FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

250/307

MEG-7-2.11
0.5± mi. S.W. of Middlepart

REF POC STA. 131+00
Flasher in 8" Sycamore
27'
℄
38'
Flasher in 24" Sycamore

CURVE DATA
PI = 123+66
Δ = 45°-00' Lt.
D_c = 2°-15'
L_s = 250'
T_s = 1180.2
E_s = 210.91
L_c = 1750'
R_c = 2546.48
S/E = .053/ft.
Max S/E = 1.27'

Township Road 209 is not to be disturbed.

C.S. 131+85.8

Transition

End Appr. Slab Sta. 128+46.15

Begin Appr. Slab Sta. 131+82.46

℄ Survey S.R.7

℄ Future Right Lanes

20°

REF. ROC. STA. 129+50
Flasher in 24" Maple
28.5'
℄ 129+50
37.2'
Flasher in 12" Maple

601.08 Dumped rock channel protection, 18" thick

Fill to Elev. 544.0 t. and slope to drain

Clears Highest Known High Water, Leading Creek, by 15.7't. Bottom of structure is at 25 Year Frequency of Ohio River Backwater.

LEADING CREEK

THOMAS FORK

Bridge Limits

600 V.C.

B.M. ◻ 3' from S.W. Cor. of Leading Creek Bridge No. MEG-7-0245
Elev. 564.73

P.I. Sta. 128+50, Elev. 577.45

-0.4%

+3.00%

+3.0%

Top of slope Elev. 570.8

Top of slope Elev. 578.4

All Piles 10 BP 42 Steel
Estimated ave. pay length:
Rear Abutment 50', Forward Abutment 60'
Rear Pier 20', Forward Pier 18'

2.5:1 (Normal)

Elev. 572.70

25-Year Frequency of Backwater of Ohio River Elev. 573.0

Highest Known High Water Elev. 546.8±

Elev. 530.00

EXISTING BRIDGE DATA
MEG-7-0245 (Approx. 560 downstream)

Type :- Steel Truss
Span :- 177'-4" (c/clear)
Length :- ℄ 185'-4"
Width :- 27'-8½" ℄ (2-4' Sidewalks)
Skew :- 0°
Suff. Rating :- 41

DRAINAGE AREA = 120 SQ. MI.

PROPOSED STRUCTURE

TYPE: Continuous steel girders with reinforced concrete deck and substructure
SPANS: 102'-127.5'-102' c/c brgs. on ℄ survey
ROADWAY: 30'-0" f/f, 2'-0" Safety curbs
LOAD FREQUENCY: CF = 400(57)
SKEW: 20° L.F.
WEARING SURFACE: 1" monolithic concrete
APPROACH SLABS: AS-1-54 (25' long)
ALIGNMENT: 2°15' Curve left
SUPERELEVATION: 0.053 ft.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. MEG-7-0243 L
SR-7 OVER LEADING CREEK & T.R. 209
MEIGS CO. SR-7
SEC. STA. 128+46.15 to 131+82.46
SCALE 1" = 20'

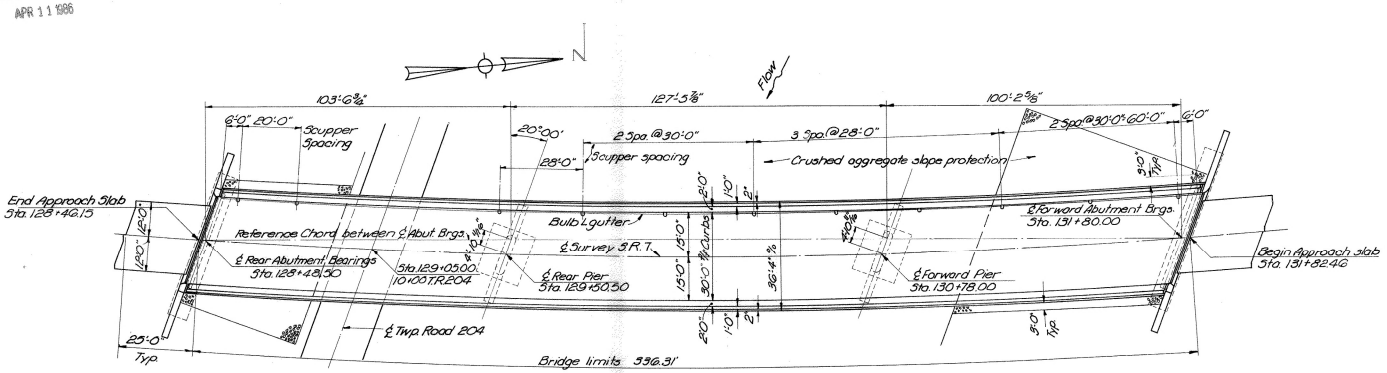
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	W/J	W/J	B.D.H.	P.C.B.

