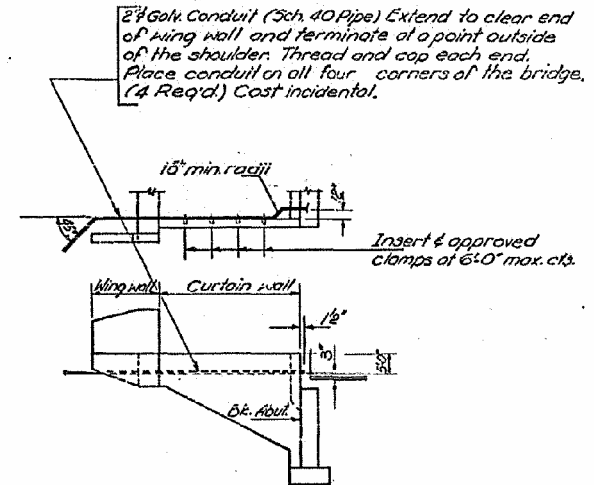


**GENERAL NOTES**

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.  
Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ " open holes  $1\frac{3}{8}$ ", unless otherwise noted.  
Calculated weight of Structural Steel = 640,990 Lbs.  
Cast steel shall be Class 70. Structural steel weldments of equal sections and meeting ASTM A-485 may be substituted for castings at the option of the Contractor, subject to approval by the Engineer prior to fabrication. No additional compensation will be allowed to the Contractor for this substitution.  
Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.  
Anchor bolts shall be set before bolting cross frames over supports.  
The Contractor shall drive one concrete test pile each in a permanent location at the South Abut. & Piers 1 & 2 as directed by the Engineer before ordering the remainder of piles.  
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.  
All structural steel shall be shop coated with a zinc coating. Field painting shall consist of spot painting damaged areas and all field connection areas, not previously coated, with the zinc coating. See Special Provisions for zinc coating.



**ELECTRICAL CONDUIT LOCATION**

**STRESS TABLES**  
**INTERIOR GIRDER MOMENT TABLE**

	4 Span	Pier Length	5 Span
$I_s$ (in <sup>4</sup> )	43380	157103	63792
$I_c$ (in <sup>4</sup> )			146395
$S_x$ (in <sup>3</sup> )	1235	3600	2249
$S_y$ (in <sup>3</sup> )			2555
$I_D$ (in <sup>4</sup> )	912	1195	935
$M.D.$ (in <sup>4</sup> )	495	3009	1526
$I_s$ to (in <sup>4</sup> )	74	13.4	110
$S_x$ to (in <sup>3</sup> )	379	379	379
$I_D$ to (in <sup>4</sup> )	264	977	677
$M.D.$ to (in <sup>4</sup> )	892	1325	1521
$M$ (in <sup>4</sup> )	181	272	243
Total (in <sup>4</sup> )	1832	3820	3787
$I_s$ to (in <sup>4</sup> )	10.4	6.0	7.3
$I_s$ Total (in <sup>4</sup> )	178	19.4	18.3
$V_R$ (k)			52.9

**INTERIOR GIRDER REACTION TABLE**

	Abut.	Piers
$R_2$ (k)	26.3	246.8
$R_4$ (k)	41.0	92.6
Imp (k)	8.3	16.9
$R$ Total (k)	75.6	356.3

$I_s$  &  $S_x$  are the moment of inertia and section modulus of the steel section  
 $I_c$  &  $S_y$  are the moment of inertia and section modulus of the composite section used in computing  $I_s$   
 $V_R$  is the maximum  $V$  plus impact shear range in span.

STATION 655+79.1W  
BUILT 197 BY  
STATE OF ILLINOIS  
F.A. RTE. 2 SEC. 48BR

LOADING HS 20

NAME PLATE  
(See Std. 2113)

**TOTAL BILL OF MATERIAL**

Item	Super	Sub.	Total
Class A Excavation for Structures	Cu. Yds.	647	647
Cofferdam Excavation	Cu. Yds.	1156	1156
Cofferdam Pier 1	Ea.		1
Cofferdam Pier 2	Ea.		1
Protective Coat	Sq. Yds.	1965	1965
Class A Concrete	Cu. Yds.	364.7	364.7
Class X Concrete	Cu. Yds.	513.2	645.0
Seal Coat Concrete	Cu. Yds.	459	459
Structural Steel	Lump Sum	1	1
Stud Shear Connectors	Ea.	960	960
Aluminum Railing	Lin. Ft.	943	943
Reinforcement Bars	Lbs.	129,470	129,470
Concrete Piles	Lin. Ft.	4315	4315
Test Piles (Concrete)	Ea.	3	3
Name Plates	Ea.	1	1
Removal of Existing Structures	Ea.		1
Neoprene Expansion Jt. (2)	Lin. Ft.	34	34
Neoprene Expansion Jt. (4)	Lin. Ft.	34	34
Sand Backfill	Cu. Yds.	164	164

GENERAL DATA  
F.A. RTE. 2 SEC. 48BR  
MACON COUNTY  
STA. 655+79.1W

DESIGNED: [Signature]  
CHECKED: [Signature]  
DRAWN: A. Barroza  
CHECKED: GR

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

Dec 22 1970

FILE NAME =	USER NAME =	DESIGNED PBB	REVISOR -
	CHECKED	CHECKED	REVISOR -
	PLOT SCALE =	DRAWN MLO	REVISOR -
	PLOT DATE =	CHECKED	REVISOR -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
710	148X-B-21BR & 148BR1BR	MACON	144	63
CONTRACT NO. 74438				
ILLINOIS FED. AID PROJECT				