No PID
C No. 580079

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

ASD-I-3.52

MONTGOMERY TOWNSHIP
ASHLAND COUNTY

ACI-1105(31)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-1105 (31)	

1/394

ASHLAND COUNTY
ASD - I - 3.52

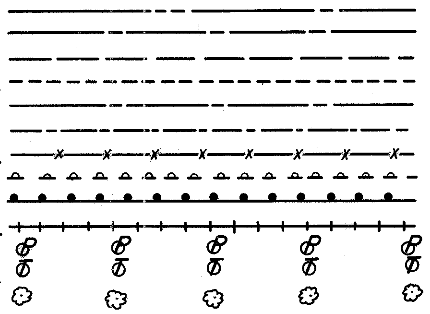
LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the Director of Highways in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

Federal Project No. I-1105(31) appearing throughout these plans shall be considered to read ACI-1105(31)

CONVENTIONAL SIGNS

State Line
County Line
Township Line
Section Line
Center Line
Corporation Line
Fence Line
Guard Rail (Existing)
Guard Rail (Proposed)
Steam Railroad
Power Poles
Telephone Poles
Trees (Existing)

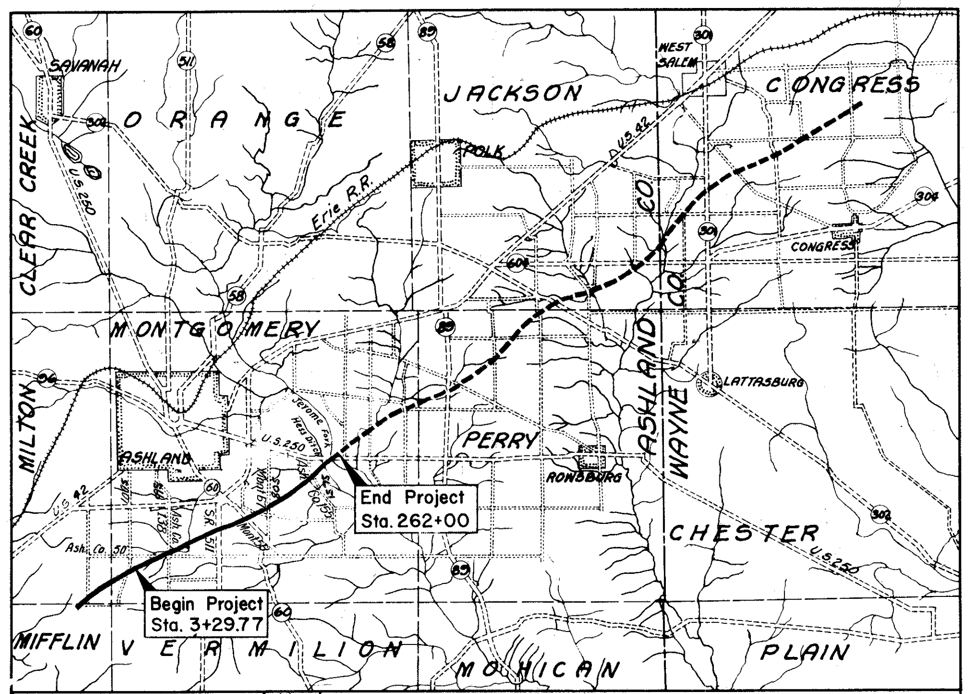


INDEX OF SHEETS

LINE DATA

Begin Project	Sta. 3+29.77	
End Project	Sta. 262+00	
Gross Length of Project	25870.23	Lin. Ft.
Add for Equation	113.91	Lin. Ft.
Net Length of Project	25984.14	Lin. Ft. or 4.921 Miles
Begin Work	Sta. 2+82	Lin. Ft.
End Work	Sta. 262+35	Lin. Ft.
Gross Length of Work	25,953.00	Lin. Ft.
Add for Equation	113.91	Lin. Ft.
Net Length of Work	26,066.91	Lin. Ft. or 4.937 Miles
Add for Approaches (See Sheet No. 12)	18,562.42	Lin. Ft.
Total Length of Work	44,629.33	Lin. Ft. or 8.453 Miles

Approved H. E. Eckhardt
Date 4/4/58 Engineer of Traffic



Delivery Point Ashland
Average haul from siding 2.5 Miles

LOCATION MAP

SCALE OF MILES

0 1 2 3 4 5

Portion to be improved
Portion Under Separate Contract
State Roads
Other Roads

SCALE

Plan — 1" = 100'
Profile: Horizontal — 1" = 100'
Profile: Vertical — 1" = 10'

The standard specifications of the State of Ohio, Department of Highways, including changes and supplemental specifications listed in the proposal shall govern this improvement.

The right of way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway to traffic and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved R. J. Lehman
Date 4-3-58 Chief Engineer, Interstate Projects

Approved Co. W. Makeever
Date 4-10-58 Deputy Director, Planning & Programming

Approved P. E. Masheter
Date 4/7/58 Deputy Director, Design & Construction

Approved
Date First Assistant Director

Approved George J. Lanigan
Date 4/10/58 Acting Director of Highways

Sheets 237, 238 and 325 revised July 11, 1958.

STATE OF OHIO
MICHAEL BAKER
REGISTERED PROFESSIONAL ENGINEER

JUN 5 1961
GROUND PHOTOLAB

Supplemental Prints of Standard Construction Drawings							
B-T-50-70-71E NO.1	10-1-47	I-8 I NO.2	12-1-54	L-3-A	4-1-50	AS-1-54	12-1-54
B-T-71 R	3-2-53	I-8 M.H. NO.1	5-1-52	LJ NO.1	7-1-55	CSB-2-56 Sheet 2	12-3-56
DR-1	1-3-55	I-12	7-1-54	RI-1	1-3-55	CSB-2-56 Sheet 3	12-3-56
F-1	4-1-57	I-14 G	1-22-52	HW-A&B	7-15-57	R.B. 1-55	3-1-55
G-7.07	6-1-56	I-15 NO. 1	8-1-55	HW.-C	7-15-57	AR 1-57	4-9-57
I-1,2,3,4 & 5	2-20-45	I-15 NO. 2A	6-1-57	S-27 P.C. 2	3-15-48	SP-53	7-21-53
I-8 C.B. 2-2-A&B	8-1-56	I-15 NO. 2B	6-1-57	S-27 P.C. 4	1-4-54	I-8 C.B. NO.7	5-1-52
I-8 C.B. NO. 4	6-1-57	I-21-23	8-1-56	S-27 P.C. 3	2-20-45	I-15 NO. 5	12-9-57
I-8 C.B. NO. 5	6-1-57	L-1	4-1-50	T-35	1-2-56	I-15 NO. 6	12-9-57
I-8 C.B. NO. 6	5-1-52	L-3	4-1-50	TJ	5-1-56	I-8 M.H. NO. 1-A	1-3-55

Supplemental Specifications	
E-101	1-1-57
B-119	REV. 8-11-57
5	6-8-55
18	REV. 2-6-57
S-114	REV. 8-1-57
I-127	REV. 11-16-57
M-206.6 (b)	5-25-56
I-125	REV. 11-6-57
M-206.14	7-15-49

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

DIVISION ENGINEER — DATE

File No. 4(?)

ASHLAND COUNTY ASD-I-3.52
Date of Letting 19
Contract No.

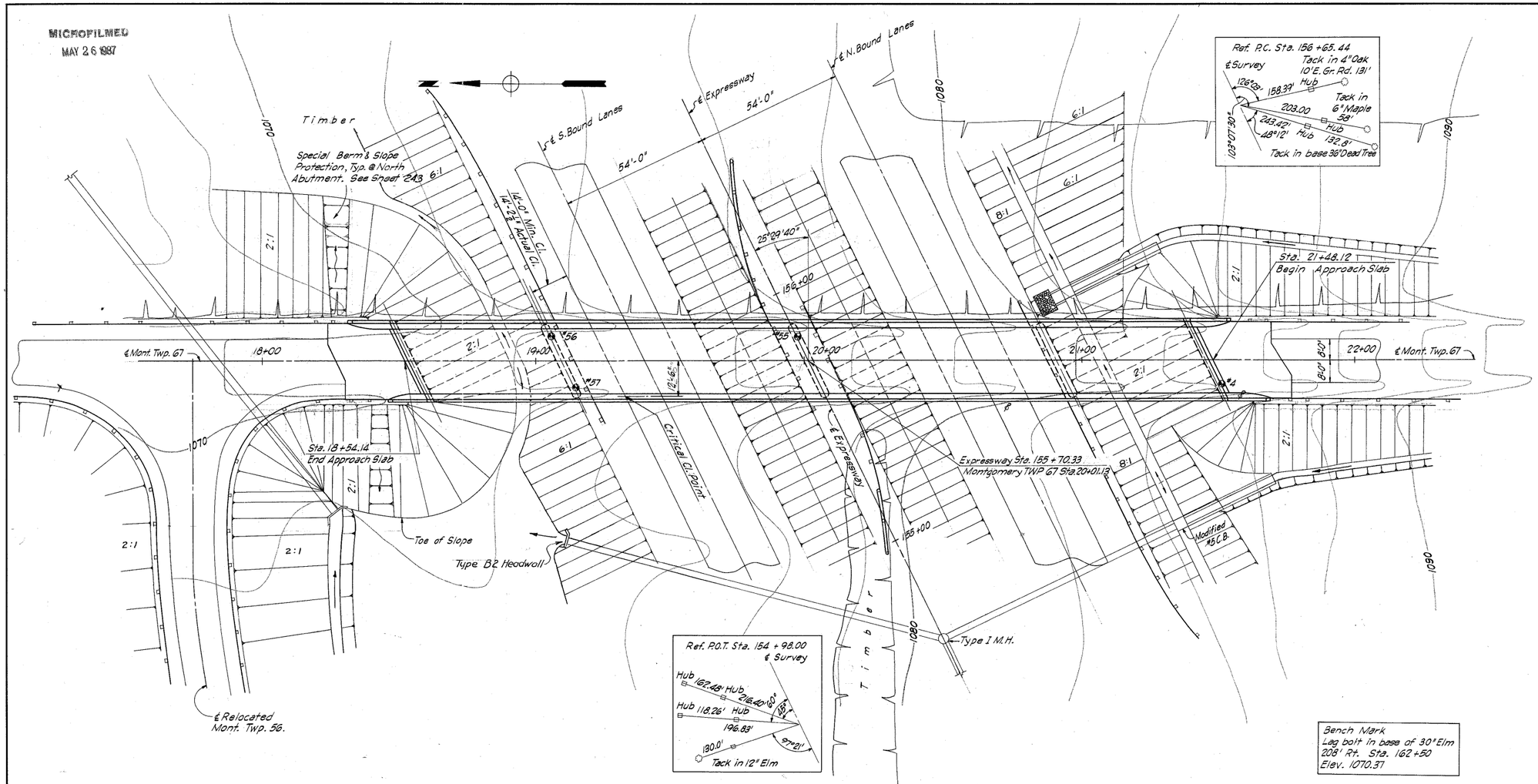
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I 1105 (31)	