BFG 4-30-65

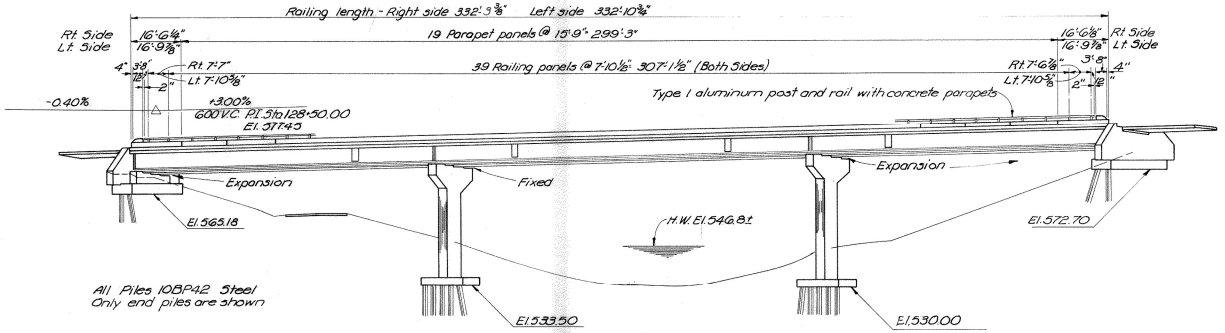
FED. NO. DIVISION	STATE	PROJECT	
2	OHIO		

251
304

MEG-7-2.11



PLAN



ELEVATION

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	Abuts	Piers	Gen'l	As-Built		
503	Lump	Sum	Cofferdams, cribs, and sheeting			Lump				
503	601	Cu. Yds.	Unclassified excavation		233	368				
511	414	Cu. Yds.	Class "C" concrete, superstructure	414						
511	60	Cu. Yds.	Class "E" concrete, pier footings			60				
511	156	Cu. Yds.	Class "E" concrete, piers above footings			156				
511	190	Cu. Yds.	Class "E" concrete, abutments		190					
509	140,994	Lbs.	Reinforcing steel	104,080	10,585	26,349				
513	460,700	Lbs.	Structural steel	460,700						
514	462,700	Lbs.	Field painting of structural steel	460,700						
517	665.18	Lin. Ft.	Railing, Type "1"	665.18						
505	Lump	Sum	First test pile				Lump			
507	2884	Lin. Ft.	Steel piles, 10 BP 42		1820	1064				
518	39	Cu. Yds.	Porous backfill		39					
518	70	Lin. Ft.	6" Perforated helical C.M.P. 707.06 including specials		70					
518	48	Lin. Ft.	6" Helical C.M.P. 707.06 non-perforated		48					
518	11	Each	Scupper, including supports	11						
601	612	Sq. Yds.	Crushed aggregate slope protection				612			
808	414	Each	Water-reducing, set-retarding admixture	414						

GENERAL NOTES

REFERENCE shall be made to Standard Drawings FSB-1-62, revised 1-15-63, BR-1-60 sheet 1 dated 2-1-63 and 30-1-63, sheets 2, 3 & 4 dated 11-12-63, and to Supplemental Specifications 808 dated 7-14-65 and 811 dated 3-29-65.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

DESIGN LOADING: CF-400(57)

BASIC UNIT STRESSES:
Concrete class "C" 1,333 p.s.i.
Concrete class "E" 1,133 p.s.i.

Reinforcing steel ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. 20,000 p.s.i.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments.

PILES shall be driven to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

55 tons per pile using a 7000 ft. lb. hammer
50 tons per pile using an 11000 ft. lb. hammer
45 tons per pile using a 15000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the reqired formula capacity shall be determined by interpolation. The design load is 35 tons per pile.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop.

THE CONTRACTOR shall submit to the Director, for approval, 3 sets of prints showing his erection procedure for the girders.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

MACHINE FINISH: At the Contractor's option, the concrete deck may be finished by the use of a finishing machine.

MAINTENANCE AND PROTECTION OF TRAFFIC: Two lanes of traffic shall be maintained on T.R. 204 at all times. The Contractor shall safeguard the traveling public by providing platforms, nets or other suitable protection above the traveled lanes. A minimum vertical clearance of 12'-9" shall be provided at all times.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

GENERAL PLAN & ELEVATION, NOTES, AND ESTIMATED QUANTITIES

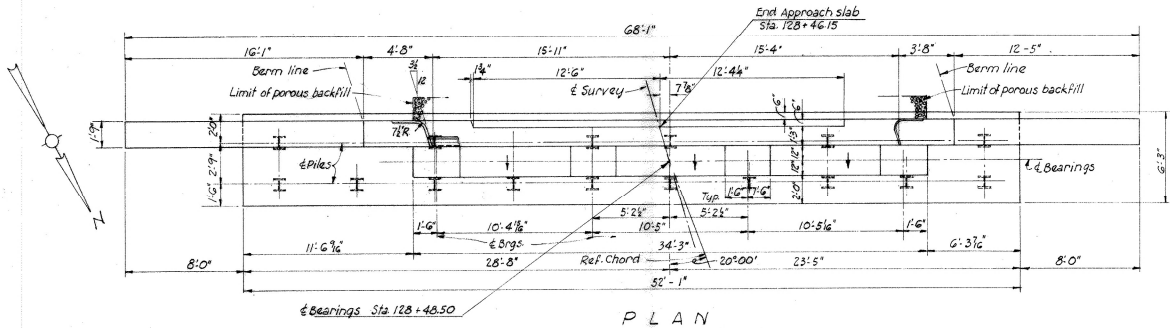
BRIDGE NO. MEG-7-0243 L
OVER LEADING CREEK & T.R. 204
MEIGS COUNTY STA. 128+46.15 to 131+82.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.	C.A.M.	C.P.D.	BFG	4-30-65	

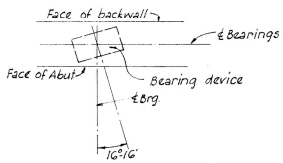
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

