIL



SECTION A-A

DETAIL "B"



CAMBER DIAGRAM

DESIGNED	<i>N. Hertz</i>
CHECKED	<i>Colum Strain</i>
DRAWN	<i>E.L. Wilkins</i>
CHECKED	<i>ES</i>

G-1 3-29-71

EXAMINED	<i>Ma 30 1973</i>
PASSED	<i>W.A. Baumgardner</i>
CHECKED	<i>Robert H. Mattern</i>

TOP OF WEB ELEVATIONS

	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5
E Brg. West Abutment	707.44	707.64	707.62	707.45	707.25
E Splice #1	707.92	707.76	708.17	708.08	707.96
E Brg. Pier	707.73	707.93	708.06	707.93	707.78
E Splice #2	707.81	708.01	708.15	708.04	707.90
E Brg. East Abutment	707.58	707.48	707.65	707.57	707.37

* These elevations have been adjusted for camber

STRUCTURAL STEEL
F.A.I. RT. 72 SEC. 58-65-HB-1
MACON COUNTY
STA. 524+64.21

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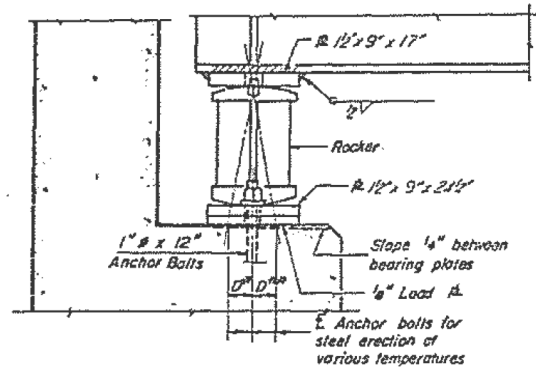
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* F.A.I. 72 & F.A.P. 710
** D7 BRIDGE PAINTING 2018-1

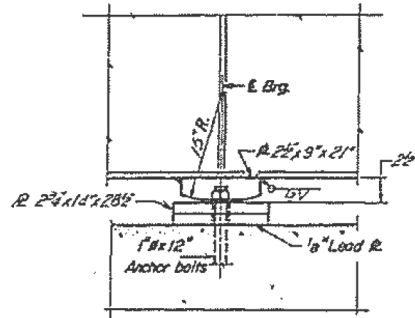
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DESIGNED -	DRAWN -	REVIS -				* **	MACON	13	12	
DESIGNED -	CHECKED -	REVIS -				CONTRACT NO. 74815				
DESIGNED -	DATE -	REVIS -				ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

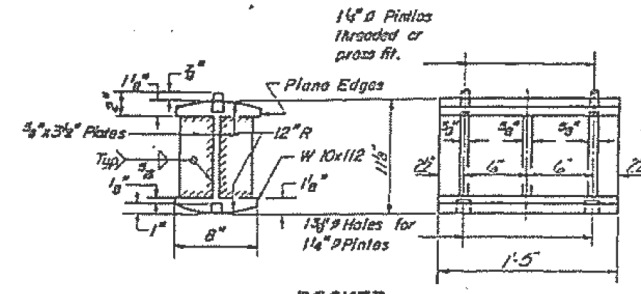
PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS	SHEET NO.
72-58-65	MACON	37	16	12
12 SHEETS				



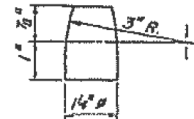
ELEVATION



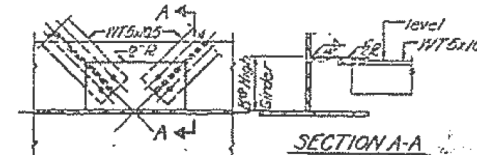
ELEVATION



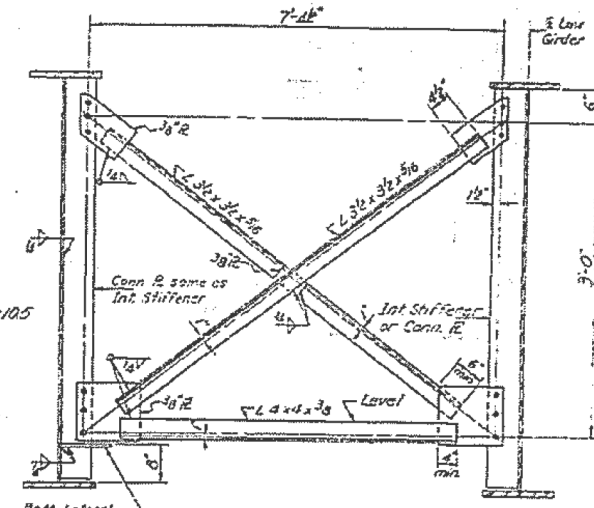
ROCKER



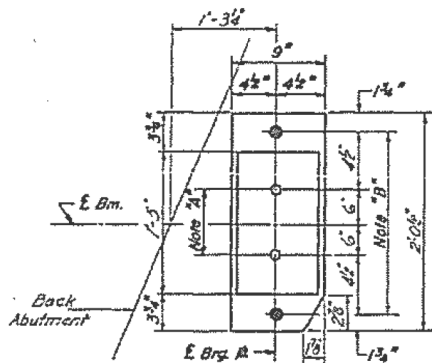
PINTLE



DETAIL "A"



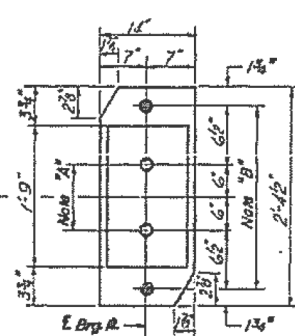
INTERIOR CROSS FRAME CF-1
(40 Required)



PLAN AT ABUTMENT

Note "A"
1 1/2" Holes - 1" deep in top R. for 1 1/4" # Pintles Thread or press fit pintles in bottom R.