312
394

2.65 MILES EAST OF ASHLAND

ASHLAND COUNTY

A.S.D-1-3.52

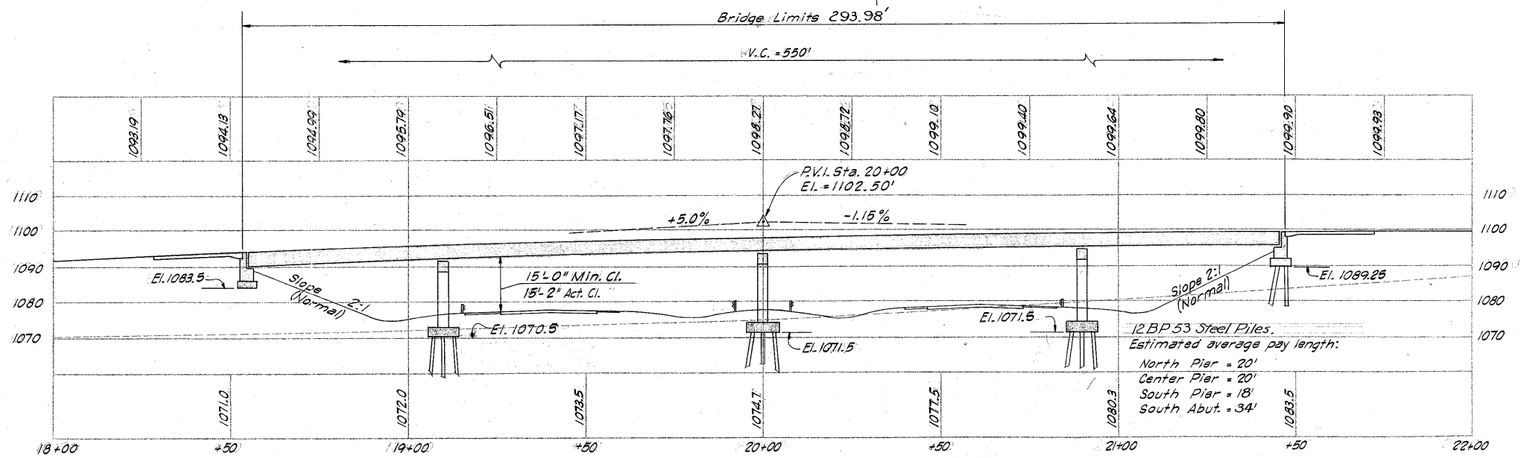


FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of borings and soil-sampling soundings made at the site. This sounding information may be inspected in the Interstate Projects Office and in the Division Office, but the State does not guarantee the accuracy thereof.

✪ Denotes boring location.

Montgomery TWP 67 A.D.T. 820 (1975)

Bench Mark
Lag bolt in base of 30" Elm
208' Rt. Sta. 162+50
Elev. 1070.37



PROFILE ON CENTER LINE MONTGOMERY TWP. 67

PROPOSED STRUCTURE

TYPE: Continuous steel beams with reinforced concrete deck and substructure
SPANS: 54.0' - 90.5' - 90.5' - 54.0'
ROADWAY: 24'-0" f.f., 2'-0" Safety Curbs
LOAD FREQ: C.F. = 130 (57)
SKEW: 25° 29' 40" R.F.
WEARING SURFACE: 3/4" Mono. Conc.
APPROACH SLAB: Special Design (25'-0" long)
ALIGNMENT: Tangent.

MICHAEL BAKER, JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SITE PLAN

BRIDGE NO. ASD-1-0640
UNDER MONTGOMERY TWP67

ASHLAND COUNTY
SCALE: 1" = 20'
STA. 155+70.33

PRESENT	TOPOGRAPHY	PROPOSED WORK			
Surveyed	Drawn	Designed	Drawn	Checked	Reviewed
Aerial	C.V.P.	C.P.J.	C.V.P.	J.V.W.	W.R.B. 1-14-58

Sheet 1 of 7

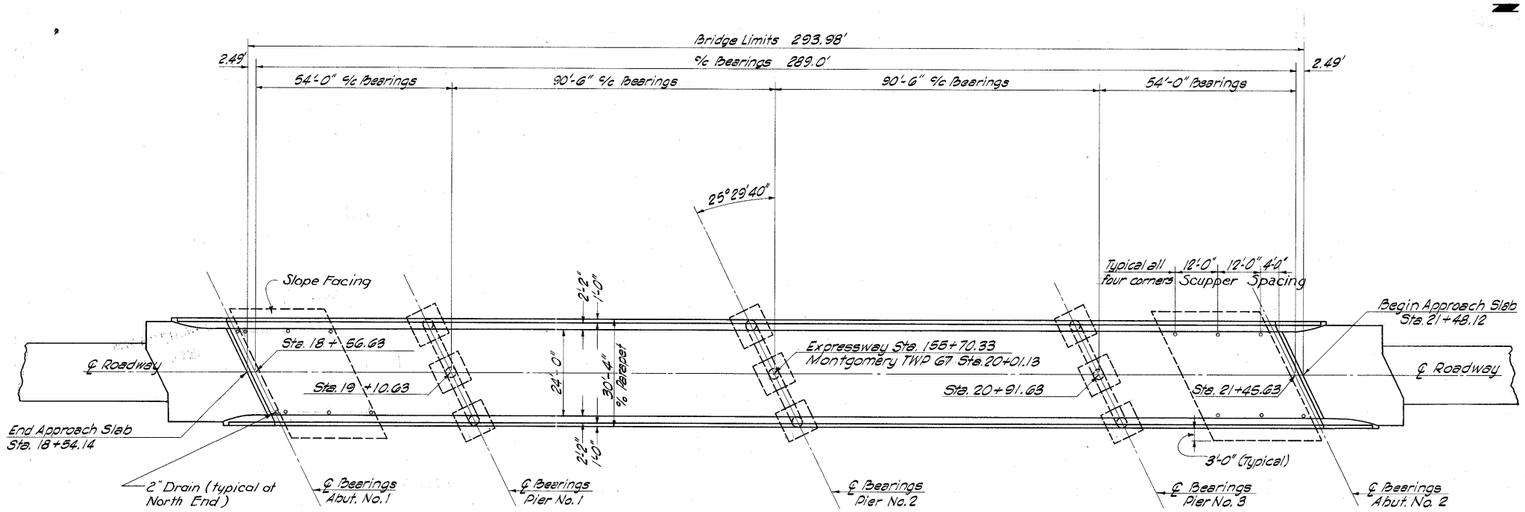
26

58-3-21
As Revised 1-23

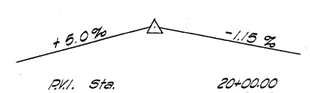
ASHLAND COUNTY
A.S.D.-I- 3.52

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105 (31)	

313/394



GENERAL PLAN



P.V.I. Sta.	20+00.00
Elevation	1102.50
V.C.	550
M.O.	4.228

GRADE DATA

Piles shall be driven to firm contact with shale. If the length of penetration is approximately equal to the depth of shale according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 5-18.05 is not less than the following value for a pile hammer of the indicated energy rating
For the abutment piles
30 tons per pile using a 7000 ft.lb. hammer.
30 tons per pile using a 11,000 ft.lb. hammer.
30 tons per pile using a 15,000 ft.lb. hammer.
For pier #1 & #2 piles
31.5 tons per pile using a 7000 ft.lb. hammer.
30 tons per pile using a 11,000 ft.lb. hammer.
30 tons per pile using a 15,000 ft.lb. hammer.
For pier #3 piles
34.5 tons per pile using a 7000 ft.lb hammer.
30 tons per pile using a 11,000 ft.lb. hammer.
30 tons per pile using a 15,000 ft.lb. hammer.
If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is thirty tons per pile for the abutment piles and thirty tons per pile for the pier piles.