252
304

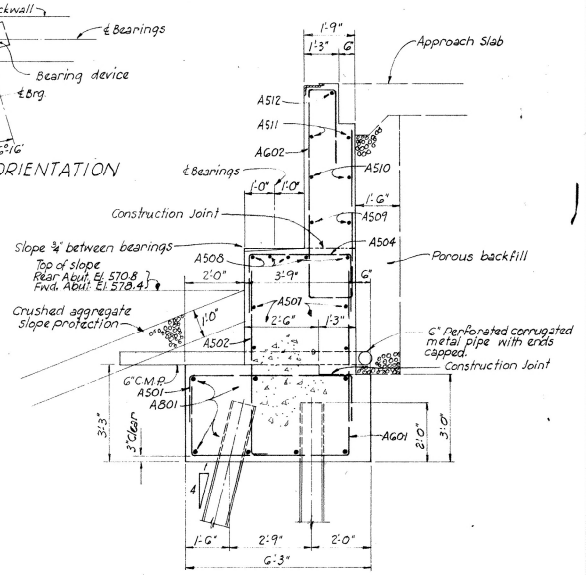
MEG-7-2.11



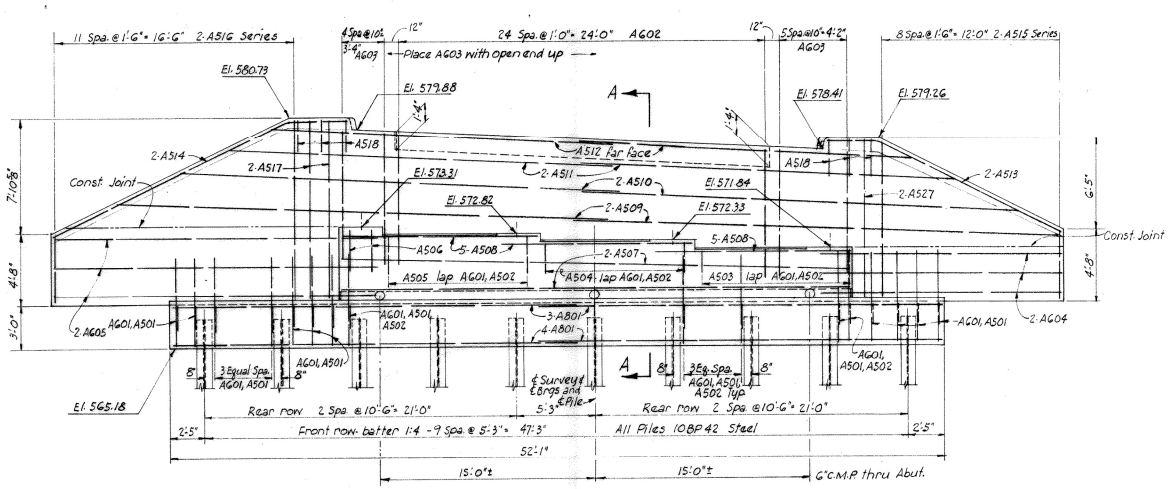
PLAN



BEARING ORIENTATION



SECTION A~A



ELEVATION

POROUS BACKFILL shall extend upward to the under side of the approach slab and to the surface of the earth shoulders, outward to the limits shown in the plan. Excavation therefor in excess of that required for construction of the abutments, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bar holes.

PROCEDURE: The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the subgrade for a distance of 200 ft back of the forward abutment and a period of 30 days minimum shall elapse after completion of embankment before starting construction of the forward abutment. The construction of the embankments shall be as per roadway plans.

3

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

REAR ABUTMENT DETAILS

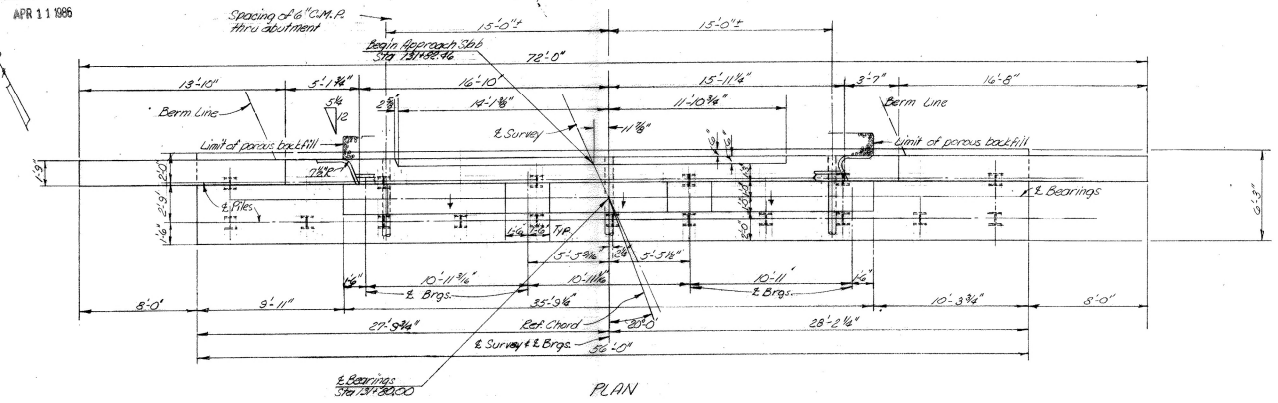
BRIDGE NO. MEG-7-0243L
OVER LEADING CREEK and T.R. 204
MEIGS COUNTY
Sta 128+46.15 to 131+82.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.		C.P.D.	B.F.G.	4-30-65	

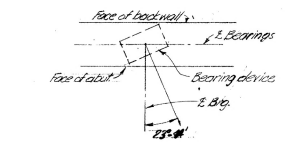
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

253
307

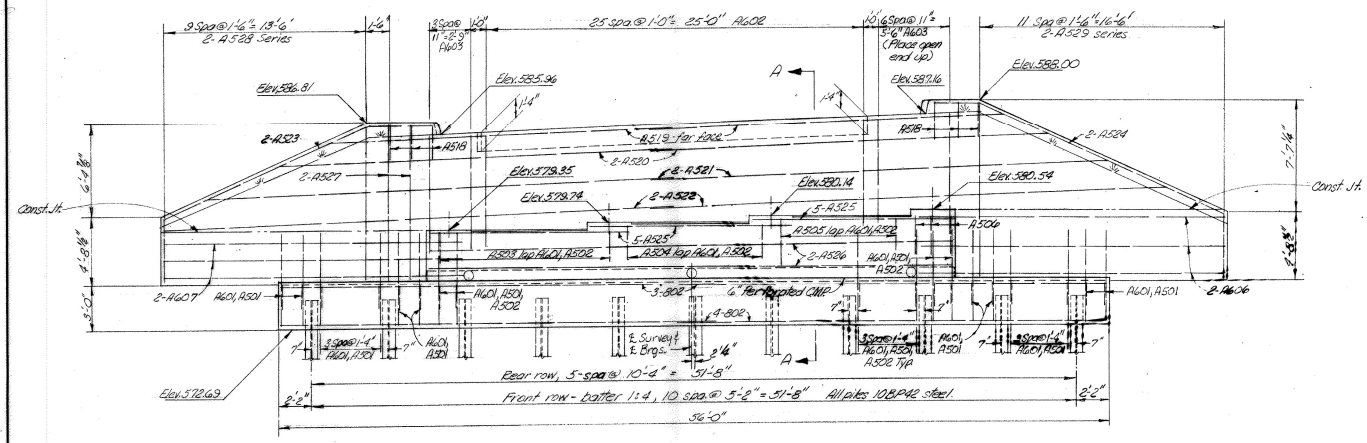
MEG-7-2.11



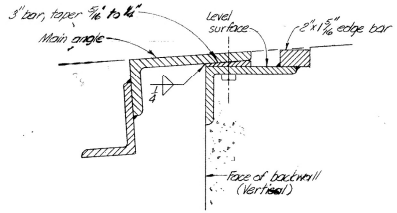
PLAN



BEARING ORIENTATION



ELEVATION



END DAM DETAIL
(For forward abutment only)

