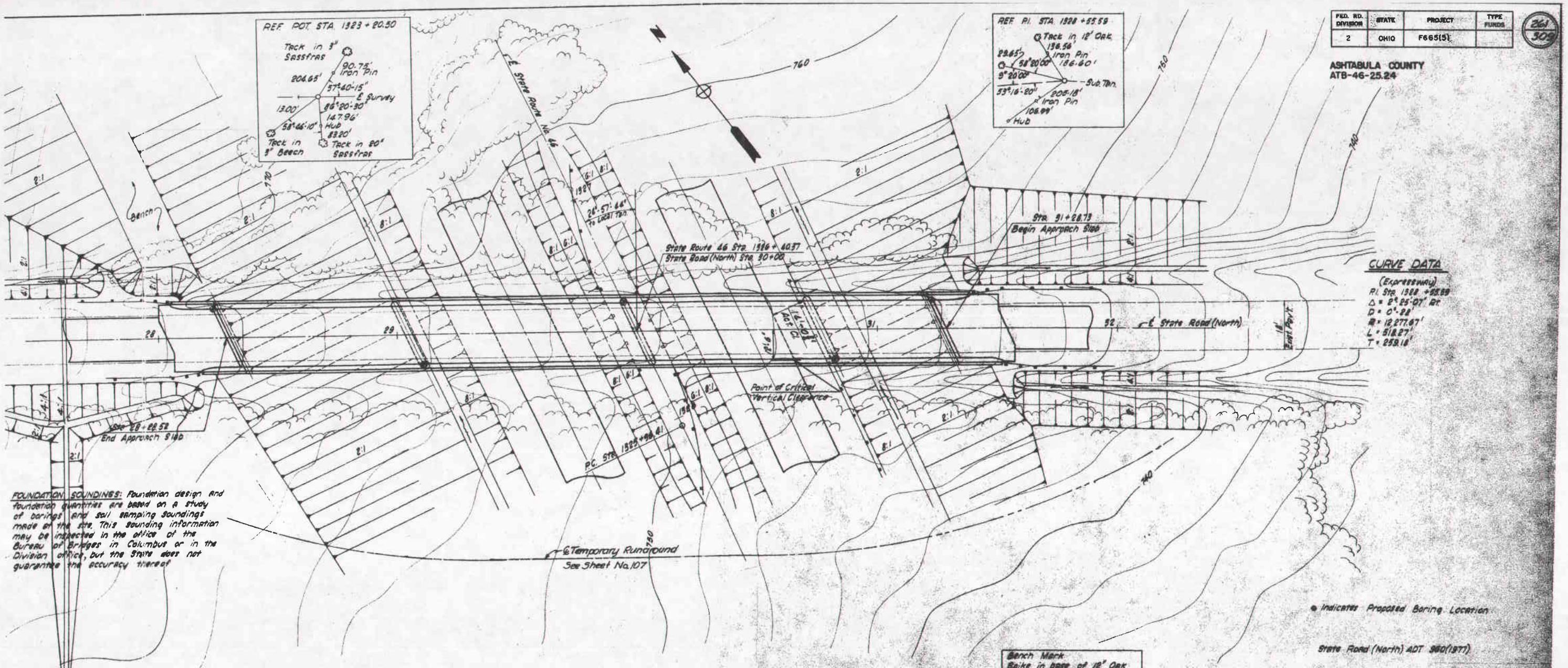
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

261
304

ASHTABULA COUNTY
ATB-46-25.24

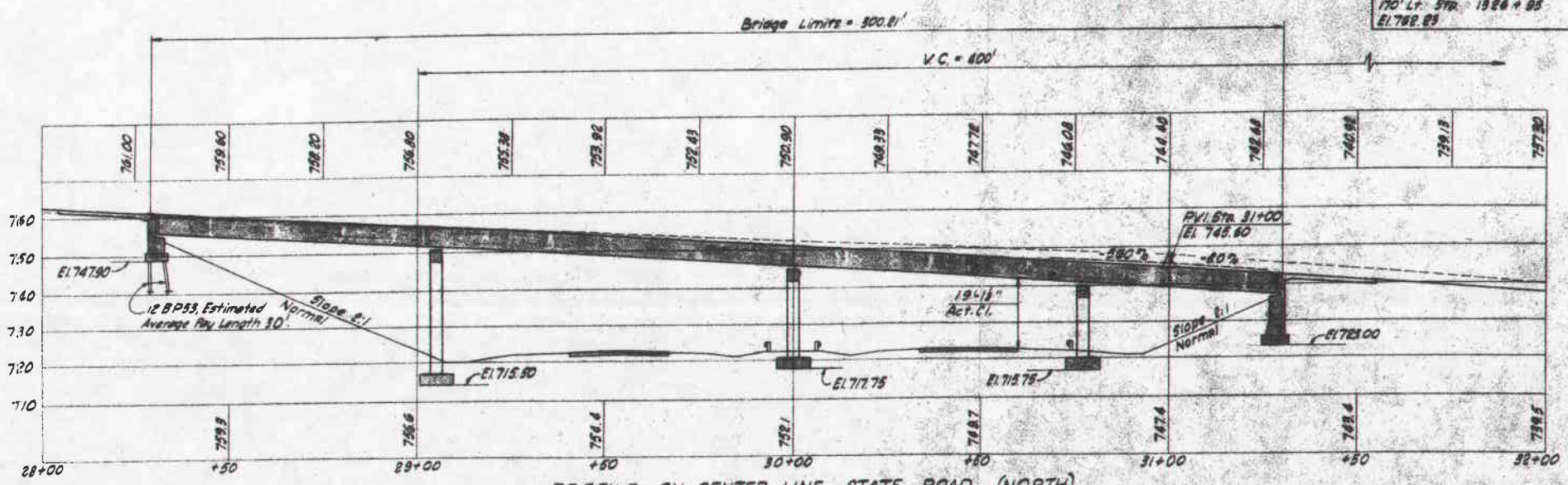


FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of borings and soil sampling soundings made on the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division office, but the State does not guarantee the accuracy thereof

CURVE DATA

(Expressway)
P.I. Sta. 1328 + 55.59
Δ = 2°-25'-07" Rt.
D = 0°-28'
R = 12,277.67'
L = 518.27'
T = 259.18'

Bench Mark
Spike in base of 18" Oak
170' Lt. Sta. 1326 + 95
El. 762.89



PROFILE ON CENTER LINE STATE ROAD (NORTH)

PROPOSED STRUCTURE

TYPE: Continuous steel welded girder with reinforced concrete deck and substructure
SPANS: 74'-95'-75.75'-68.5' ⬕ bearings
ROADWAY: 24'-0" + 2'-2" Safety Curbs
LOAD FREQ: CF = 1.90 (57)
WEARING SURFACE: ½" monolithic concrete
APPROACH SLAB: Special Design (25' long)
SKEW: 24°-57'-44" R.F.
ALIGNMENT: Tangent

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SITE PLAN
BRIDGE NO. ATB-46-2529
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY
Scale 1" = 20'
STA. 1326 + 40.37

PRESENT TOPOGRAPHY		PROPOSED WORK			
Surveyed	Drawn	Designed	Drawn	Checked	Approved
	M.S.	C.V.P.	B.B.	D.E.B.	K.A.J.

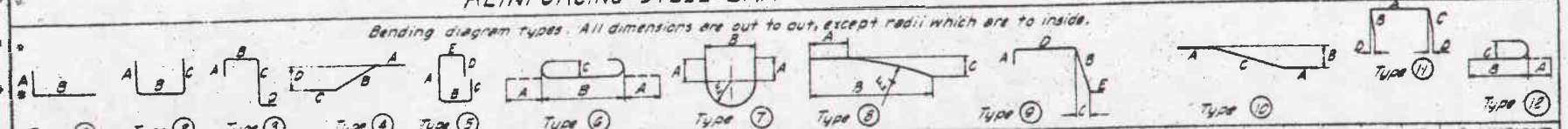
Sheet 1 of 8

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F565(5)	

ASHTABULA COUNTY
ATB-46-25.24

REINFORCING STEEL BAR SCHEDULE

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



SUPERSTRUCTURE

MARK	TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT
S601	487	30'-0"	Str.						21,944
S602	32	8'-3" to 27'-0"	Str.						847
S603	8	7'-0"	Str.						84
S604	510	31'-4"	Str.						24,002
S605	66	36'-0"	Str.						3,569
S606	6	8'-6"	Str.						77
S501	487	30'-0"	Str.						15,238
S502	32	8'-3" to 27'-0"	Str.						588
S503	8	7'-0"	Str.						58
S504	594	5'-0"	9	7 1/8"	1'-3"	3"	2'-10"	7 1/8"	3,098
S401	594	4'-10"	2	8'-2"	8"	2'-8"			1,918
S402	594	3'-1"	1	6 1/2"	2'-8"				1,223
R403	16	12'-3"	Str.	Included with railing					
R404	136	15'-7"	Str.	for payment					

* 2 Sets of 16, Each Bar varies by 1'-3"

72,646

PIERS

MARK	TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT
P1101	48	30'-11"	Str.						7,885
P1102	60	23'-0"	Str.						7,332
P1103	108	7'-6"	1	7'-6"	6'-8"				4,208
P201	6	15'-0"	Str.						387
P202	6	34'-0"	11	2'-9"	2'-8"	3'-3"	2"		878
P203	6	33'-0"	11	2'-5"	2'-8"	3'-3"	1"		849
P204	6	31'-8"	11	2'-5"	2'-8"	3'-3"	12"		912
P301	21	28'-11"	4	1'-3"	2'-5"	11"			2,405
P302	36	20'-4"	Str.						2,459
P303	36	6'-6"	1	1'-3"	5'-2"				796
P401	120	9'-4"	4	10"	7'-8"	6 1/2"			2,289
P501	54	8'-0"	6	8"	6'-8"	6"			649
P601	60	3'-8"	2	7 1/2"	2'-8"	7 1/2"			229
P602	6	3'-2"	2	7 1/2"	2'-8"	7 1/2"			20
P603	6	2'-9"	2	7 1/2"	1'-9"	7 1/2"			17
P604	24	7'-0"	7	1'-7"	2'-4"			4 1/2"	175
P605	6	26'-5"	Str.						165
P606	32	7'-5"	2	2'-6"	2'-8"	2'-6"			102