GENERAL NOTES

Reference shall be made to Standard Drawings CSlp-2-56, Sheets 2 and 3 of 6 dated 12-3-56, RB-1-55, AR-1-57 dated 4-9-57 and to Supplemental Specification S-114 revised 8-1-57.

Design Specifications: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highway, dated 9-1-57.

Loading: C.F. 130 (57)

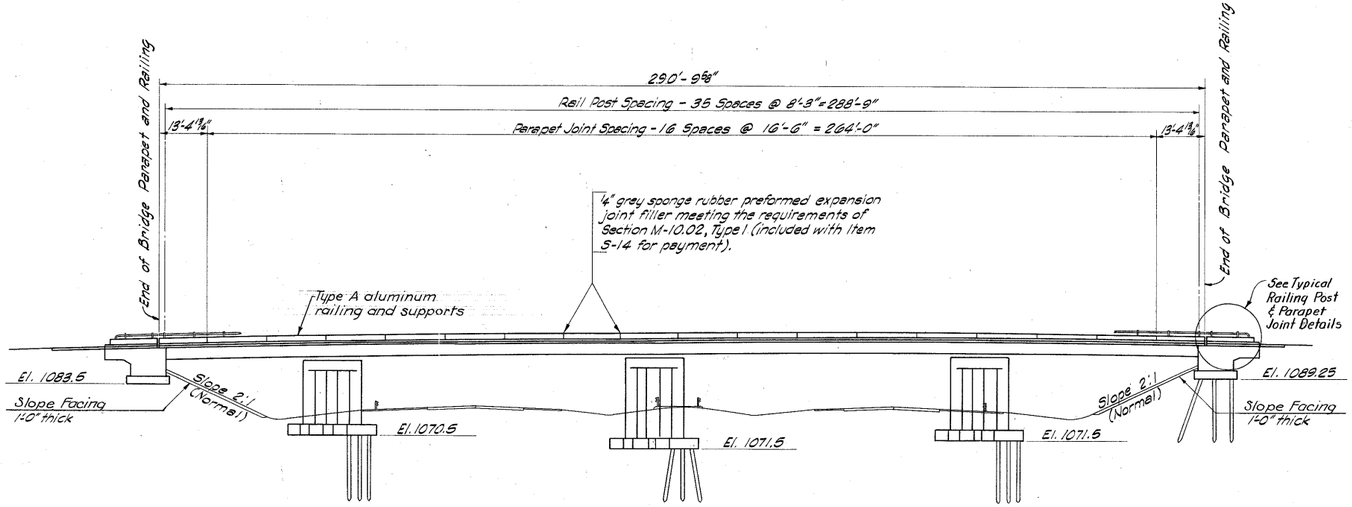
Welding of structural steel shall be Class "A", unless otherwise shown (—LB).

Welded Steel: The steel for the 36 WF 230 shall conform to A.S.T.M. Designation A-373, All other structural steel shall conform to either A.S.T.M. A-7 (as per Sec. M-7.4 (a) of the "Construction and Material Specifications") or to A-373.

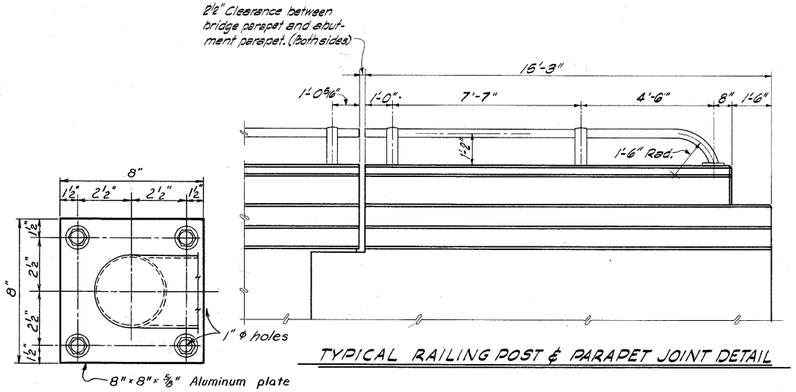
Excavation Quantities includes the removal of fill material between surface of proposed embankment and bottom of abutment.

Slope Facing shall be provided under the structure at abutments. The Slope Facing shall be 12" thick and shall extend from the face of abutment to the toe of slope and transversely to 3 ft. outside the edge of the Superstructure.

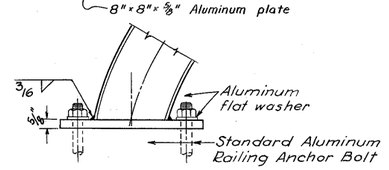
Embankments to be placed to subgrade elevation for a distance of approximately 200 feet beyond the bridge limits as early as practical in the construction proceedure and before Work is begun on Abutments or Piers No.1 and No.3. Abutments should be placed as late as practical with a minimum time lapse of 30 days between completion of the embankment and starting work on the Abutments.
Piles: All piles shall be 12 BP 53 Steel piles.



ELEVATION



TYPICAL RAILING POST & PARAPET JOINT DETAIL



DETAIL OF RAILING ANCHOR PLATE AT END OF PARAPET

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

GENERAL PLAN & ELEVATION

BRIDGE NO. ASD-I-0640
UNDER MONTGOMERY TWP. 67

ASHLAND COUNTY STA. 155+70.33

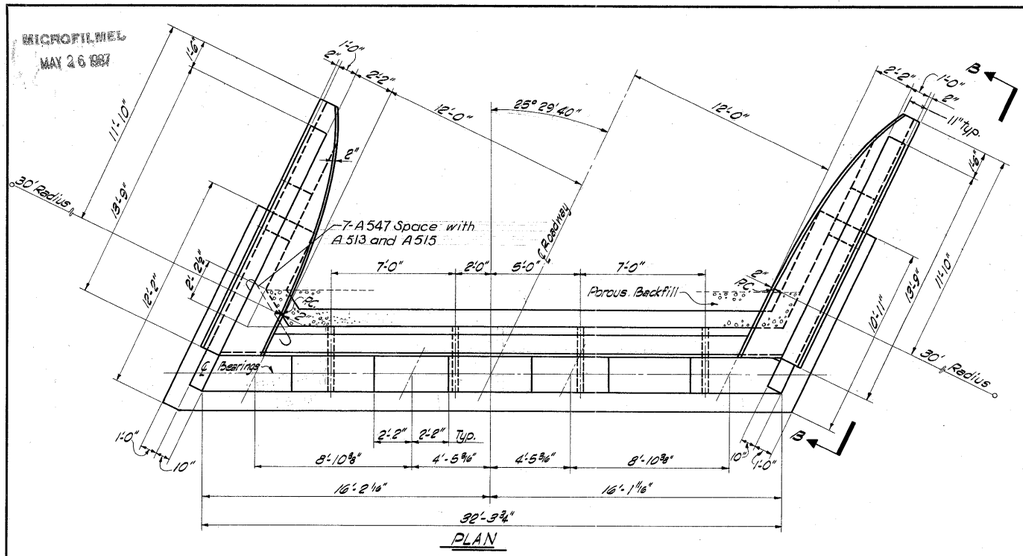
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C.P.J.	L.M.		J.V.W.	W.R.B. 1-14-58	

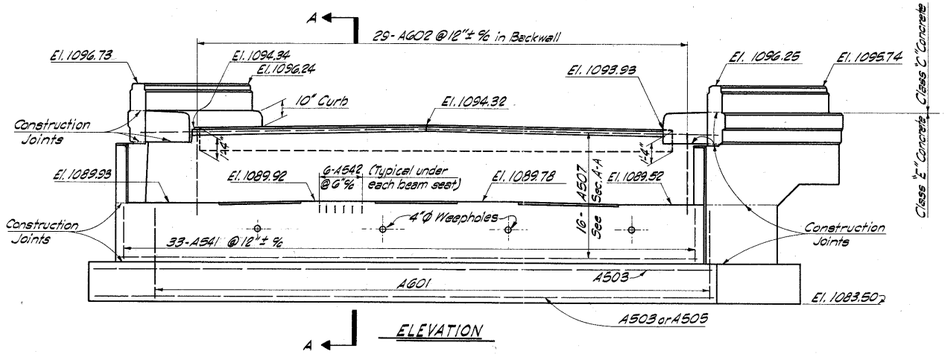
58-B-22

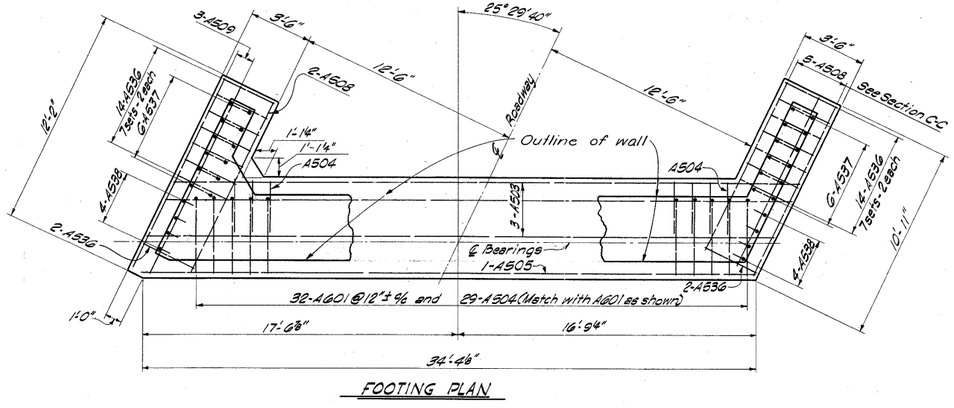
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105 (31)	