Note: For additional details, Section A-A and notes see sheet 252

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

FOREWARD ABUTMENT DETAILS

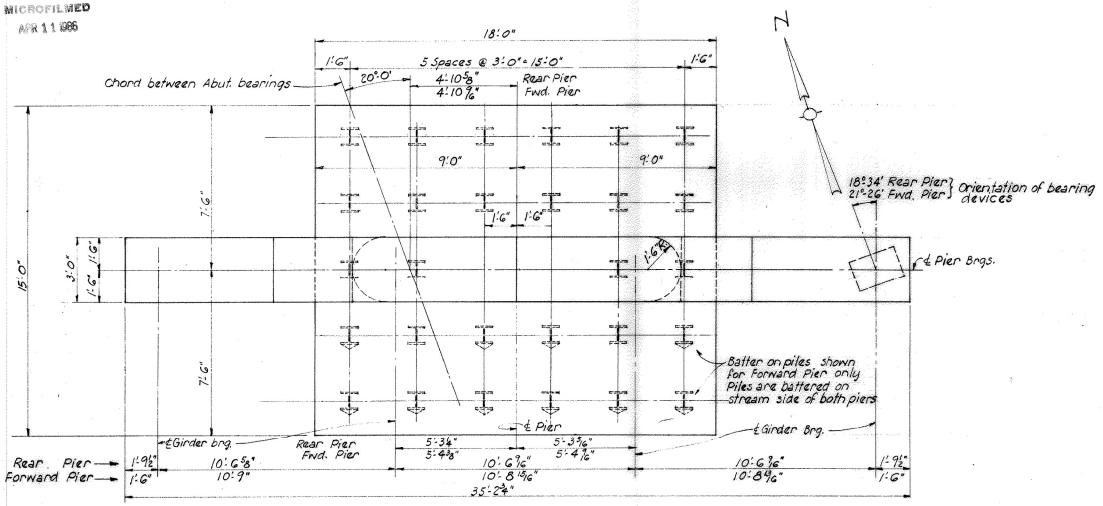
BRIDGE No. MEG-7-0243L
OVER LEADING CREEK and T.R. 204
Sta 1804 d6.15 to 1814 62.46
MEIGS COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JFS	JKJ		CPD	BFG	4-30-65	

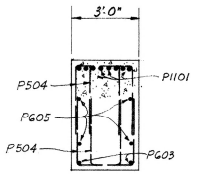
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

254
304

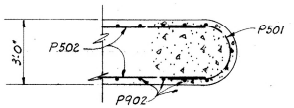
MEG-7-2.11



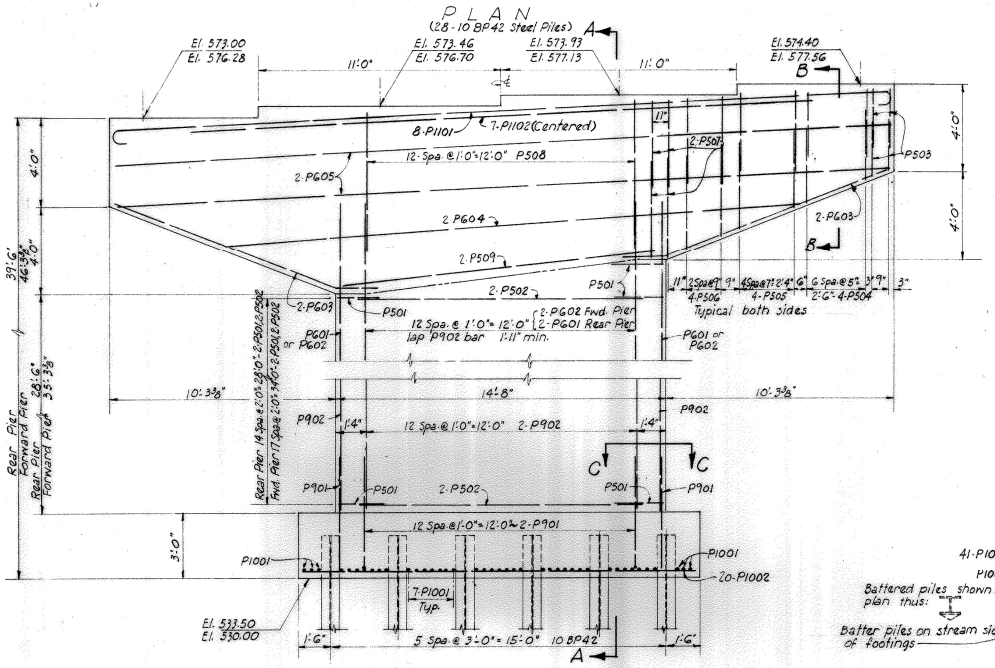
PLAN
(28-10 BP42 Steel Piles)



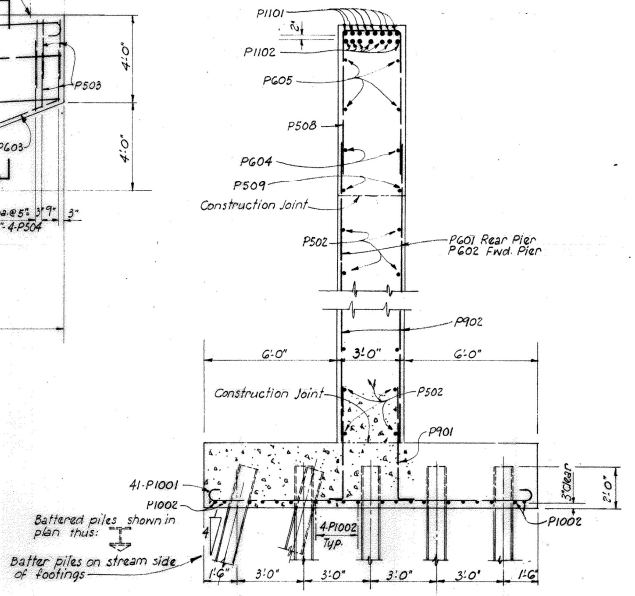
SECTION B~B



SECTION C~C



PIER ELEVATION



SECTION A~A

CONSTRUCTION OF the forward pier shall not be started until the forward embankment is placed and compacted up to the subgrade elevation.

BRIDGE SEAT REINFORCING: Special care shall be taken in placing the reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bar holes.

WHERE TWO ELEVATIONS ARE GIVEN the top is for the Rear Pier, lower for the Forward Pier.