SPIRAL BARS

MARK	TOTAL	LENGTH	SIZE	PITCH	NO. TURNS	CORE DIA.	WEIGHT
S401	3	28'-3"	4	4 1/2"	78	32"	539
S402	3	20'-8"	4	4 1/2"	57	32"	122
R403	3	17'-8"	4	4 1/2"	50	32"	283

$5,936

ABUTMENT NO. 1

MARK	TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT
A601	28	18'-11"	5	7'-6"	1'-5"	6'-3"	3'-8"	1'-3"	796
A602	12	7'-1"	1	8 1/2"	6'-8"				132
A603	8	4'-10"	1	9 1/2"	6'-8"				82
A604	6	6'-6"	1	9 1/2"	5'-10"				59
A501	18	32'-0"	Str.						618
A502	14	9'-5"	Str.						90
A503	24	3'-8"	2	7 1/2"	2'-1"	7 1/2"			79
A504	10	6'-8"	6	7"	5'-6"	3 1/2"			70
A505	6	8'-5"	Str.						53
A506	24	10'-3" to 10'-11"	Str.	2 sets of 12, each bar varies by 1/2"					265
A507	2	2'-6"	9	7 1/2"	1'-5"	3"	10"	0	5
A508	2	1'-3"	1	7 1/2"	11"				3
A509	12	3'-10" to 4'-1"	9	7 1/2"	1'-5"	3"	11 1/2"	0	44
A510	12	1'-9" to 3'-10"	1	7 1/2"	1'-3 1/2"				30
A511	4	4'-3"	9	7 1/2"	1'-5"	3"	2'-7"	0	18
A512	4	3'-8"	1	7 1/2"	2'-10"				13
A513	19	4'-5"	9	7 1/2"	1'-5"	3"	2'-9"	0	88
A514	19	3'-4"	1	7 1/2"	2'-10"				66
A515	1	16'-8"	Str.						17
A516	4	18'-4"	Str.						76
A517	14	19'-6"	Str.						270
A518	16	3'-6" to 3'-8"	Str.	4 sets of 4, each bar varies by 1/2"					60
A519	4	4'-0"	Str.						17
A520	4	4'-11"	Str.						21
A521	4	5'-10"	Str.						24
A522	4	11'-4"	Str.						47
A523	24	9'-6" to 10'-2"	Str.	2 sets of 12, each bar varies by 3/4"					246
A524	6	7'-9"	Str.						48
A525	14	3'-4"	Str.						49
A526	6	13'-5"	Str.						84
A527	7	37'-10"	Str.						247
A528	56	9'-6"	8	2'-1"	3'-5"	2'-8"			555
A529	5	15'-11"	Str.						83
A530	5	14'-8"	Str.						76
A531	50	7'-3"	8	2'-1"	3'-8"	2'-8"			378
A532	20	9'-11"	2	4'-6"	1'-3"	4'-6"			207
A533	16	3'-2"	1	7 1/2"	4'-8"				86
A534	4	14'-6"	Str.						60
A535	4	13'-5"	Str.						56
A536	4	12'-4"	Str.						51
A537	2	17'-9"	8	2'-1"	1'-6"	2'-5"		29-9 1/2"	37
A538	2	19'-9"	8	2'-1"	3'-6"	2'-5"		29-9 1/2"	41
A539	8	13'-1"	Str.						109
A540	9	3'-2"	Str.						30
A541	3	2'-10"	Str.						27
A542	14	3'-0"	Str.						44
A543	1	16'-0"	Str.						18
A544	4	5'-3"	Str.						22
A401	38	3'-3"	1	6 1/2"	2'-10"				82
A402	38	4'-0"	2	2'-4"	8"	2'-8"			123
R403	8	12'-8"	Str.	Includes with Railing for Payment					

* 2 sets of 6, each bar varies by 3"

5,765

ABUTMENT NO. 2

MARK	TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT
B701	51	5'-4"	12	10"	4'-6"	6 1/2"			556
B702	51	7'-3"	Str.						747
B601	28	17'-9"	5	7'-6"	1'-5"	6'-1"	3'-8"	3"	746
B602	62	11'-1"	2	4'-0"	3'-5"	4'-0"			1032
B603	15	8'-0"	6	8"	6'-8"	6"			180
B604	12	5'-6"	6	8"	4'-8"	6"			99
B605	8	5'-9"	6	8"	4'-8"	6"			69
B606	8	5'-0"	6	8"	3'-8"	6"			60
B501	24	4'-5"	2	7 1/2"	3'-5"	7 1/2"			111
B502	11	6'-8"	6	7"	5'-6"	5 1/2"			76
B503	24	32'-7"	Str.						816
B504	24	10'-2"	Str.						254
B505	20	3'-5"	Str.						71
B506	4	8'-2"	Str.						34
B507	4	11'-2"	Str.						47
B508	4	15'-10"	Str.						66
B509	6	14'-6"	Str.						91
B510	4	8'-5"	4	3'-8"	3'-8"	1'-7"	1'-4"		35
B511	4	10'-3"	Str.						43
B512	32	8'-8"	Str.						289
B513	32	3'-3 to 4'-0"	Str.	4 sets of 8, each bar varies by 1"					121
B514	4	5'-2"	Str.						22
B515	4	4'-8"	Str.						19
B516	16	3'-7 1/2" to 3'-10"	Str.	4 sets of 4, each bar varies by 1"					62
B517	2	18'-7"	8	3'-0"	1'-6"	2'-6"		29-9 1/2"	33
B518	4	14'-4"	Str.						60
B519	2	11'-6"	Str.						24
B520	2	13'-7"	8	3'-0"	1'-6"	2'-6"		29-9 1/2"	28
B521	12	4'-5"	9	7 1/2"	1'-3"	3"	2'-9"	0	55
B522	12	3'-4"	1	7 1/2"	2'-10"				42
B523	4	4'-3"	9	7 1/2"	1'-3"	0	2'-7"	3"	18
B524	4	3'-8"	1	7 1/2"	2'-8"				13
B525	12	2'-10 to 4'-1"	9	7 1/2"	1'-3"	0	3'-9 1/2"	3"	43
B526	12	1'-9" to 3'-0"	1	7 1/2"	1'-3"				29
B527	2	2'-6"	9	7 1/2"	1'-3"	0	1'-10"	3"	5
B528	2	1'-5"	1	7 1/2"					3
B529	11	9'-2"	6	7"	5'-0"	3 1/2"			105
B530	4	11'-8"	Str.						47
B531	24	5'-3"	2	3'-9"	2'-8"	3'-9"			207
B532	4	4'-3"	2	1'-9"	1'-3"	1'-9"			18
B533	4	4'-7"	2	1'-7"	1'-9"	1'-7"			19
B534	4	4'-11"	2	1'-9"	1'-9"	1'-9"			21
B535	4	5'-3"	2	1'-11"	1'-9"	1'-11"			22
B401	30	3'-3"	1	6 1/2"	2'-10"				65
B402	30	4'-10"	2	2'-4"	8"	2'-8"			97
R403	8	4'-8"	Str.	Included with Railing for Payment					

* 2 sets of 6, each bar varies by 3"

6,272

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUTS.	PIERS	GENERAL
E2	403	Cu. Yds.	Unclassified Excavation		262	141	
S-1	299	Cu. Yds.	Class "C" Concrete, Superstructure	299			
S-1	85	Cu. Yds.	Class "C" Concrete, Pier Caps & Columns			85	
S-1	116	Cu. Yds.	Class "E" Concrete, Abutment above Footing		116		
S-1	102	Cu. Yds.	Class "E" Concrete, Footings		43	59	
S-4	121,017	Lbs.	Reinforcing Steel	72,646	12,435	35,936	
S-7	217,000	Lbs.	Structural Steel	217,000			
S-8	217,000	Lbs.	Field Painting of Structural Steel, As per plan	217,000			
S-14	660	Lin. Ft.	Railing (Aluminum Rail & Support, Concrete Parapet)	594	66		
S-16	Lump Sum		First Test Pile				Lump Sum
S-18	480	Lin. Ft.	Steel Piles 12 BP 53		480		
S-29	28	Cu. Yds.	Porous Backfill		28		
S-29	16	Each	Scuppers	16			
1-10	411	Sq. Yds.	Crushed Aggregate Slope Protection				411

REPLACEMENT BARS

MARK	NO.	LENGTH	TYPE	WEIGHT
RE1101	1	7'-6"	Str.	
RE1102	1	7'-2"	Str.	
RE901	1	6'-10"	Str.	
RE706	1	8'-2"	Str.	
RE605	3	5'-11"	Str.	
RE506	2	5'-7"	Str.	
RE407	1	5'-3"	Str.	
RE408	1	5'-3"	13	

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 S-4.02 need not be furnished and replacement bars will not be required.

Type (3) Spiral

SPIRAL NOTES

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 the spiral bars is the "length" divided by the pitch, plus 3 turns (total number of closed coils), expressed to the nearest whole number.

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

If 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 sources 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.