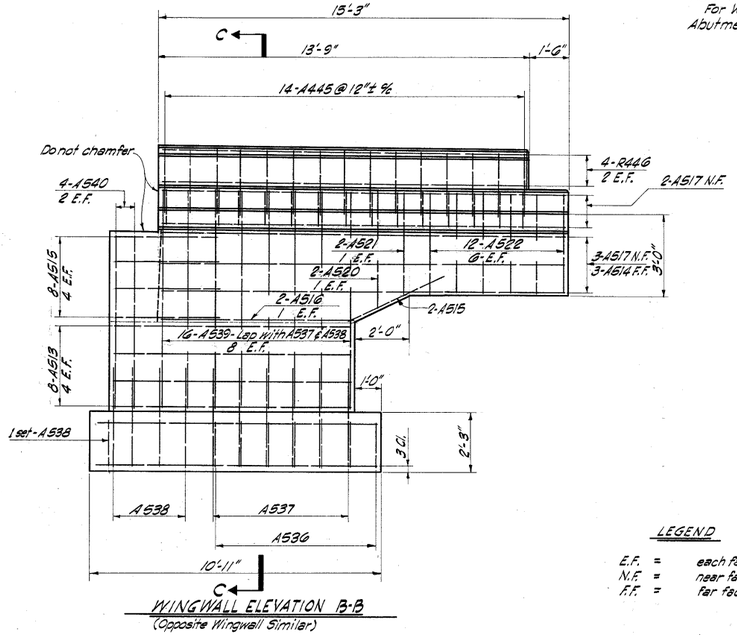
314
394

ASHLAND COUNTY
A.S.D.-I- 3.52

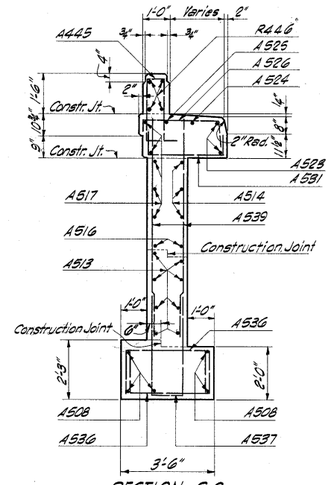






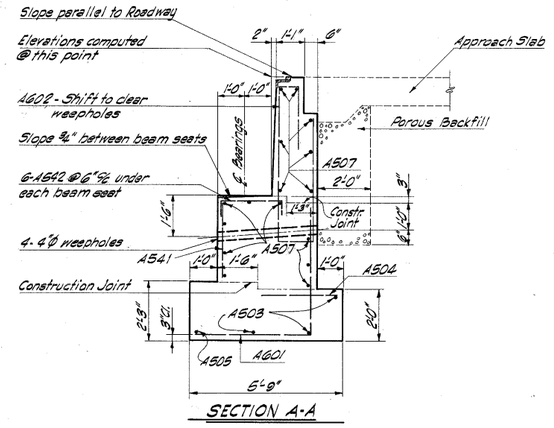


Note:
For Wingwall Plan see Abutment No. 2.



LEGEND

E.F. = each face
N.F. = near face
F.F. = far face



NOTES

- For Wingwall Plan and Guard Rail Detail, see Abutment No. 2 sheet.
- Porous Backfill 2 feet thick full length of abutment shall extend up to the underside of approach slab.
- Clearance of reinforcing steel from face of concrete shall be 2" unless otherwise shown.
- Concrete above bridge seat construction joint shall not be placed until after steel work is erected, but shall be placed before placing deck slab.
- Steel end finish shall be used as a template for the top of the backwall.
- Design Foundation Pressure is 2 Tons per sq. ft..
- All abutment concrete shall be class "E" except parapet which shall be class "C".
- Guard rail end connection to be included in cost of bridge railing.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

ABUTMENT NO.1

BRIDGE NO. ASD.-I-0640
UNDER MONTGOMERY TWP. 67

ASHLAND COUNTY STA. 155+70.33

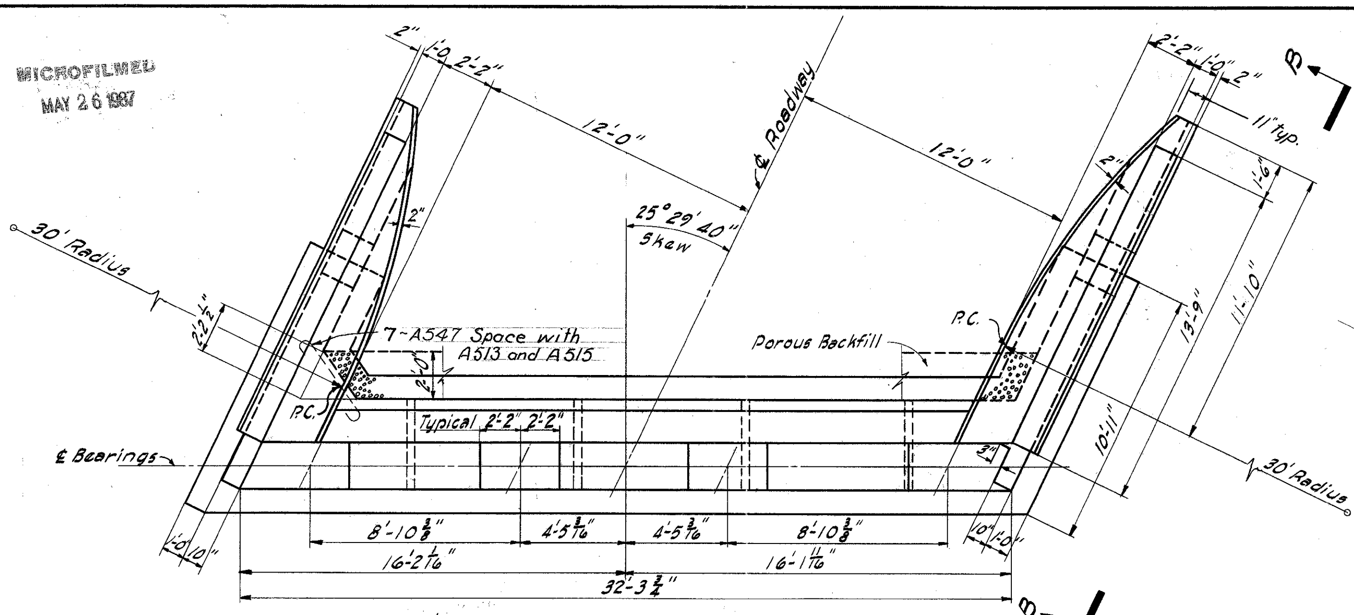
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C.P.J.	C.P.J.		Y.G.	W.R.B. 1-14-58	

58-3-23

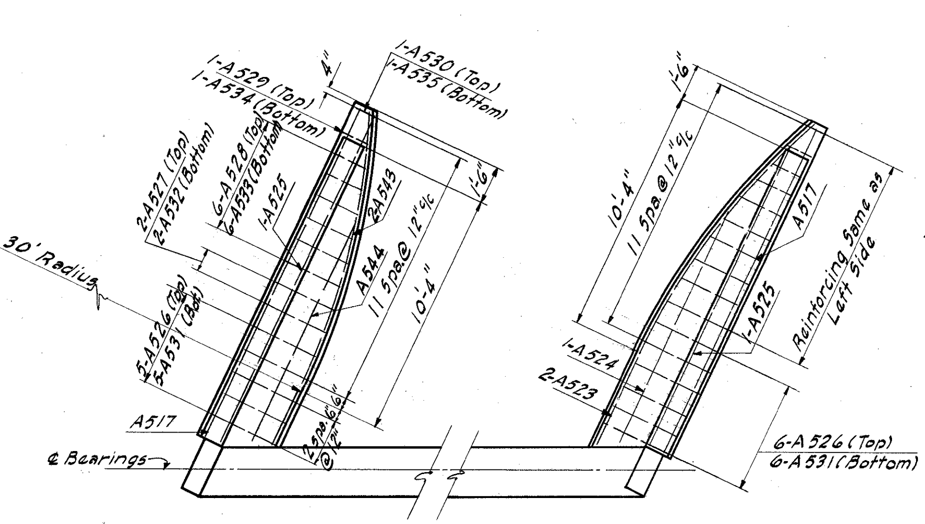
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105 (31)	