ONE OPTIONAL HORIZONTAL CONSTRUCTION JOINT may be provided in the stem if desired.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

PIER DETAILS

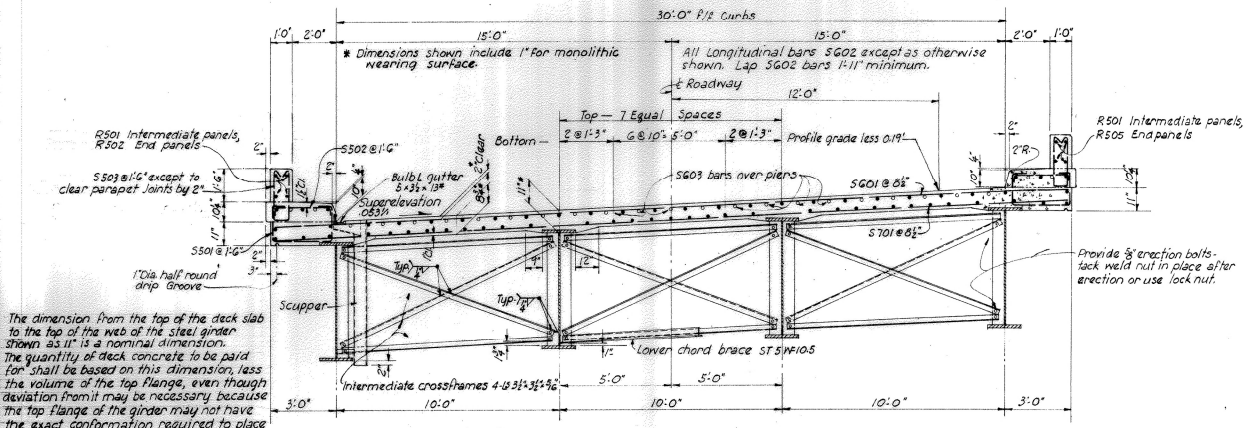
BRIDGE NO. MEG-7-0243 L
OVER LEADING CREEK & T.R. 204
MEIGS COUNTY
Sta. 128+46.15 to 131+82.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R	J.D.R.		CPD	BFG	4-30-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

255
304

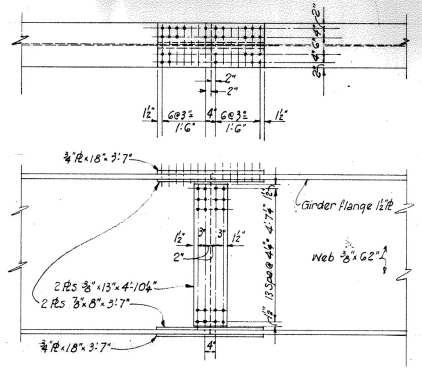
MEG-7-2.11



The dimension from the top of the deck slab to the top of the web of the steel girder shown as 11" is a nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, less the volume of the top flange, even though deviation from it may be necessary because the top flange of the girder may not have the exact conformation required to place it parallel to the finished grade.

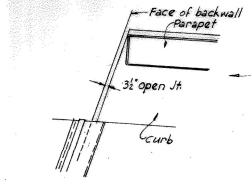
TRANSVERSE SECTION

All horizontal dimensions radial

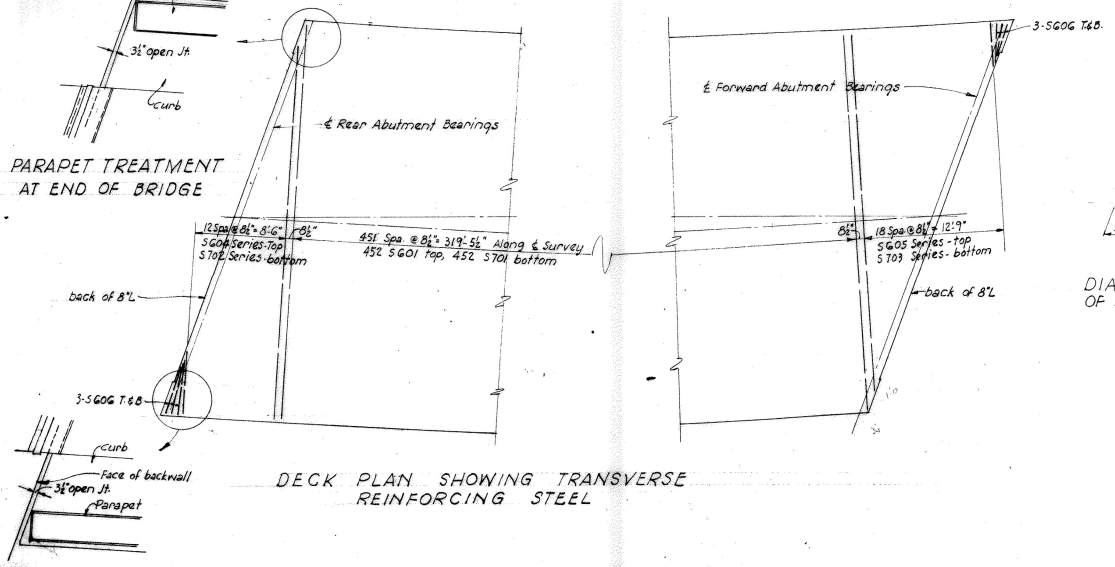


GIRDER FIELD SPLICE

All bolts ⅞" High strength steel



PARAPET TREATMENT AT END OF BRIDGE



DECK PLAN SHOWING TRANSVERSE REINFORCING STEEL

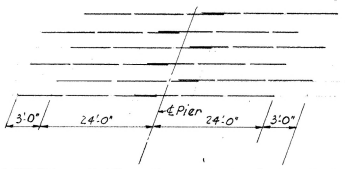


DIAGRAM SHOWING STAGGER OF SG03 BARS OVER PIERS

REFER to the following Standard drawings:

SD-1-G3
1. End dam and end crossframes
2. Scuppers and supports
3. Gutter supports

FSB-1-G2
Bearing devices

BR-1-G5
Aluminum railing and posts (Type 1)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS SHEET 1