BAR SIZE

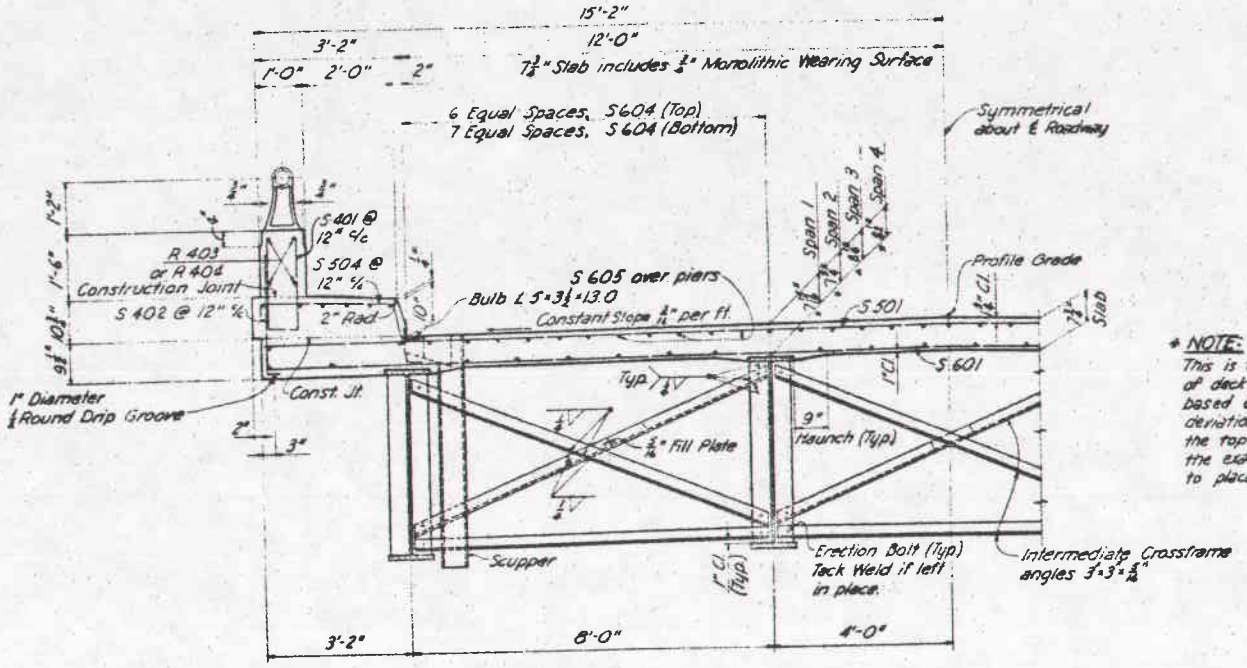
Bar size is indicated in the bar mark. The first digit (single digit) are used, and the last two digits are four are used, indicate the bar size number. For example, A401 is a number 4 size bar and A114 is a number 14 size bar.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

REINFORCING STEEL LIST & ESTIMATED QUANTITIES
BRIDGE NO. 2
OVER
STATE ROAD (19)
ASHTABULA COUNTY
Design Unit

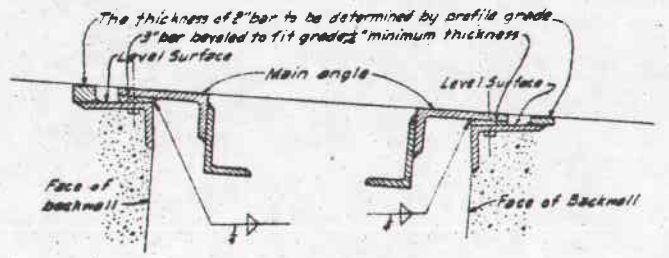
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

ASHTABULA COUNTY
ATB-46-25.24

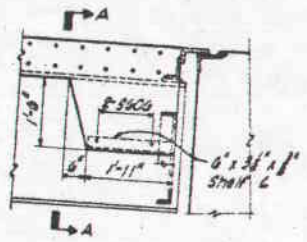


HALF CROSS SECTION

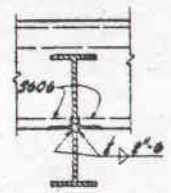
* NOTE:
This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade.



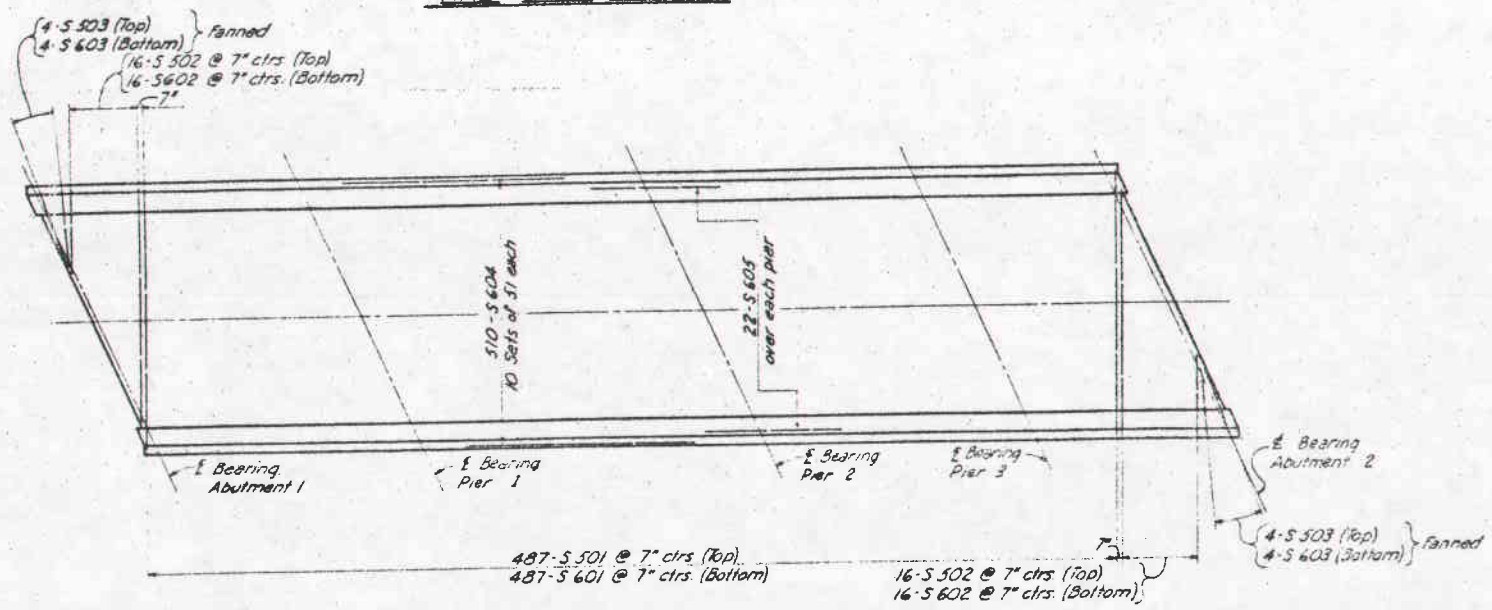
END DAM DETAIL



COUNTERWEIGHT DETAIL
At Abut. No. ℄ Only



SECTION A-A



DECK SLAB PLAN

NOTES

- Refer to Standard Drawing CSB-2-56, Sheet 2 of 6 for details of end dam.
- 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 Dam: A welded butt joint in the end dam, at the center line of roadway will be required for that portion of the end dam 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".
- Painting: After erection and after the shop coat has been cleaned and, where necessary, repainted in accordance with Sec. 8.04, an additional coat of the same paint as used in the shop shall be applied over the outside face of the outside steel girders and all soffit of bottom flange.
- For radiographic examination of welds, see "Welding Notes" sheet 29c.

DECK PLACING PROCEDURE

In placing the deck concrete, construction joints will be permitted, parallel to the transverse reinforcing steel and near the middle of any span. Because of the flow of curing water from the surface of the previously placed deck concrete, the sequence of pours shall be up grade, starting at the lowest end of the vertical curve.

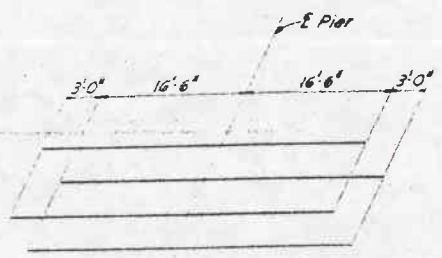


DIAGRAM SHOWING STAGGER OF S605 BARS OVER PIERS

DEFLECTION AND CONVEXITY

LOCATION	SPAN NO. 1				SPAN NO. 2			
	1	2	3	4	1	2	3	4
Deflection due to weight of steel	1/16"	1/8"	1/16"	0	1/16"	1/8"	1/16"	0
Deflection due to remaining dead load	3/8"	11/16"	5/16"	1/8"	5/16"	5/8"	3/16"	1/8"
Convexity required for Vertical Curve	0	3 1/16"	2 3/8"	0 1/2"	0	3 1/16"	2 3/8"	0 1/2"
Sum of Deflection and Convexity	7/16"	3 3/8"	3 1/8"	0 5/8"	5/8"	3 7/16"	3 1/8"	0 5/8"
Camber Required	0	3 3/8"	3 1/8"	0 5/8"	0	3 7/16"	3 1/8"	0 5/8"