315/334

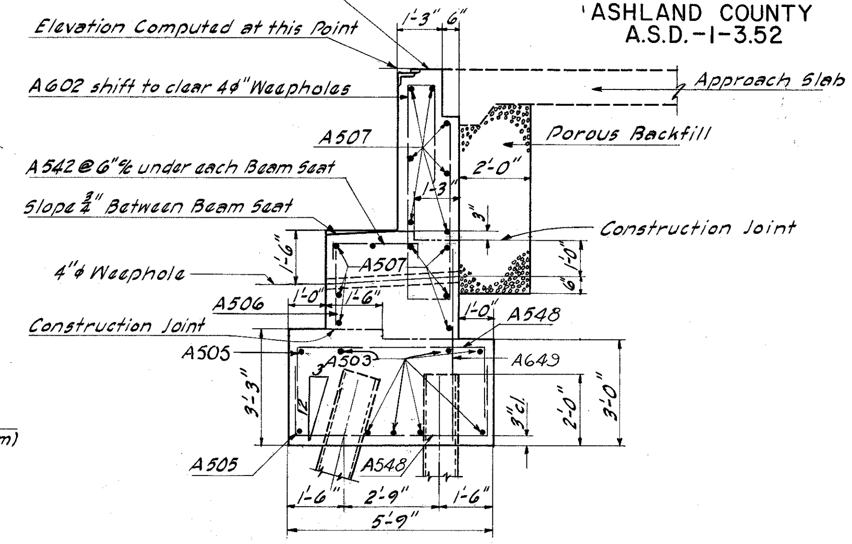
ASHLAND COUNTY
A.S.D.-1-3.52



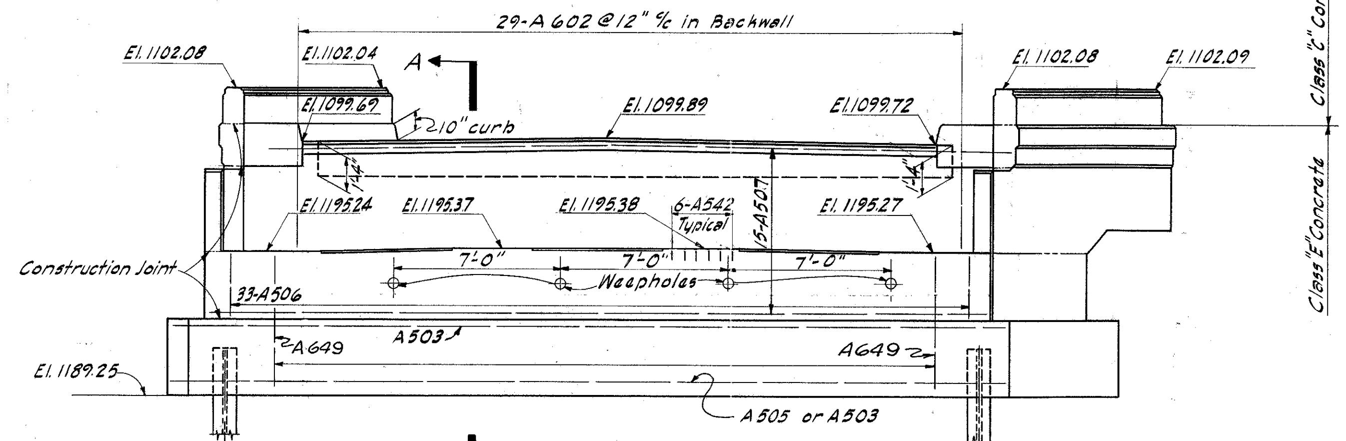
PLAN



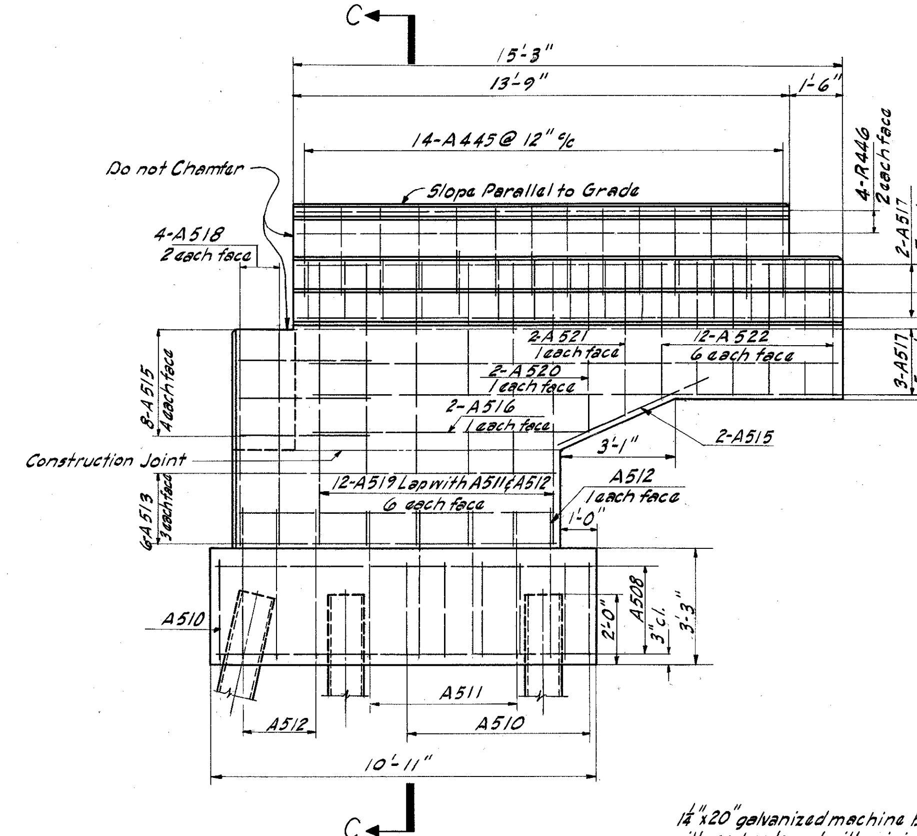
WINGWALL PLAN



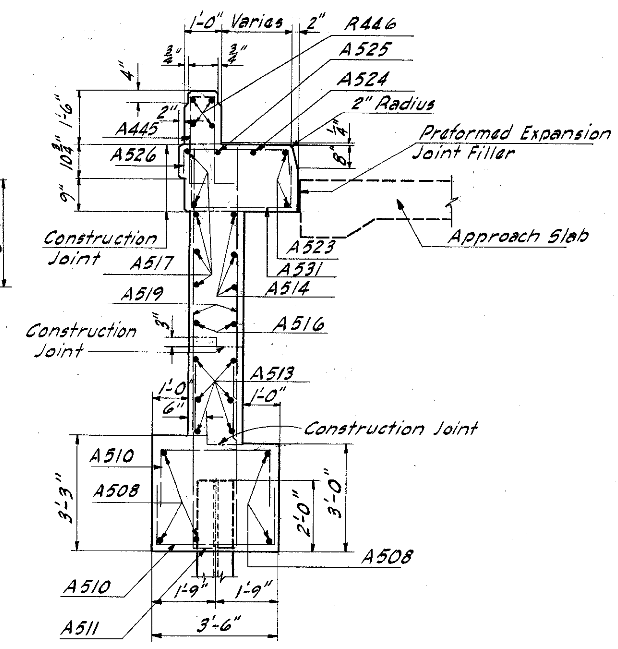
SECTION A-A



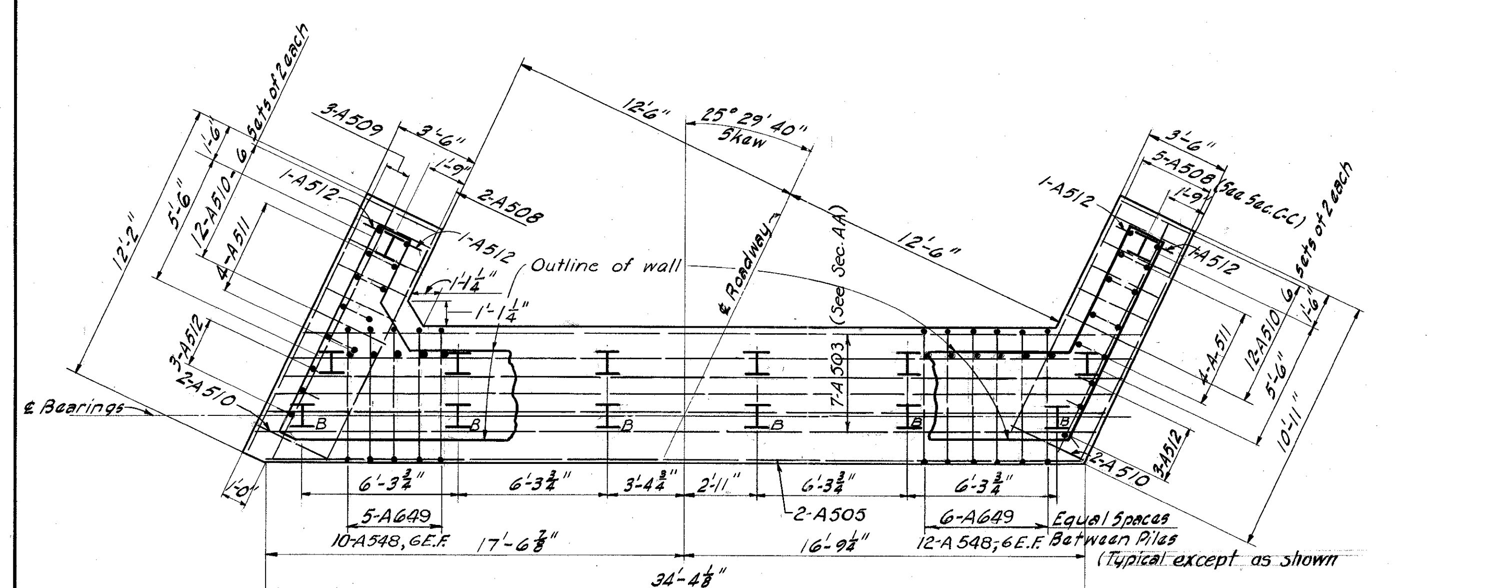
ELEVATION



WINGWALL ELEVATION B-B
Opposite Wingwall Similar

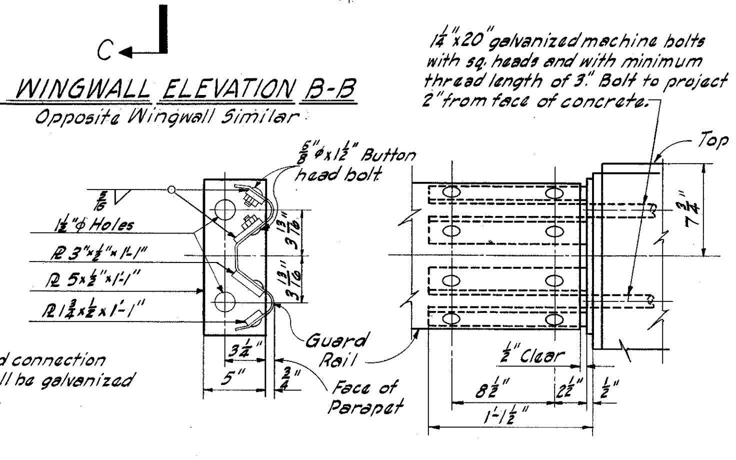


SECTION C-C



FOOTING PLAN

B Indicates piles battered @ 3:12, See Sec. A-A.