BRIDGE NO. MEG-7-0243 L
OVER LEADING CREEK & T.R. 204
MEIGS COUNTY
Sta. 128 + 46.15 to 131 + 82.46

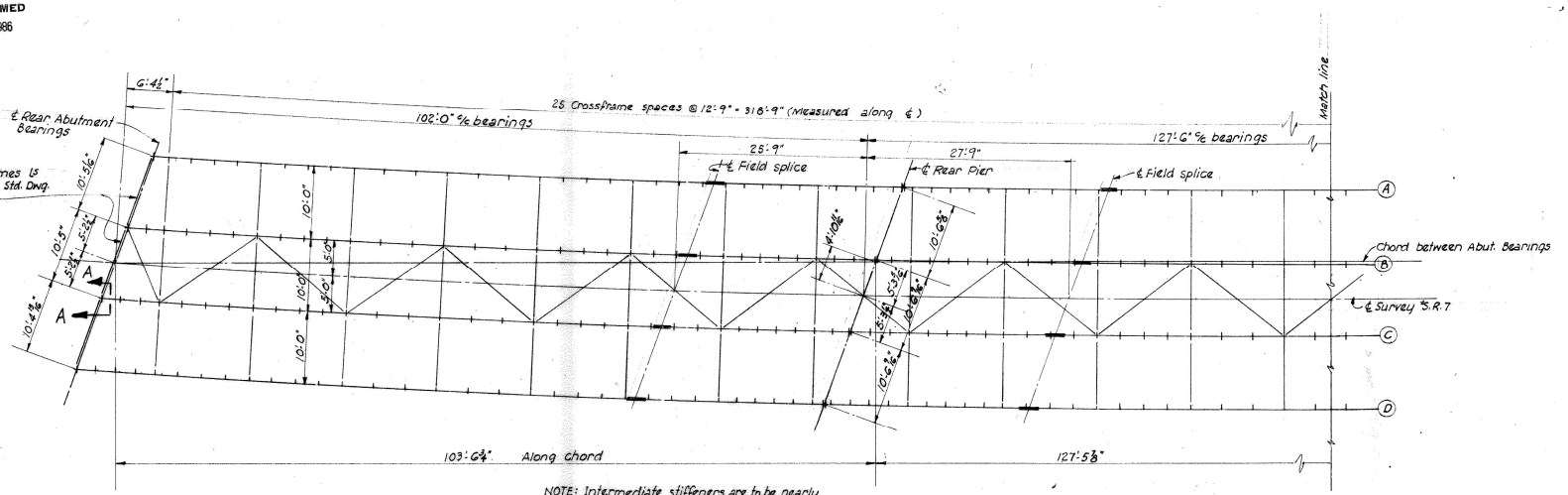
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.		CPD	BFG	4-30-65	

MICROFILMED
APR 11 1986

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

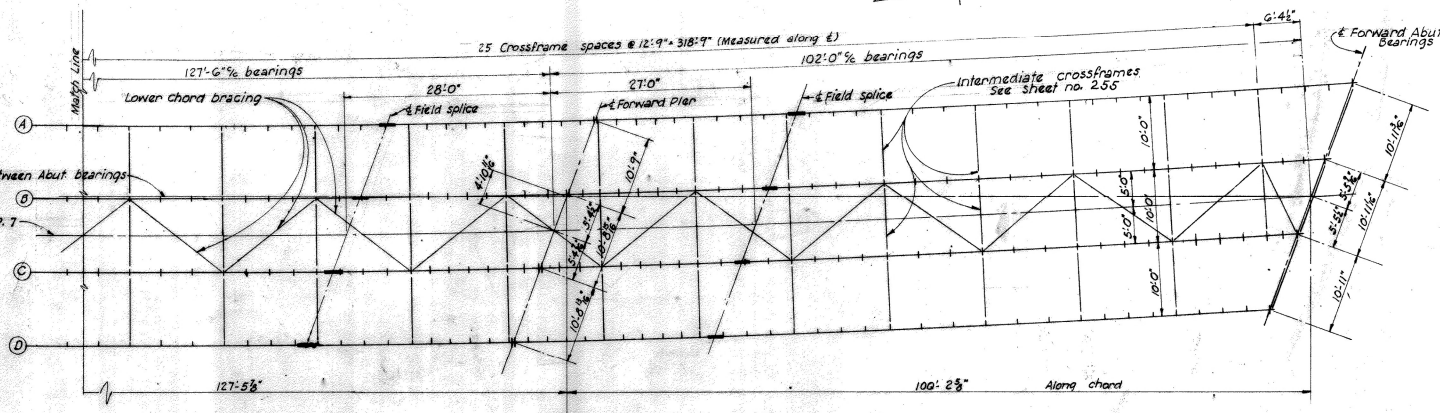
256
30%

MEG-7-2.11

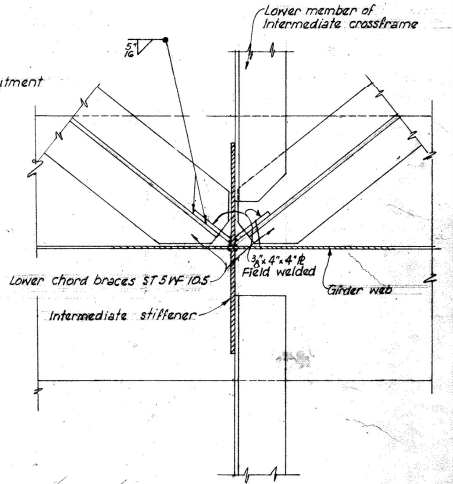


NOTE: Intermediate stiffeners are to be nearly equally spaced between crossframes.

N



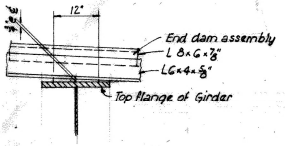
PLAN OF STEEL FRAMING



DETAIL OF LOWER CHORD BRACING CONNECTION

GIRDER DATA					
Girder Line	Radius	Crossframe Spa.	Length along curve ℄ bearings Span 1	Span 2	Span 3
A	253'-5¾"	12'-8⅝"	102'-0¼"	127'-7¼"	102'-1¼"
B	254'-5¾"	12'-8⅞"	102'-0¼"	127'-6⅞"	102'-0⅞"
C	255'-5¾"	12'-9⅛"	101'-11¾"	127'-5⅝"	101'-11⅝"
D	256'-5¾"	12'-9⅜"	101'-11⅝"	127'-4⅜"	101'-10⅜"
℄ Survey	254'-5⅝"	12'-9"	102'-0"	127'-6"	102'-0"

Adjust stiffeners to miss web splice plate.