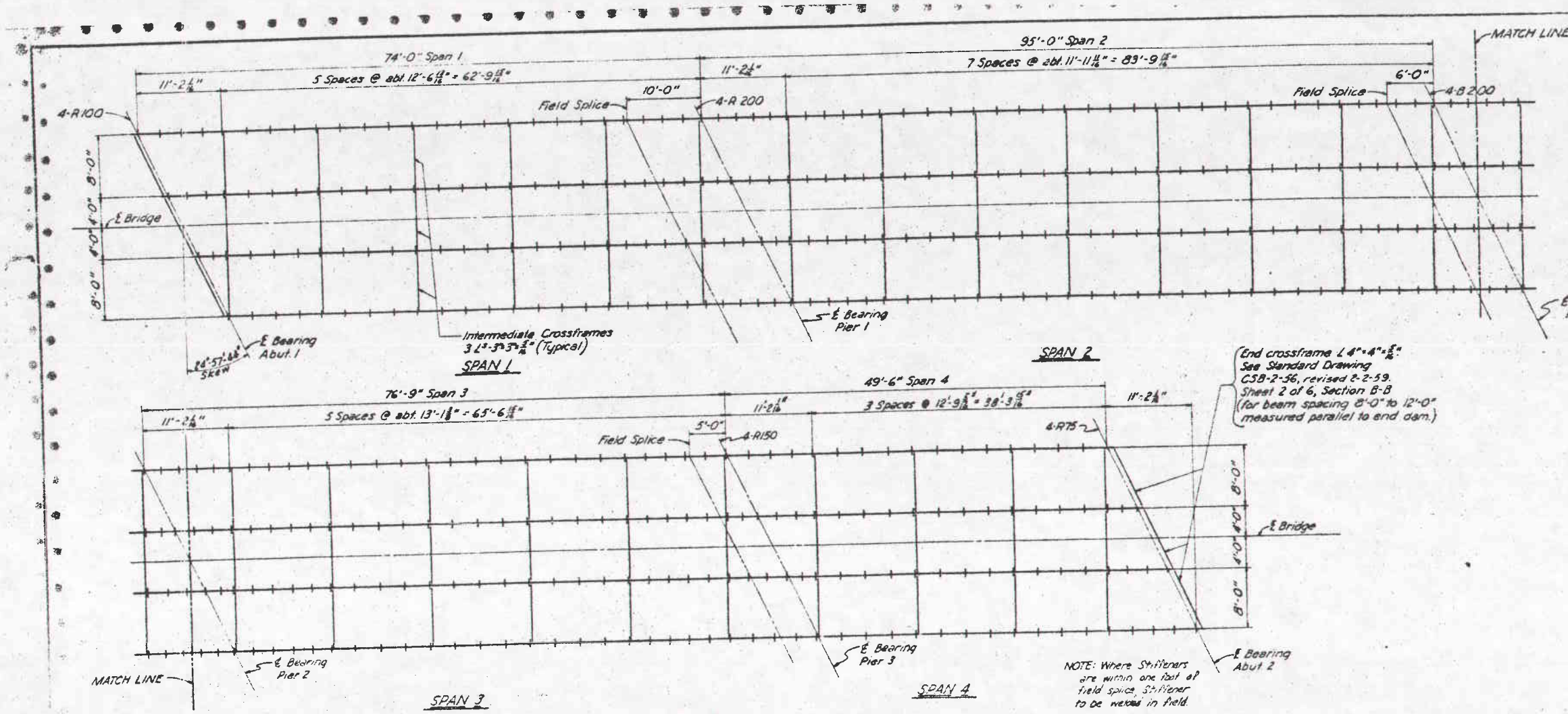
MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SUPERSTRUCTURE
BRIDGE NO. [illegible]
UNDER
STATE ROAD (NORTH)

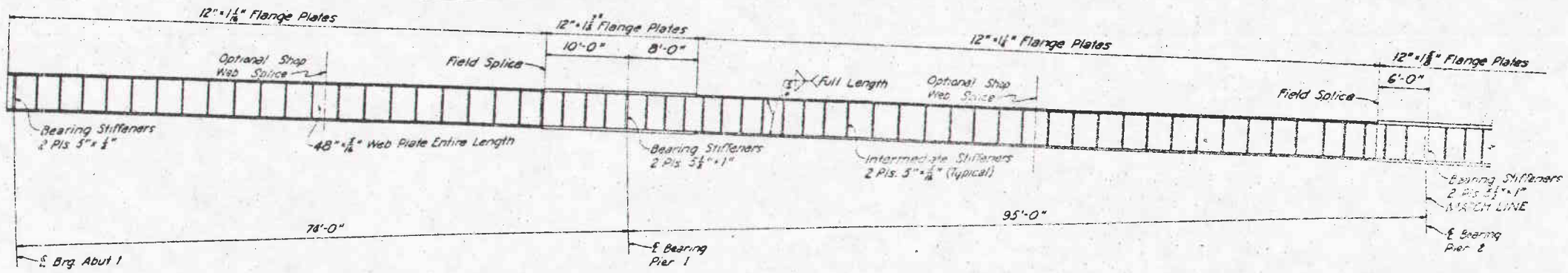
ASHTABULA COUNTY

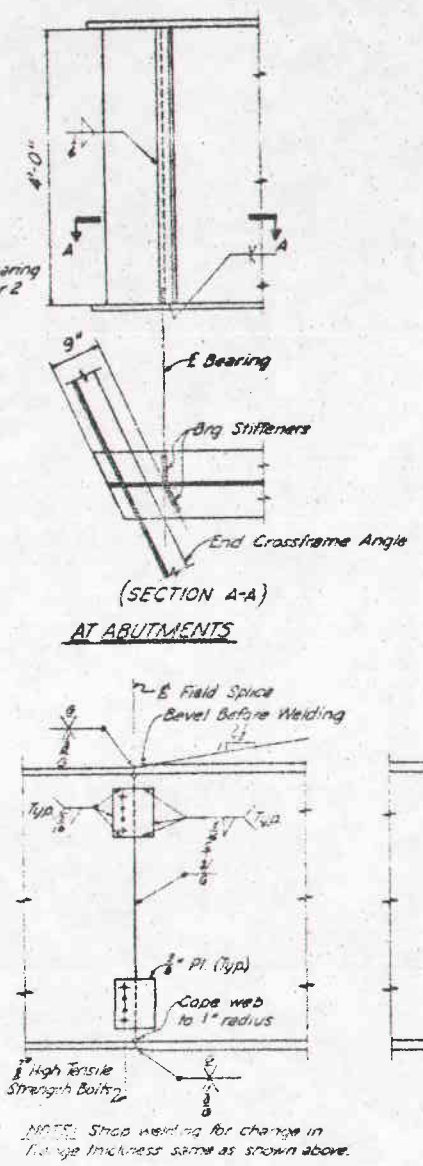
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

ASHTABULA COUNTY
ATB-46-25.24



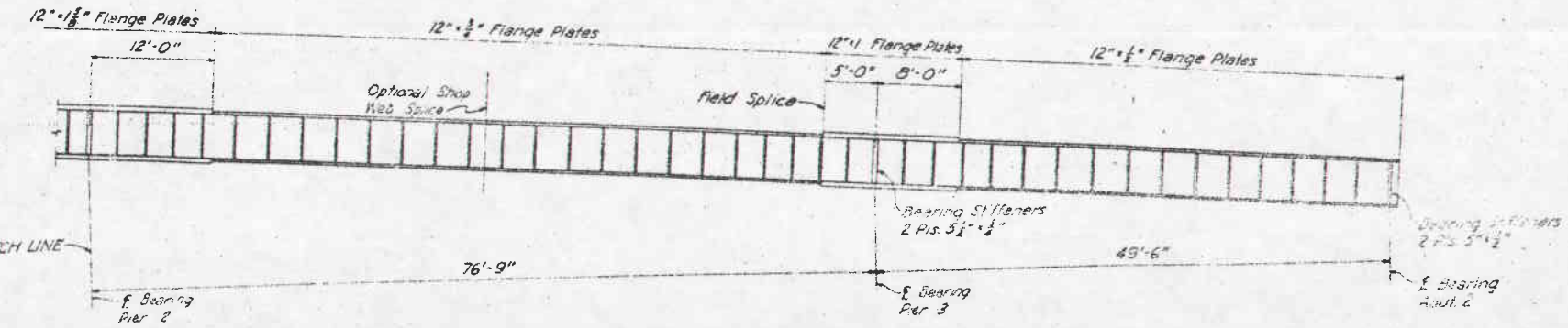
STEEL FRAMING PLAN





GIRDER DETAILS

NOTE: Intermediate Stiffeners shall not be welded to the flange but shall be fitted to the flange in close enough contact that when the shop paint is applied it will fill and close the openings. The bearing stiffeners over supports shall be grooved and fully butt welded to the lower flange and fitted in close contact, without welding at the upper flange.



GIRDER ELEVATION

SHOP DRAWINGS for the girders shall include an overall layout with dimensions showing the relative unloaded vertical position of each girder or girder segment with respect to the others in the same girder line and with respect to a full length base or work line taking into account (camber and) the profile of the highway.

SHOP ASSEMBLY. [illegible] shall be assembled in the shop in a straight unloaded position as shown on the shop drawing, without regard to the above note so that the faced joints for welding the segments together may be checked for proper fitting.

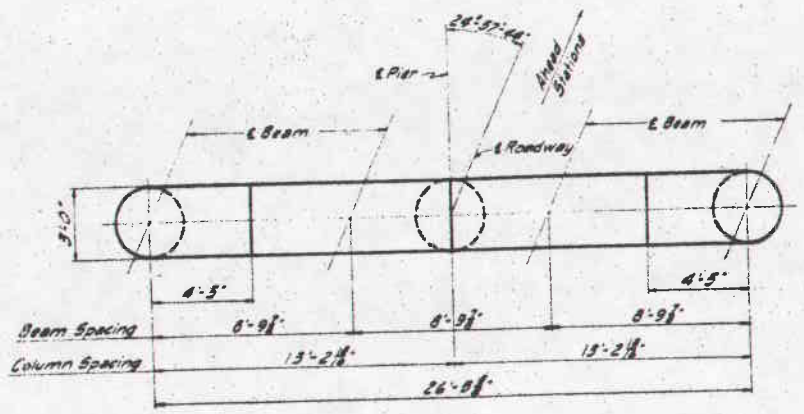
MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SUPERSTRUCTURE
BRIDGE NO. ATB-46-[illegible]

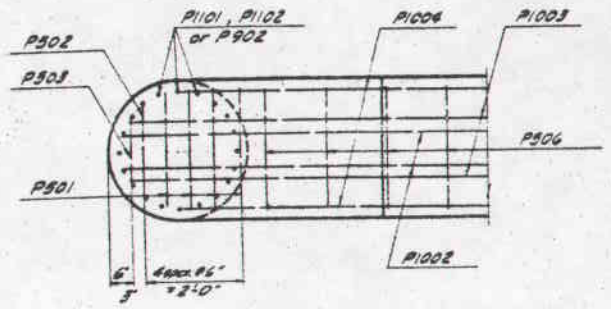
STATE ROAD [illegible]