Guard rail and connection assembly shall be galvanized after welding.

GUARD RAIL DETAIL
AS SEEN FROM PAVEMENT SIDE

NOTES

- For Additional notes see Abutment #1 Sheet.
- All piles are 12" BP 53 Steel Piles. Piles shall be driven to a minimum bearing capacity of 30 tons per pile.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

ABUTMENT NO. 2
BRIDGE NO. ASD.-1-0640
UNDER MONTGOMERY TWP. 67

ASHLAND COUNTY — STA. 155 + 70.33

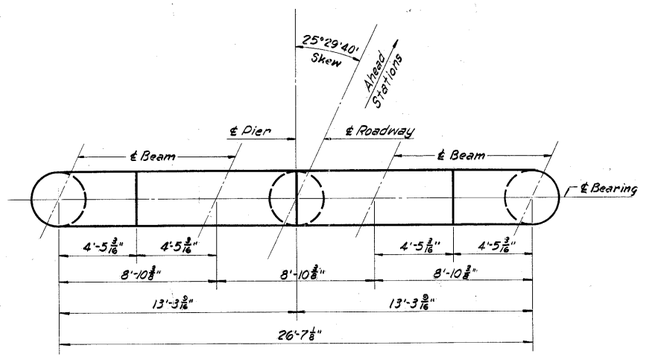
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C.P.J.	C.P.J.	A.C.M.	Y.G.	W.R.B. 1-14-58	

58-B-24

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105(31)	

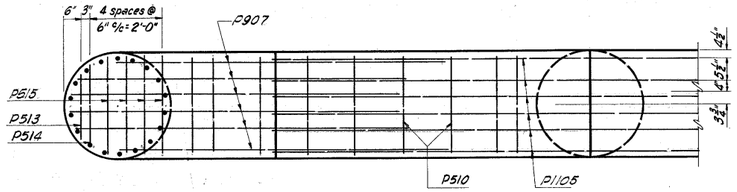
316
394

ASHLAND COUNTY
ASD-1-3.52

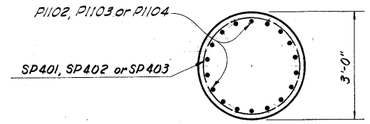


PIER CAP PLAN

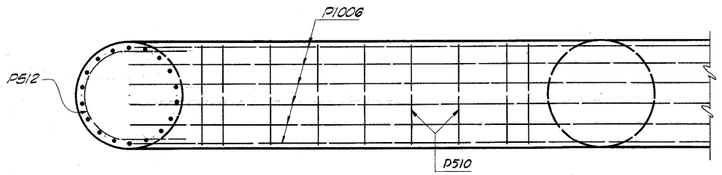
Note:
The downward leg of bars P907 to be placed in periphery of vertical column bars.



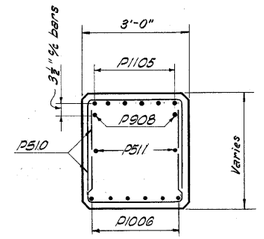
VIEW A-A



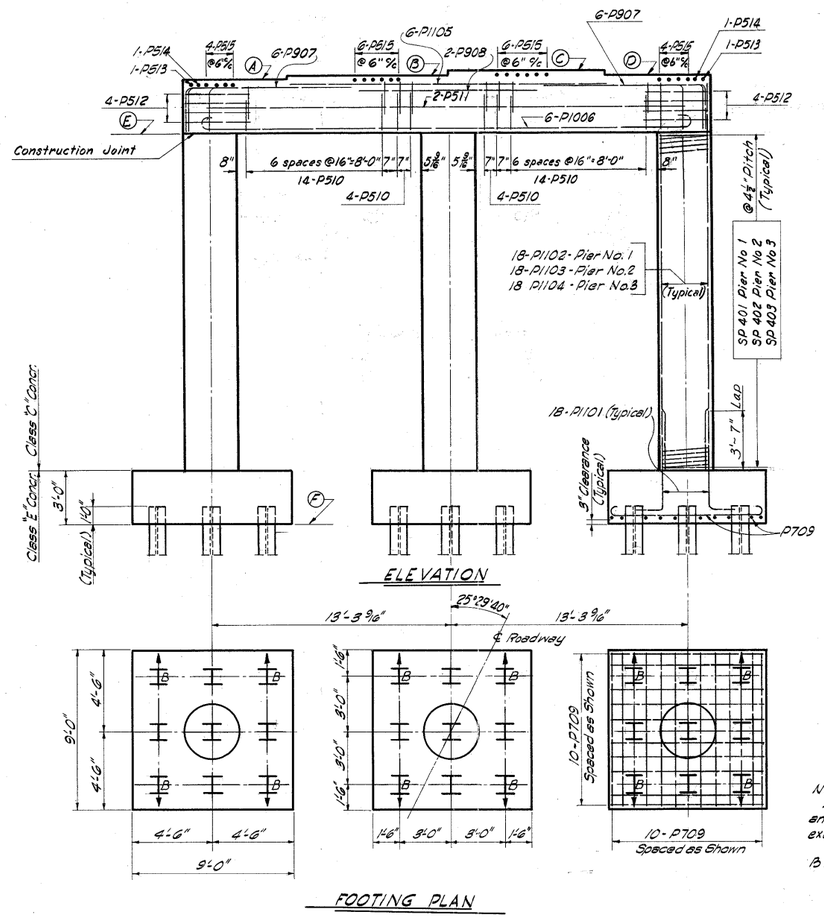
SECTION C-C



SECTION B-B



SECTION D-D

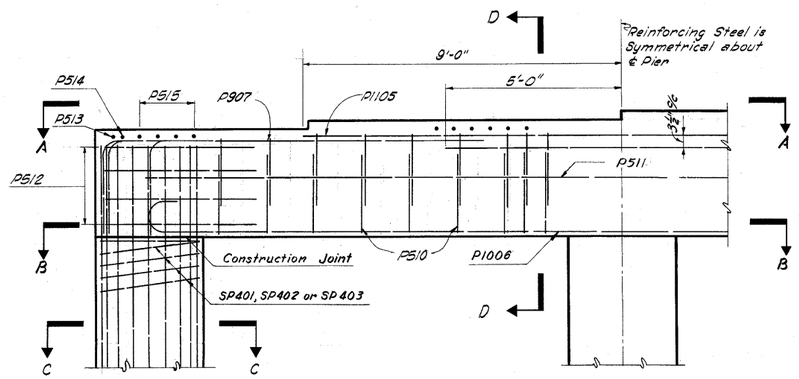


ELEVATION

FOOTING PLAN

NOTE:
All dimensions, piling layouts and bar arrangements are typical except as noted below.

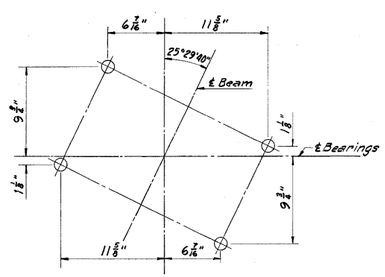
Ⓑ Indicates piling to be battered @ 2:12 in direction indicated (For Pier No. 2 only)



PARTIAL ELEVATION

TABLE OF ELEVATIONS

LOCATION	A	B	C	D	E	F
Pier No. 1	1090.78	1091.02	1091.13	1091.11	1087.78	1070.50
Pier No. 2	1092.92	1093.12	1093.19	1093.14	1089.92	1071.50
Pier No. 3	1094.36	1094.52	1094.55	1094.46	1091.36	1071.50



TYPICAL ANCHOR BOLT LAYOUT
PIER NO. 2 ONLY

PIER NOTES

- Clearance of reinforcing steel shall be 2" from the face of concrete unless otherwise shown.
- Special care shall be taken in placing reinforcing steel in the bridge seat so that it will not interfere with the drilling of anchor bolt holes in Pier "Z" only.
- All piles are 12 BP 53 Steel Piles.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

PIERS

BRIDGE NO. ASD-1-0640
UNDER MONTGOMERY TWP. 67

ASHLAND COUNTY STA. 155+70.33

Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
C.R.J.	W.P.M.	W.P.M.	J.V.W.	W.R.B. 1-14-58	