SECTION A-A

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

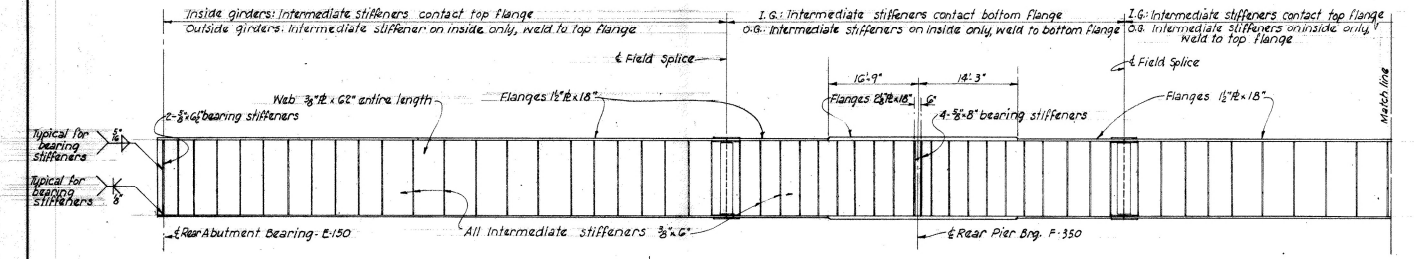
SUPERSTRUCTURE DETAILS
SHEET 2
BRIDGE NO. MEG-7-0243L
OVER LEADING CREEK & T.R. 204
MEIGS COUNTY Sta. 128+46.15 To 131+82.46

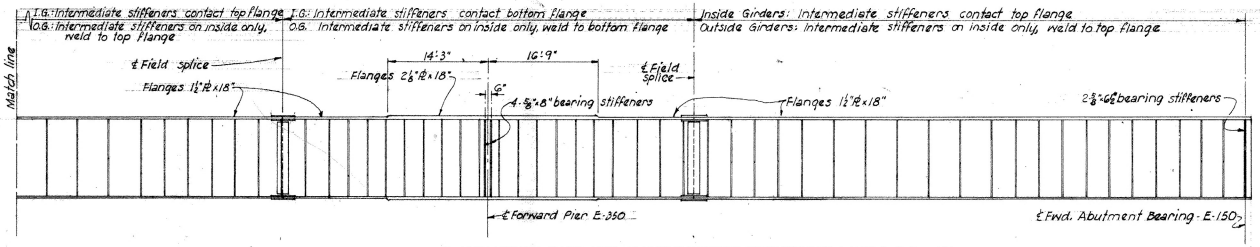
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.		C.P.D.	BFG	4-30-85	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

257
307

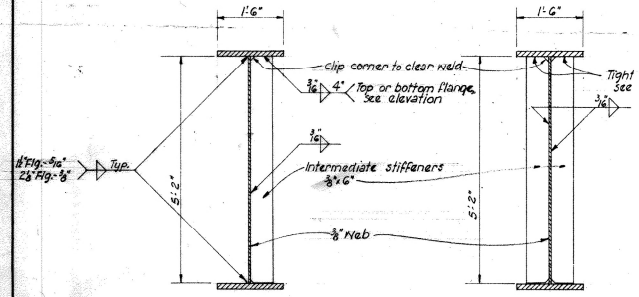
MEG-7-2.11





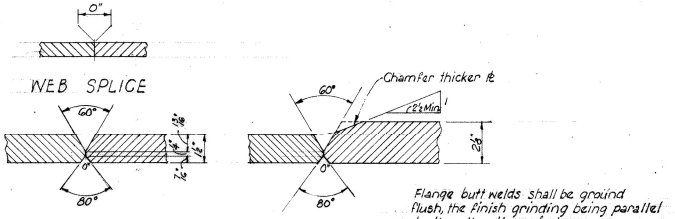
GIRDER ELEVATION

For additional dimensions see sheet 256



OUTSIDE INSIDE

GIRDER DETAILS



Flange butt welds shall be ground flush, the finish grinding being parallel to the direction of stress.

FLANGE SPLICES

All full penetration welds shown above shall be backgouged and welded after welding far side.

JOINT PREPARATION FOR SUBMERGED ARC WELDED SHOP SPLICES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS
SHEET 3
BRIDGE NO. MEG-7-0243 L
OVER LEADING CREEK & T.R. 204
MEIGS COUNTY
Sta. 128+46.15 to 131+82.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.		C.P.D.	B.F.G.	4-30-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