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F663(5)	

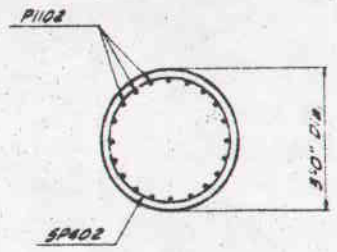
ASHTABULA COUNTY
ATB-46-25.24



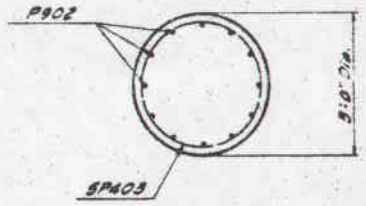
PLAN



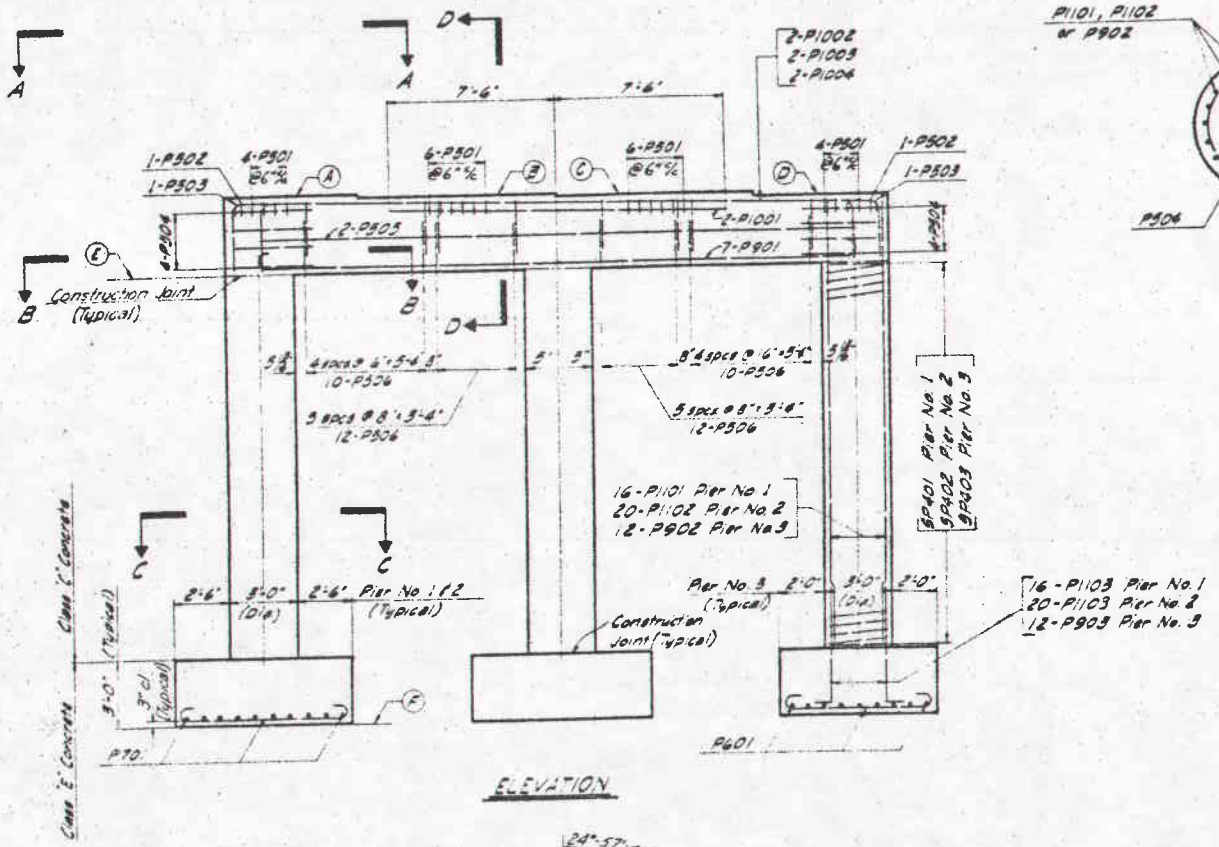
SECTION A-A



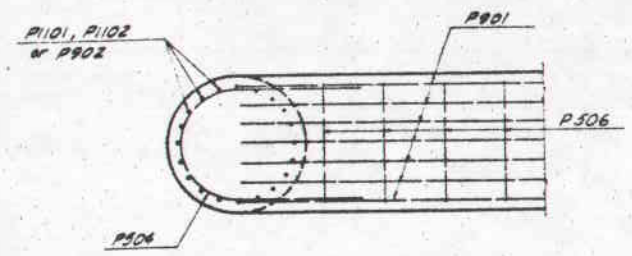
SECTION C-C
Pier No. 2



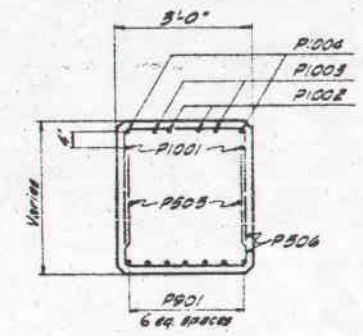
SECTION C-C
Pier No. 3



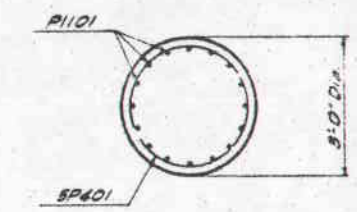
ELEVATION



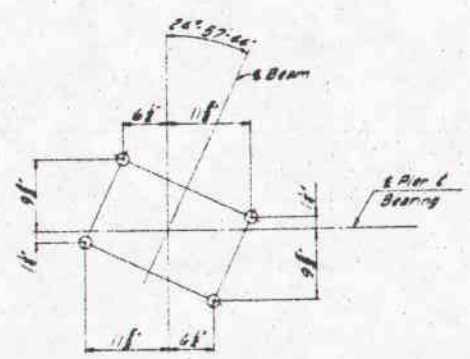
SECTION B-B



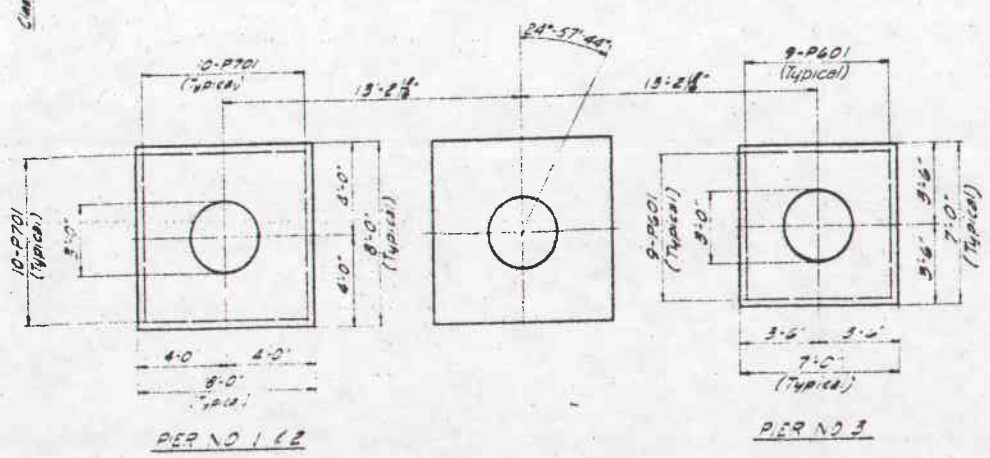
SECTION D-D



SECTION C-C
Pier No. 1



TYPICAL ANCHOR BOLT LAYOUT
(At Pier 2 Only)



PIER NO 1 & 2

PIER NO 3

FOOTING PLAN

TABLE OF ELEVATIONS						
LOCATION	A	B	C	D	E	F
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pier No. 2	744.80	744.49	744.45	744.3	74[illegible].0	7[illegible].74
Pier No. 3	740.19	740.07	739.82	739.45	739.45	715.75

NOTES

- Special care shall be taken in placing reinforcing steel in the bridge seat at Pier 2 so that it will not interfere with the drilling of anchor bolt holes.
- Foundation Bearing Pressure: Pier footings are designed for a maximum bearing pressure of 6 tons per sq ft.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

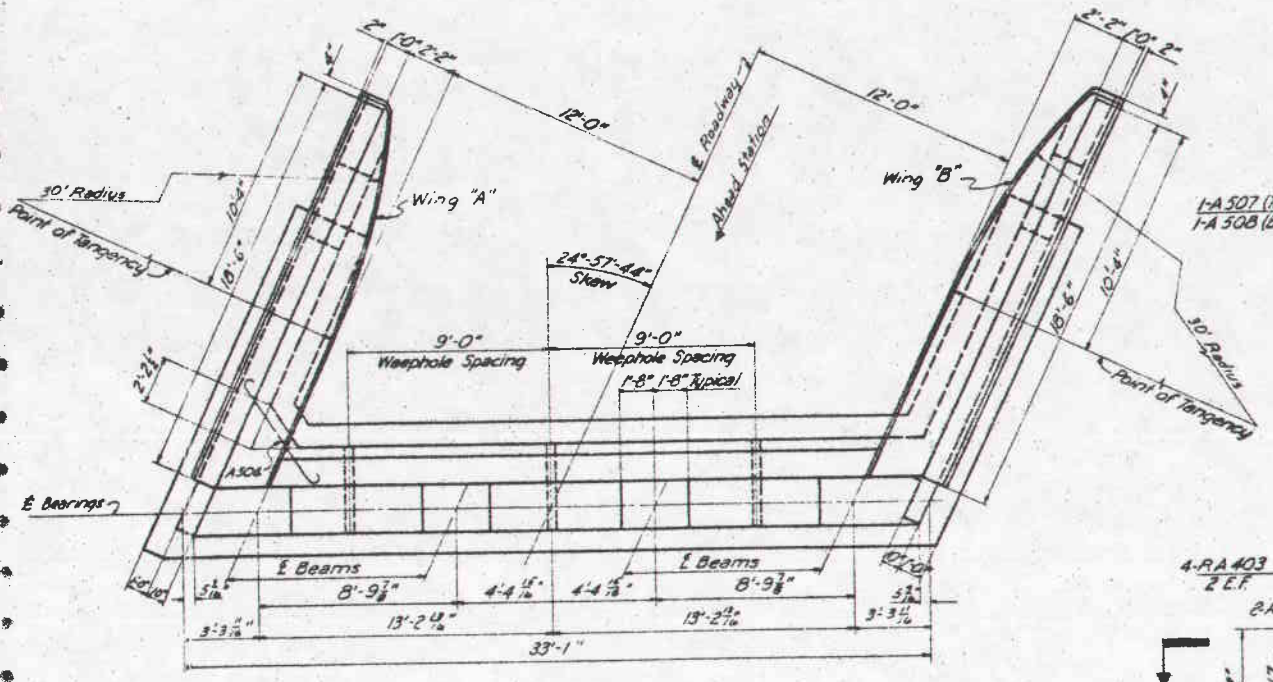
PIERS
BRIDGE NO. ATB-46-2[illegible]
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY