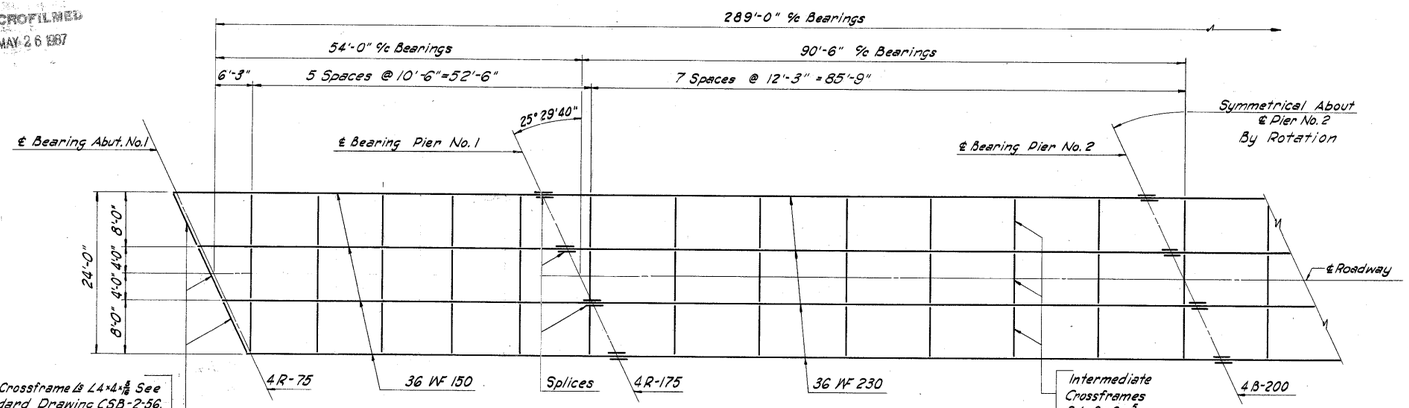
58-8-25

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-1105(31)	

317/394

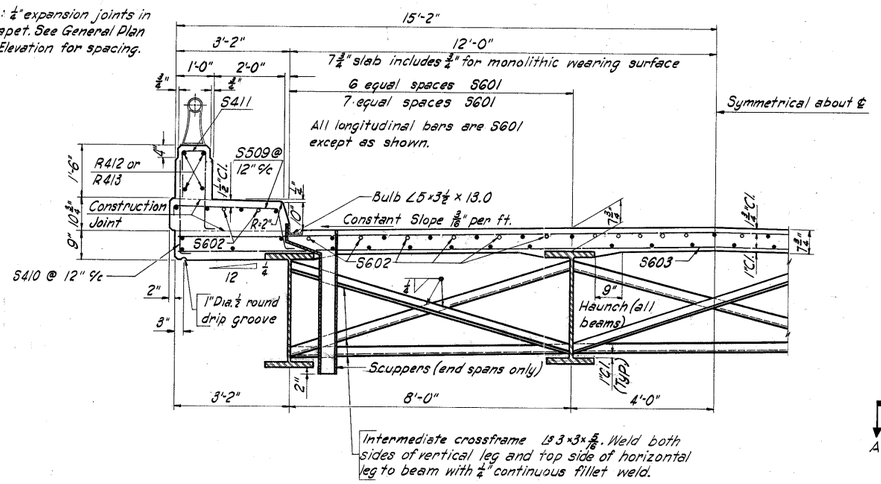
ASHLAND COUNTY
A.S.D.-1-3.52

STEEL FRAMING PLAN



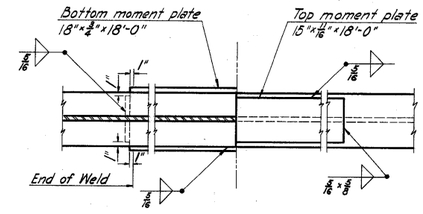
End Crossframe L 4 x 4 x 5/16 See Standard Drawing CSB-2-56, dated 12-3-56, Sheet 2 of 6, Section B-B (for beam spacing 8'-0" to 12'-0", measured parallel to end finish).

Note: 1/2" expansion joints in parapet. See General Plan and Elevation for spacing.

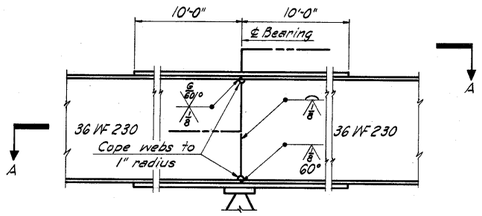


Intermediate crossframe L 3 x 3 x 5/16. Weld both sides of vertical leg and top side of horizontal leg to beam with 1/2" continuous fillet weld.

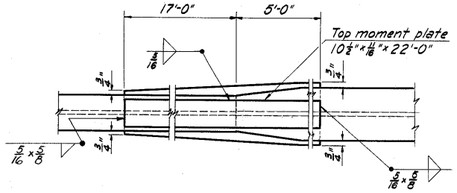
TRANSVERSE HALF-SECTION



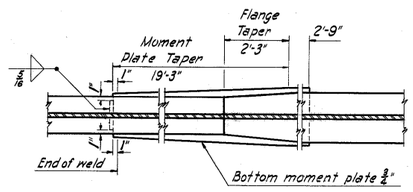
SECTION A-A



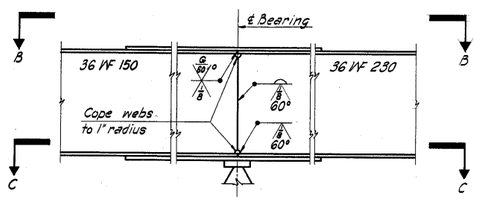
BEAM SPLICE DETAIL
@ Pier No. 2



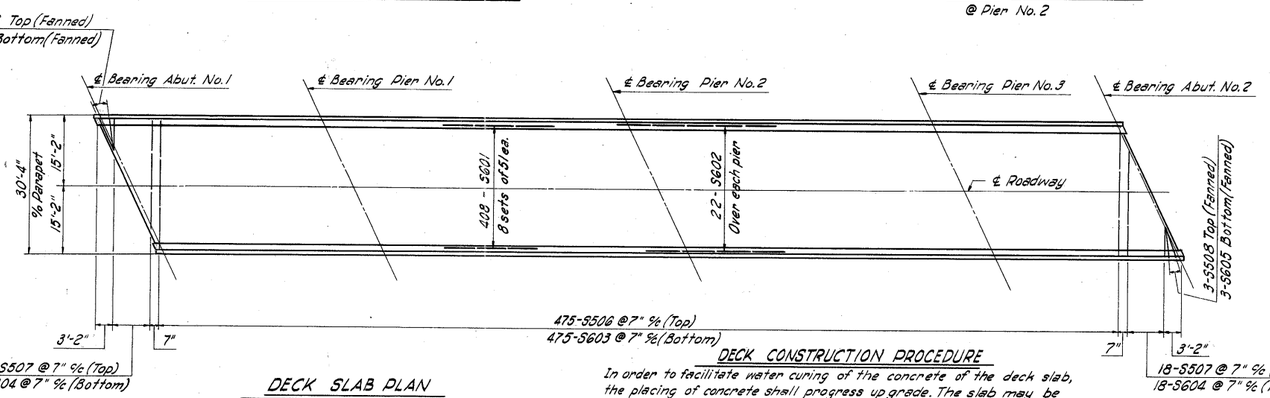
VIEW B-B



SECTION C-C



BEAM SPLICE DETAIL
@ Pier No.1 and Pier No. 3



DECK SLAB PLAN

DECK CONSTRUCTION PROCEDURE

In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress up grade. The slab may be placed in sections between transverse construction joints which are normal to the center line of bridge and are located near the center of any span.

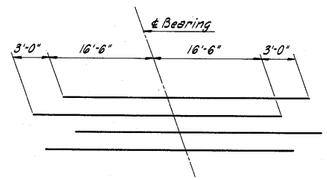


DIAGRAM SHOWING STAGGER OF S602 BARS OVER PIERS

BEAM SPLICE WELDING PROCEDURE

1. Raise end of beam 3" at Pier No. 2.
2. Butt weld beam flanges and web at Pier No.1, using this sequence: make one pass on each flange, then one on the web, repeat until welds are complete.
3. Weld top and bottom flange moment plates at Pier No.1.
4. Lower ends of beams at Pier No. 2.
5. Make splices at Piers 2 and 3 in the same manner raising the ends of the beams 3" at Pier No.3 and 5/8" at Abutment No.2.

Cambering of beams is required in accordance with the following table.

DEFLECTION AND CAMBER

LOCATION	OUTSIDE BEAMS		INSIDE BEAMS	
	SPANS 1 & 4	SPANS 2 & 3	SPANS 1 & 4	SPANS 2 & 3
Deflection due to weight of steel	0"	1/4"	0"	1/4"
Deflection due to remaining dead load	1/8"	1 1/4"	1/8"	15/16"
Convexity required for vertical curve	1/2"	1 3/8"	1/2"	1 3/8"
Sum of deflection and convexity	5/8"	2 7/8"	5/8"	2 9/16"
Required Camber	0"	2 7/8"	0"	2 9/16"

Note: Where no camber is specified, beams shall be fabricated with any natural camber or bowed side up.

GENERAL NOTES

- Refer to Standard Drawing CSB-2-56 Sheet 2 of 6 for details of end finish.
- Refer to Standard Drawing CSB-2-56 Sheet 3 of 6 for gutter, scuppers and curb plate details.
- Refer to Standard Drawing RB-1-55 for details of Rockers and Bolsters.
- Concrete and reinforcing steel above parapet construction joints included with railing for payment.
- Joints in End Finish: A welded butt joint in the end finish, at the center line of roadway, will be required for that portion of the end finish attached to the Superstructure. The portion attached to the backwall shall be placed in segments which shall be closely butted, with one of the joints at the apex of the crown, but shall not be welded.
- Concrete shall be Class "C".