Note "B"
1 1/2" Holes for 1" # Anchor Bolts - 2 1/2" x 2 1/2" x 3/8" # Washers under nut.

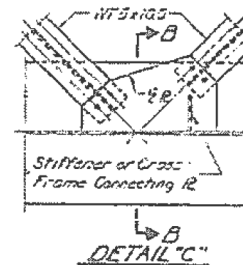


PLAN AT PIER

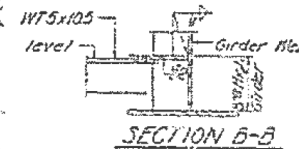
	0.4 Sp. 1	Pier
I_s (in ⁴)	33321.8	95195.7
I_c (in ⁴)	87921.3	
S_s (in ³)	1,546.8	3,199.9
S_c (in ³)	2,058.4	
ϕ (K/1)	1,123	
M_R (K)	1,127	2,942.1
$f_s R$ (ksi)	87	1103
$s R$ (K/1)	.480	
$M_s R$ (K)	593.5	973.0
M_t (K)	1235.5	1247.9
M_{imp} (K)	212.2	242.5
Total (K)	2,071.2	2,494.4
$f_s t$ (ksi)	12.07	9.35
f_s Total (ksi)	20.81	20.38
VR (K)	43.3	

	Abut.	Pier
R_R (K)	74.8	267.9
R_t (K)	39.9	78.3
Imp. (K)	7.8	15.3
R Total (K)	122.5	361.5

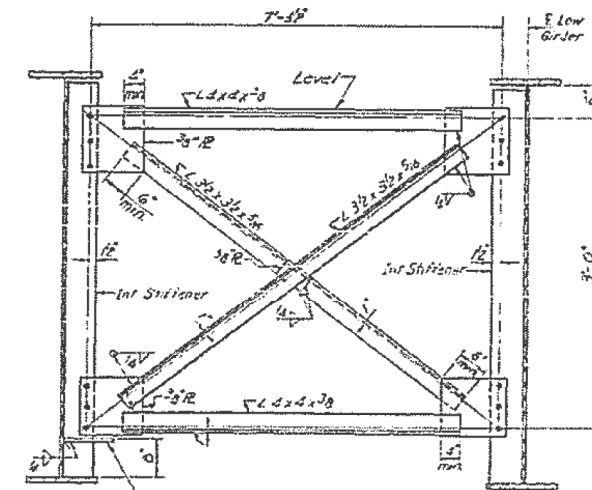
I_s and S_s are the moment of inertia and section modulus of the steel section.
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s .
VR is the maximum $t +$ Impact shear range in span, used to determine Shear Stud Spacing.



DETAIL "C"



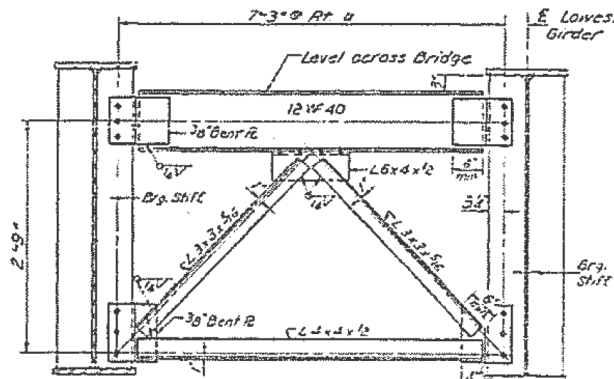
SECTION B-B



INTERIOR CROSS FRAME CF2
(4 Required)

NOTES FOR SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS

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



CROSS FRAME CF
(8 Required)

DESIGNED	W. H. Hines
CHECKED	Calvin Brown
DRAWN	C. E. Wilkins
CHECKED	CS

I-2-6 3-29-71

EXAMINED	May 30, 1972
PASSED	W. H. Hines
APPROVED	Richard J. Holterman

BEARING DETAILS
F.A.I. RT 72 SEC 58-65-HB-1
MACON COUNTY
STA 521+64.21

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN SHEETS
058-0089

USER NAME = stefenmk	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/18/2017	DATE -	REVISED -

SCALE: SHEET OF SHEETS STA. TO STA.

* F.A.I. 72 & F.A.P. 710
** D7 BRIDGE PAINTING 2018-1

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	**	MACON	13	13
CONTRACT NO. 74815				
ILLINOIS FED. AID PROJECT				