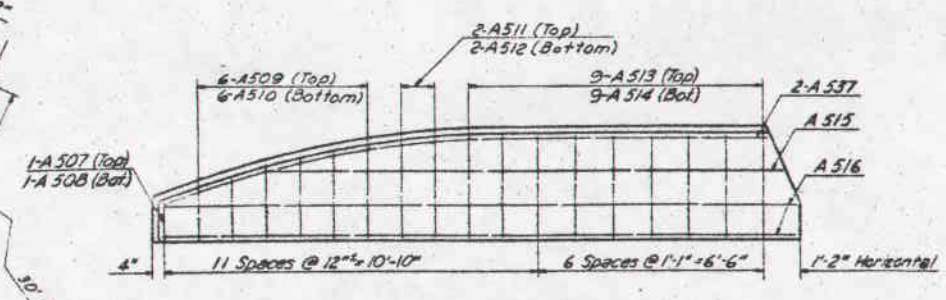
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2511	663	8[illegible]	[illegible]	[illegible]

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

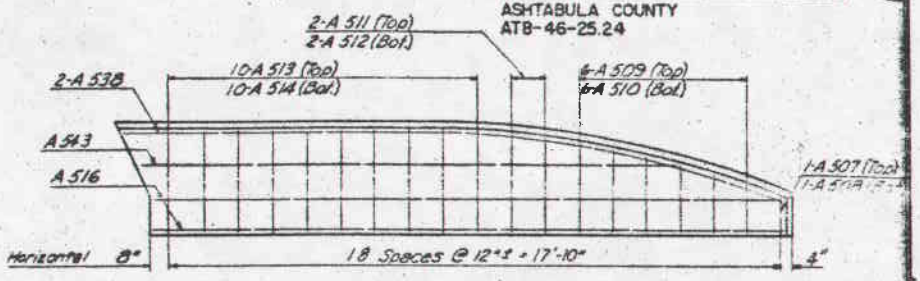
ASHTABULA COUNTY
ATB-46-25.24



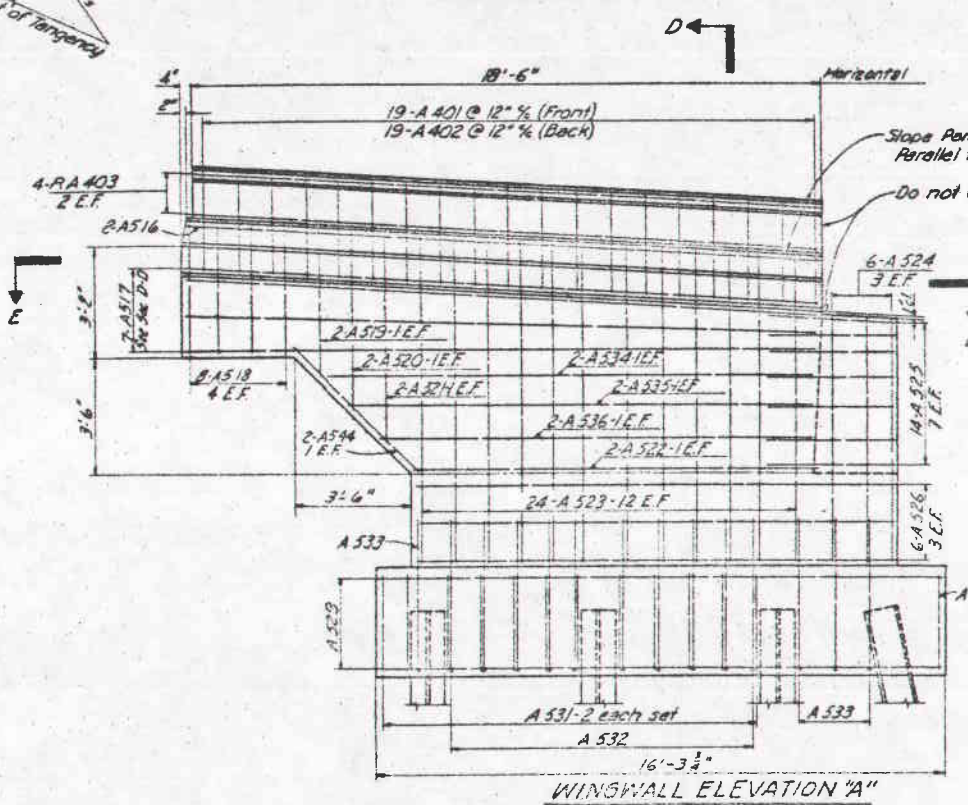
PLAN



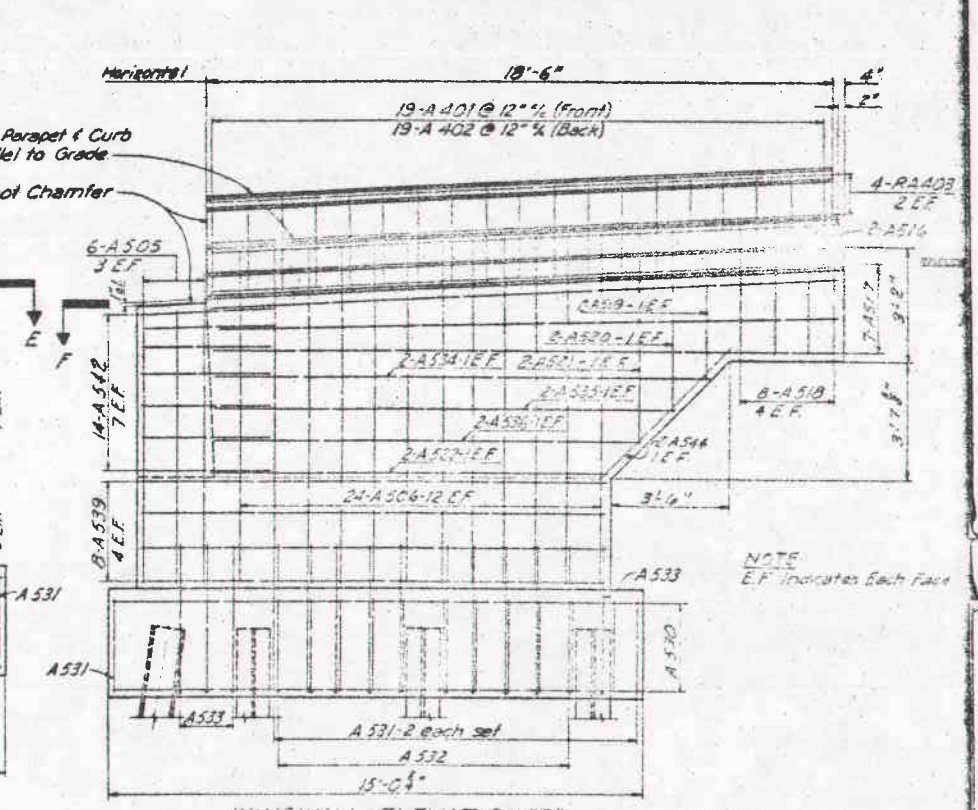
SECTION E-E



SECTION F-F

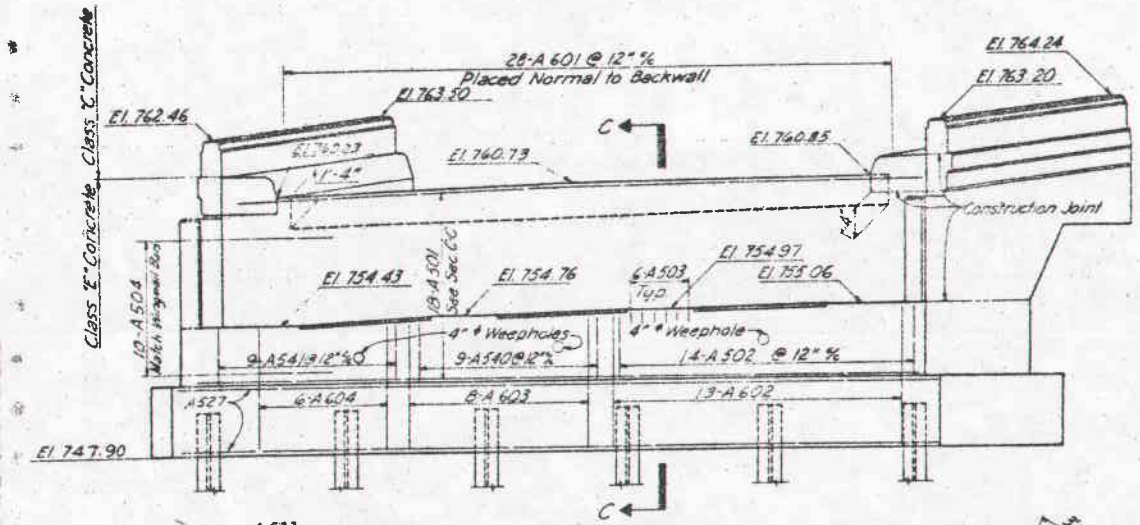


WINGWALL ELEVATION "A"