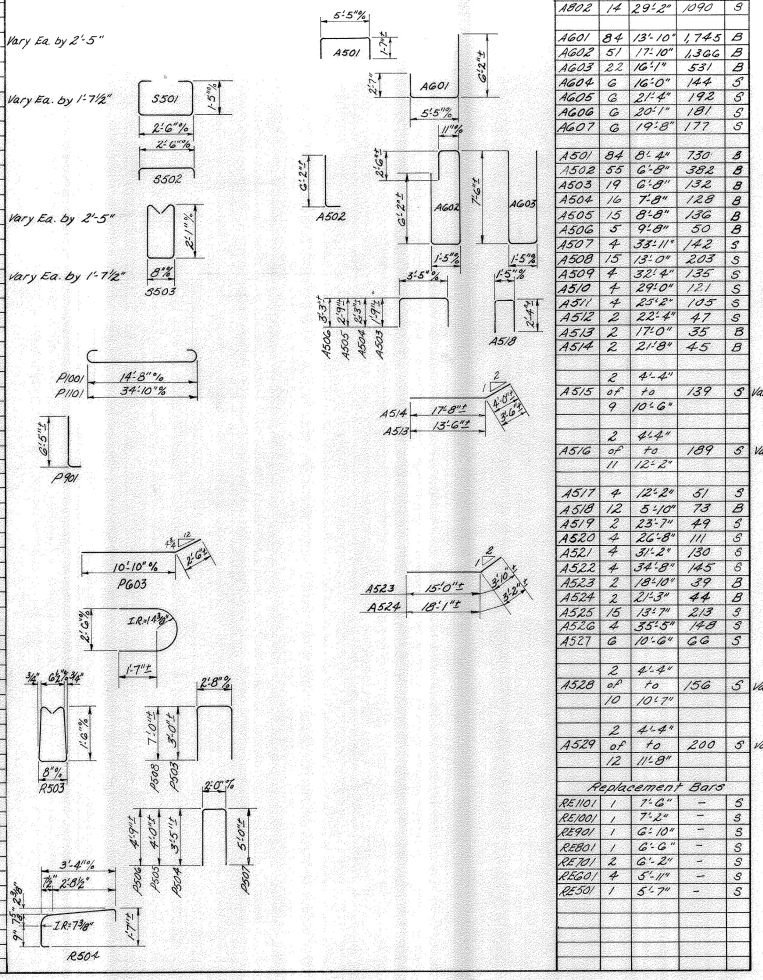
258
304

MEG-7-2.11

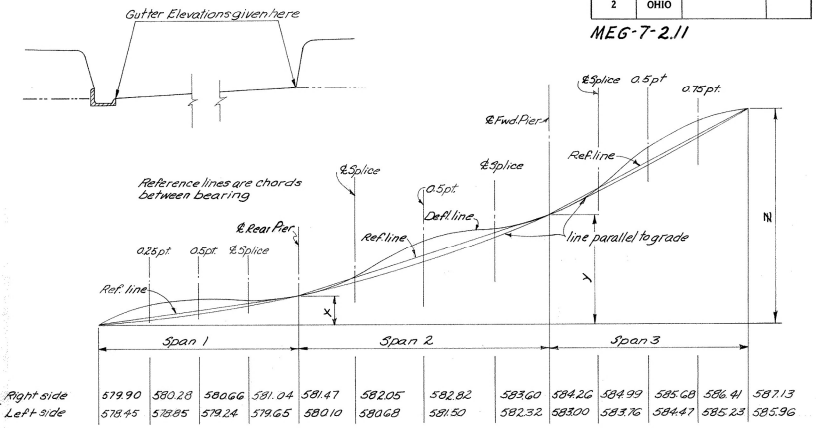
REINFORCING STEEL LIST

Mark	No.	Length	Weight	Ship
Superstructure				
S701	452	36'-0"	33,260	S
	1	5'-3"		
S702	of	to	525	S
	13	34'-3"		
	1	5'-9"		
S703	of	to	791	S
	19	35'-0"		
S601	432	38'-0"	24,441	S
S602	630	34'-11"	33,040	S
S603	100	26'-5"	3,968	S
	1	5'-3"		
S604	of	to	386	S
	13	34'-3"		
	1	5'-9"		
S605	of	to	581	S
	19	35'-0"		
S606	12	5'-0"	90	S
S501	446	6'-1"	2830	B
S502	442	3'-6"	1,628	B
S503	442	5'-5	2,520	B
Piers				
P1101	16	38'-0"	3230	B
P1102	14	28'-0"	2,083	S
P1001	82	17'-6"	6,175	B
P1002	40	17'-8"	3,041	S
P901	56	7'-5"	1,412	B
P902	56	17'-0"	3,237	S
PG01	28	17'-0"	715	S
PG02	28	23'-9"	999	S
PG03	8	13'-4"	160	B
PG04	4	26'-0"	156	S
PG05	8	34'-10"	419	S
P501	68	7'-1"	502	B
P502	66	11'-8"	803	S
P503	16	8'-5"	140	B
P504	112	8'-7"	1,003	B
P505	80	9'-9"	914	B
P506	48	11'-3"	563	B
P507	32	11'-9"	392	B
P508	26	16'-5"	445	B
P509	4	14'-4"	60	S
Railing				
R501	152	15'-4"	Included	S
R502	8	16'-5"	with	S
R503	12	4'-2"	railing	B
R504	8	5'-4"	for	B
R505	8	16'-1"	Payment	S

Bending Diagrams



Mark	No.	Length	Weight	Ship
Abutments				
A801	14	27'-2"	1015	S
A802	14	29'-2"	1090	S
AG01	84	13'-10"	1,745	B
AG02	51	17'-10"	1,366	B
AG03	22	16'-1"	531	B
AG04	6	16'-0"	144	S
AG05	6	21'-4"	192	S
AG06	6	20'-1"	181	S
AG07	6	19'-8"	177	S
A501	84	8'-4"	730	B
A502	55	6'-8"	382	B
A503	19	6'-8"	132	B
A504	16	7'-8"	128	B
A505	15	8'-8"	136	B
A506	5	9'-8"	50	B
A507	4	33'-11"	142	S
A508	15	13'-0"	203	S
A509	4	32'-4"	135	S
A510	4	29'-0"	121	S
A511	4	23'-8"	105	S
A512	2	22'-4"	47	S
A513	2	17'-0"	35	B
A514	2	21'-8"	45	B
A515	2	4'-4"		
	of	to	139	S
	9	10'-6"		Vary Ea. by 9¼"
A516	2	4'-4"		
	of	to	189	S
	11	12'-2"		Vary Ea. by 8½"±
A517	4	12'-2"	51	S
A518	12	5'-10"	73	B
A519	2	23'-7"	49	S
A520	4	26'-8"	111	S
A521	4	31'-2"	130	S
A522	4	34'-8"	145	S
A523	2	18'-10"	39	B
A524	2	21'-3"	44	B
A525	15	13'-7"	213	S
A526	4	35'-5"	148	S
A527	6	10'-6"	66	S
A528	2	4'-4"		
	of	to	156	S
	10	10'-7"		Vary Ea. by 8 3/8"±
A529	2	4'-4"		
	of	to	200	S
	12	11'-8"		vary Ea. by 8"
Replacement Bars				
RE1101	1	7'-6"	–	S
RE1001	1	7'-2"	–	S
RE901	1	6'-10"	–	S
RE801	1	6'-6"	–	S
RE701	2	6'-2"	–	S
RE601	4	5'-11"	–	S
RE501	1	5'-7"	–	S



Gutter Elevations prior to concrete placement	Right side	579.90	580.28	580.66	581.04	581.47	582.05	582.82	583.60	584.26	584.99	585.68	586.41	587.13
	Left side	578.45	578.85	579.24	579.65	580.10	580.68	581.50	582.32	583.00	583.76	584.47	585.23	585.96

Deflection due to Dead Load of steel	1" 8	1" 8	1" 16		1" 8	3" 16	1" 8		1" 16	1" 8	1" 8
Deflection due to Remaining Dead Load	1" 2	9" 16	1" 4		3" 8	13" 16	3" 8		1" 4	9" 16	1" 2
Convexity required for vertical curve	-11" 16	-7" 8	-5" 8		-15" 16	-13" 16	-15" 16		-5" 8	-11" 16	*
Sum of Deflection and Convexity	-1" 16	-3" 16	-5" 16		-7" 16	-3" 8	-7" 16		-5" 16	0	‡

	*	†	X	Y	Z
Beam line A	-3/8"	+1/4"	1'-7 3/4"	4'-6 5/8"	7'-6 1/8"
B	-7/16"	+3/16"	1'-7 7/8"	4'-5 7/8"	7'-5"
C	-1/2"	+1/8"	1'-7 3/16"	4'-5 1/16"	7'-3 7/8"
D	-1/2"	+1/8"	1'-6 7/8"	4'-4 5/16"	7'-2 4"

DEFLECTION AND CONVEXITY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS SHT. 4
REINFORCING STEEL LIST
BRIDGE NO. MEG-7-0243 L
OVER LEADING CREEK T.R. 204
MEIGS COUNTY
Sta. 128+46.15 to 131+82.46

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.		CPD	BFG	4-30-65	