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SUPERSTRUCTURE
BRIDGE NO. ASD-1-0640
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55-8-26

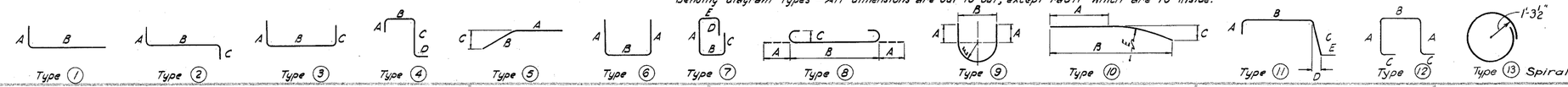
ASHLAND COUNTY
A.S.D -1-3.52

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	1-1105 (31)	

318
394

REINFORCING STEEL BAR SCHEDULE

Bending diagram types — All dimensions are out to out, except radii which are to inside.



ABUTMENTS

MARK	TOTAL	SIZE	LENGTH	TYPE	A	B	C	D	E	WEIGHT
A601	32	6	9'-7"	1	5'-4"	4'-5"				461
A602	58	6	15'-10"	7	6'-2"	1'-5"	4'-10"	3'-2"	10"	1,379
A503	10	5	35'-0"	Str.						365
A504	29	5	3'-1"	Str.						93
A505	3	5	34'-1"	Str.						107
A506	33	5	2'-6"	Str.						86
A507	31	5	32'-9"	Str.						1059
A508	14	5	10'-7"	Str.						155
A509	6	5	11'-10"	Str.						74
A510	28	5	7'-3"	6	2'-2"	3'-2"				212
A511	8	5	10'-1"	6	4'-7"	1'-2"			0"	84
A512	10	5	5'-1"	1	7⅞"	4'-7"				53
A513	28	5	8'-10"	Str.						258
A514	12	5	14'-7"	5	11'-8"	3'-0"	1'-0"			133
A515	40	5	3'-10"	Str.						160
A516	8	5	7'-0"	Str.						58
A517	20	5	14'-9"	Str.						308
A518	8	5	5'-11"	Str.						49
A519	24	5	7'-8"	Str.						192
A520	8	5	4'-7"	Str.						38
A521	8	5	4'-1"	Str.						34
A522	48	5	3'-6"	Str.						175
A523	4	5	16'-0"	10	4'-1"	15'-9"	2'-4"		29'-9"	67
A524	2	5	10'-6"	Str.						22
A525	4	5	13'-9"	Str.						57
A526	22	5	4'-6"	11	7⅞"	2'-9"	1'-4"	3"		103
A527	8	5	4'-5"	11	7⅞"	2'-8"	1'-4"	3"		37
A528	24	5	4'-3" to 3'-0"	11	7⅞"	2'-8" to 1'-3" ★	1'-4"	3"		91
A529	4	5	2'-8"	11	7⅞"	10"	1'-4"	3"		11
A530	4	5	2'-2"	11	7⅞"	5"	1'-4"	3"		9
A531	22	5	4'-2"	6	10"	2'-9"				96
A532	8	5	4'-1"	6	10"	2'-8"				34
A533	24	5	3'-11" to 2'-8"	6	10"	2'-8" to 1'-3" ★				82
A534	4	5	2'-3"	6'	10"	10"				9
A535	4	5	1'-10"	6	10"	5"				8
A536	32	5	6'-3"	6	1'-8"	3'-2"				209
A537	12	5	8'-1"	6	3'-7"	1'-2"				101
A538	8	5	4'-1"	1	7⅞"	3'-7"				34
A539	32	5	8'-8"	Str.						289
A540	8	5	6'-11"	Str.						58
A541	33	5	3'-6"	Str.						120
A542	48	5	3'-3"	6	7⅞"	2'-3"				163
A543	4	5	14'-3"	10	2'-4"	14'-0"	2'-4"		29'-9"	59
A544	2	5	10'-0"	Str.						21
A445	56	5	6'-4"	12	2'-8"	8"	6½"			237
R446	16	4	13'-5"	Str.	Included with railing for payment.					
A547	14	5	4'-2"	8	7"	3'-0"	5"			61
A548	58	5	9'-2"	6	2'-0	5'-5"				555
A649	29	6	5'-6"	Str.						240

Total Weight 8,356

REPLACEMENT BARS

MARK	NO.	SIZE	LENGTH	TYPE	WEIGHT
RE 1101	2	11	7'-6"	Str.	
RE 1002	1	10	7'-2"	Str.	
RE 903	1	9	6'-10"	Str.	
RE 704	1	7	6'-3"	Str.	
RE 605	3	6	5'-11"	Str.	
RE 506	2	5	5'-7"	Str.	
RE 407	1	4	5'-3"	Str.	
RE 408	1	[illegible]	5'-3"	13	

★ 4 sets of 6 bars, each bar in set varies by 3"

REPLACEMENT BARS

If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test sample as provided in section 6-4.02 need not be furnished and replacement bars will not be required.

SUPERSTRUCTURE

MARK	TOTAL	SIZE	LENGTH	TYPE	A	B	C	D	E	WEIGHT
S601	408	6	38'-0"	Str.						23,287
S602	66	6	36'-0"	Str.						3,569
S603	475	6	30'-0"	Str.						21,404
S604	36	6	7'-0" to 27'-9"	Str.	2 ea. vary by 1'-2⅝"					940
S605	6	6	7'-0"	Str.						63
S506	475	5	30'-0"	Str.						14,863
S507	36	5	7'-0" to 27'-9"	Str.	2 ea. vary by 1'-2⅝"					652
S508	6	5	7'-0"	Str.						44
S509	580	5	4'-11"	11	7⅞"	2'-10"	1'-3"	7⅞"	3"	2,974
S410	580	4	3'-0"	1	6½"	2'-7"				1,162
S411	580	4	4'-3"	4	1'-3"	8"	2'-2"	6½"		1,647
R412	128	4	16'-2"	Str.						Included with railing for payment
R413	16	4	13'-0"	Str.						

Total Weight 70,605 lbs.

PIERS

MARK	TOTAL	SIZE	LENGTH	TYPE	A	B	C	D	E	WEIGHT
P1101	162	11	7'-5"	1	1'-6⅝"	6'-3"				6,384
P1102	54 (Pier 1)	11	17'-1"	Str.						4,901
P1103	54 (Pier 2)	11	18'-3"	Str.						5,236
P1104	54 (Pier 3)	11	19'-8"	Str.						5,642
P1105	18	11	18'-0"	Str.						1,721
P1006	18	10	29'-5"	8	1'-5"	26'-7"		10"		2,278
P907	36	9	11'-7"	1	2'-8"	9'-2"				1,418
P908	6	9	10'-0"	Str.						204
P709	180	7	10'-4"	8	10"	8'-8"		5"		3,802
P510	108	5	6'-9"	6	2'-2"	2'-8"				760
P511	6	5	26'-7"	Str.						166
P512	24	5	8'-8"	9	2'-6"	2'-4"		1'-2"		217
P513	6	5	2'-8"	6	7⅞"	1'-8"				17
P514	6	5	3'-3"	6	7⅞"	2'-3"				20
P515	60	5	3'-8"	6	7⅞"	2'-8"				229

SPIRAL BARS

MARK	TOTAL	SIZE	LENGTH	PITCH	NO. OF TURNS	CORE DIA.	WEIGHT
SP401	3 (Pier 1)	4	14'-3"	4½"	41	32"	806
SP402	3 (Pier 2)	4	15'-5"	4½"	44	32"	865
SP403	3 (Pier 3)	4	16'-10"	4½"	48	32"	944

Total Weight 35,610 lbs.

SPIRAL BARS

The "length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.

The "No. of Turns" shown in the steel list for spiral bars is the "length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number.

Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 5-4.

1½ closed coils shall be provided at ends of each spiral unit.

Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lbs. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUTS.	PIERS	GENERAL
E-2	337	Cu.Yd.	Unclassified Excavation		159	178	
S-1	280	Cu.Yd.	Class "C" Concrete, Superstructure	280			
S-1	67	Cu.Yd.	Class "C" Concrete, Pier Caps and Columns			67	
S-1	76	Cu.Yd.	Class "E" Concrete, Abutments above Footings		76		
S-1	125	Cu.Yd.	Class "E" Concrete, Footings		46	79	
S-4	114,318	lbs.	Reinforcing Steel	70,605	8,103	35,610	
S-7	284,600	lbs.	Structural Steel	284,600			
S-8	284,600	lbs.	Field Painting of Structural Steel	284,600			
S-14	643	Lin.Ft.	Railing (Aluminum Rail and Supports, and Concrete Parapet)	582	61		
S-16	Lump	Sum	First Test Pile				Lump Sum
S-18	2042	Lin.Ft.	Steel Piles, 12 BP 53		476	1,566	
S-29	24	Cu.Yd.	Porous Backfill		24		
S-29	106	Cu.Yd.	Slope Facing (S-29.05 Type)				106

BAR SIZE

Bar size is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A401 is a no. 4 size bar and A1114 is a no. 11 size bar.

MICHAEL BAKER JR., CONSULTING ENGINEERS
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REINFORCING STEEL LIST & ESTIMATED QUANTITIES
BRIDGE NO. ASD-1-0640
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ASHLAND COUNTY STA. 155+70.33

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