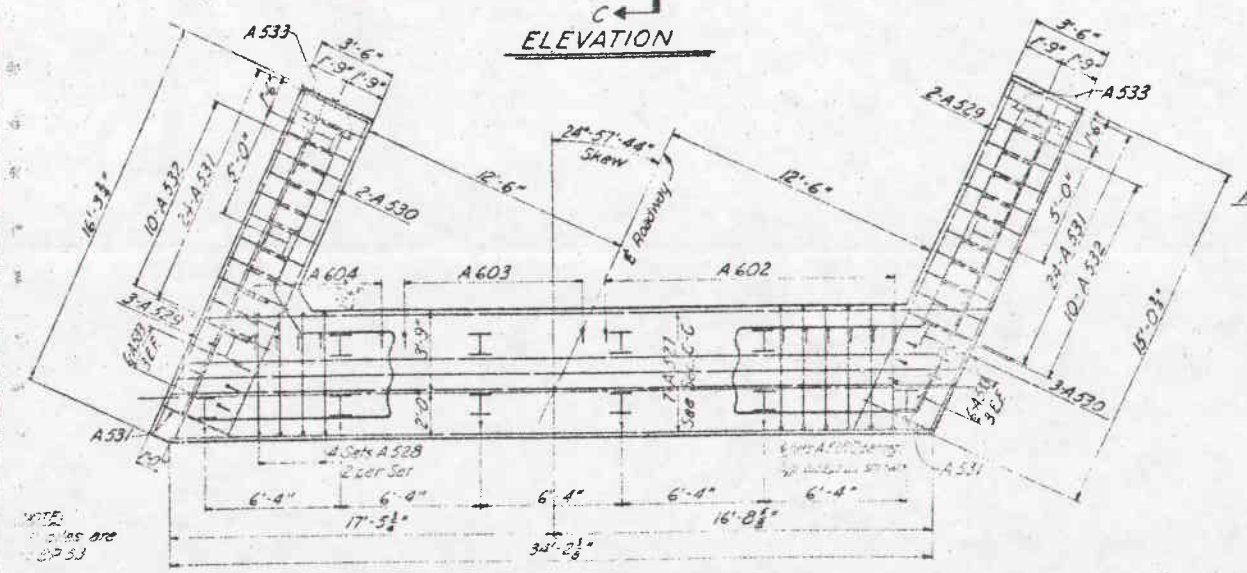


WINGWALL ELEVATION "B"

NOTE
E.F. Indicates Each Face



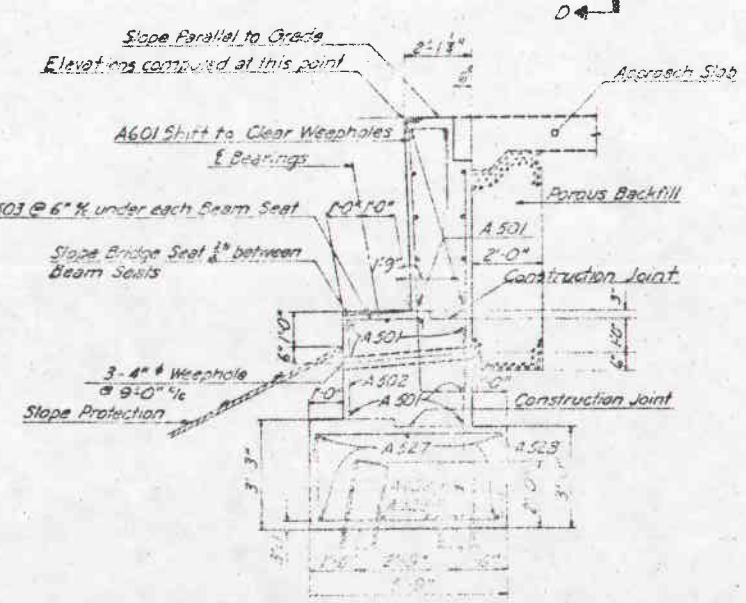
ELEVATION



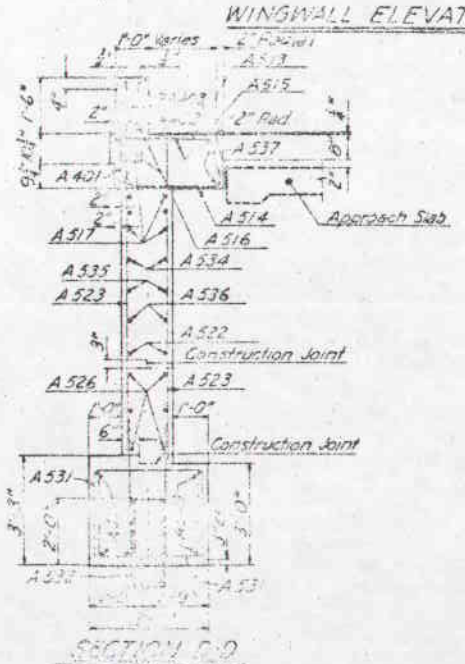
NOTE:
Piles are BP 53

For Piles 2:12 in Direction Shown

FOOTING PLAN



SECTION C-C



SECTION D-D

NOTES

- Porous backfill behind full height of abutment and extend up to the underside of the approach slab.
- Concrete above bridge seat construction joint shall be placed until after the steel work is erected, it shall be placed before placing deck slab.
- All abutment concrete shall be Class "E".
- Concrete and reinforcing steel above parapet construction joint included with railing for payment.
- Railing not shown. See "General Plan & Elevation" for railing post spacing.
- Piles for Abutment No. 1 to be 12 BP 53 and shall be driven to a bearing capacity as given in the general notes on the "General Plan and Elevation".

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

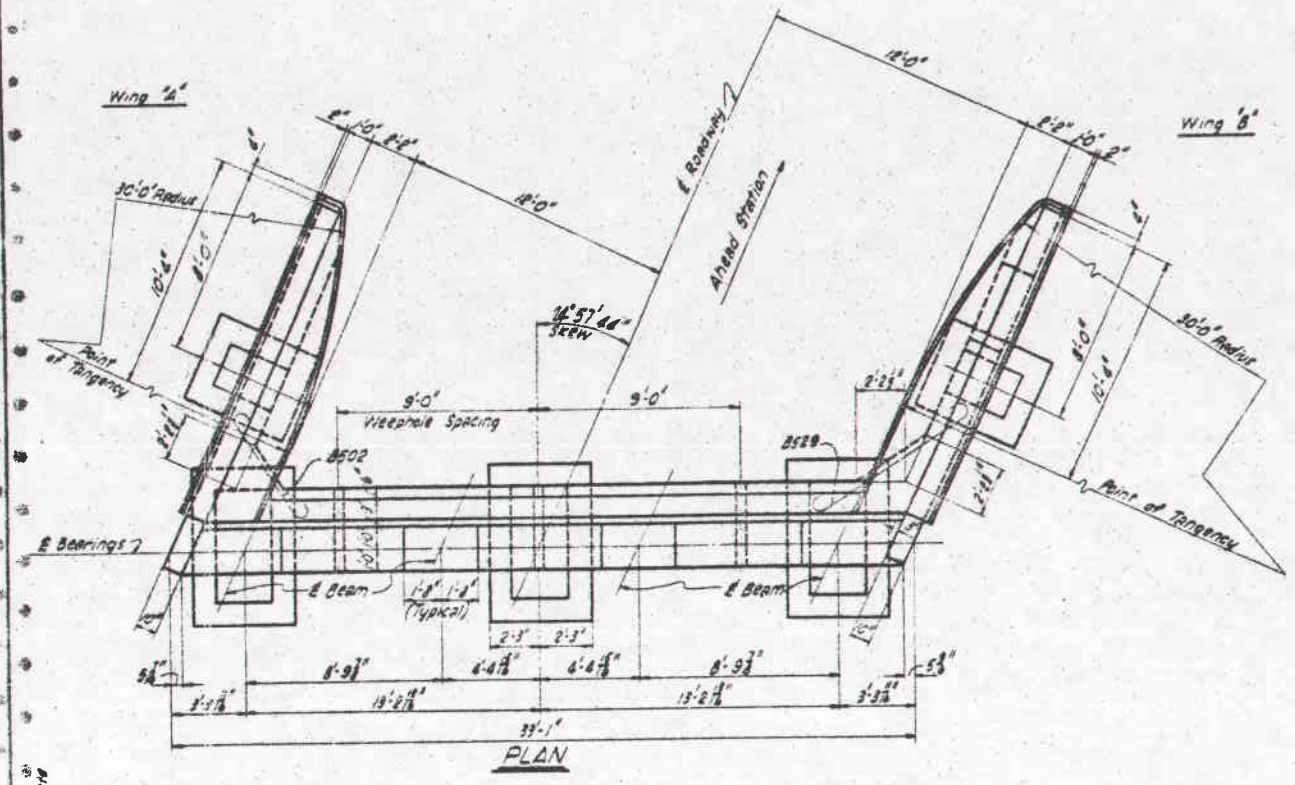
ABUTMENT NO. 1
BRIDGE NO. ATB-
OVER
STATE ROAD (NDATR)

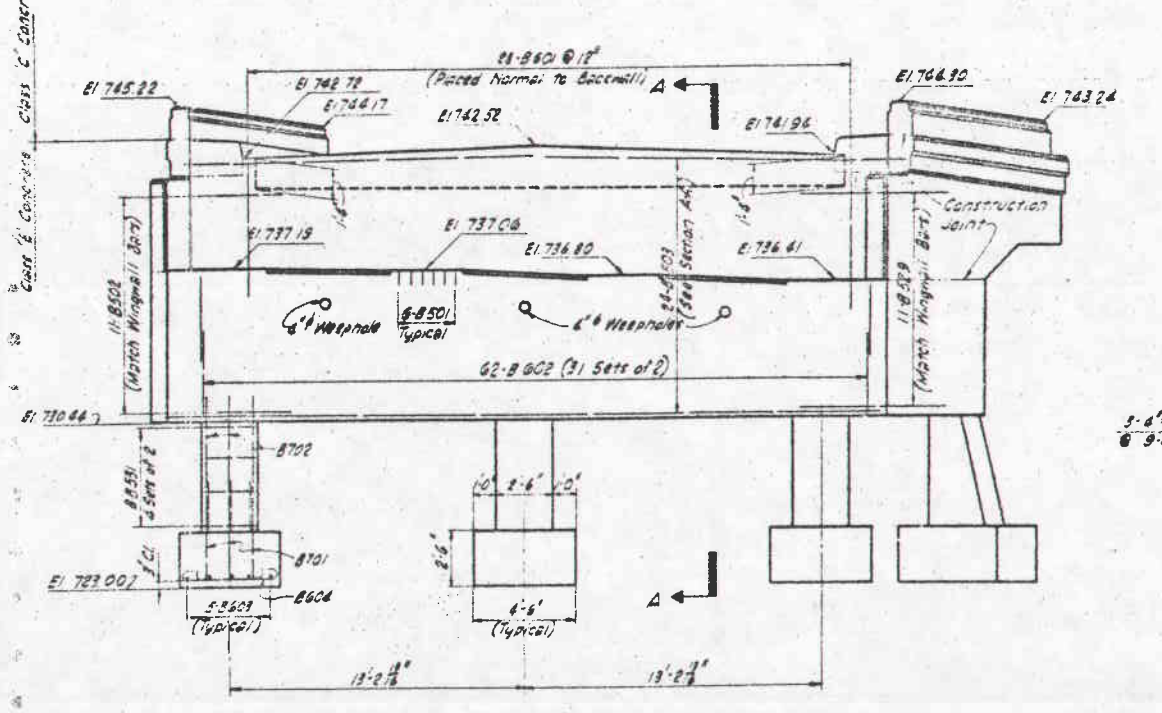
ASHTABULA COUNTY

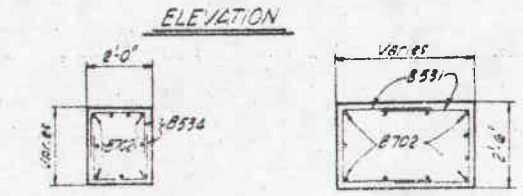
DATE	AKN	REV	DATE

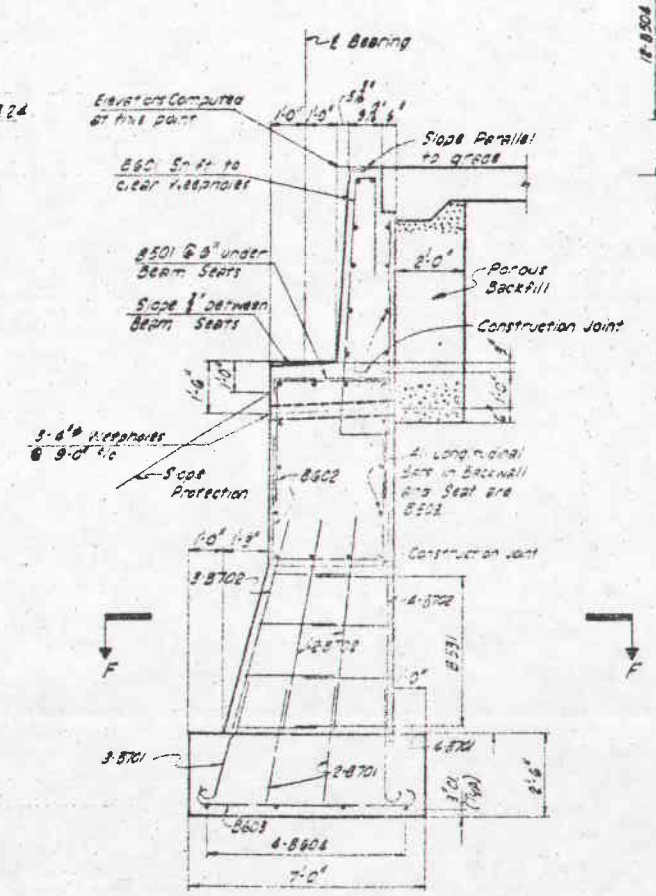
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

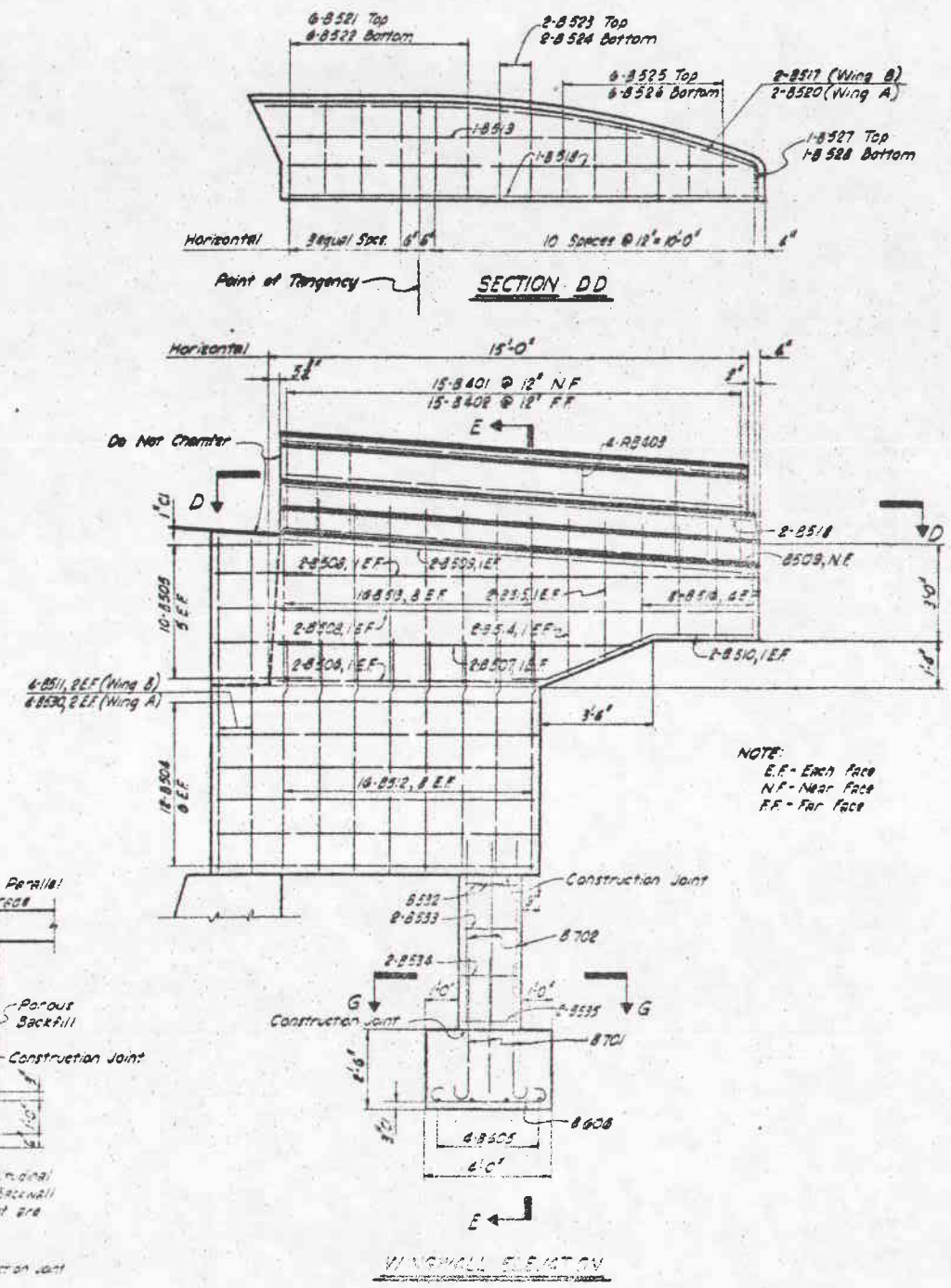
ASHTABULA COUNTY
ATB-46-25.24

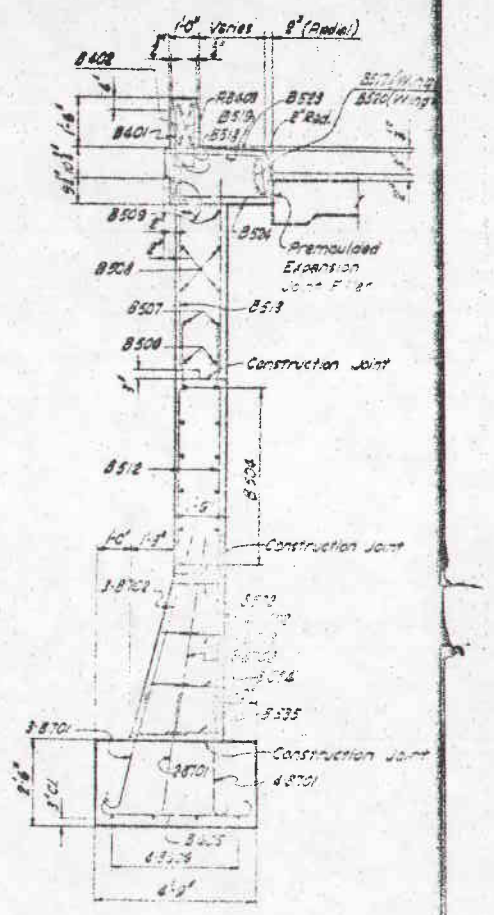












NOTES

- Foundation Bearing Pressure: Abutment No. 2 footings are designed for a maximum bearing pressure of 6 tons per sq. ft.
- See Abutment No. 1 for other notes.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

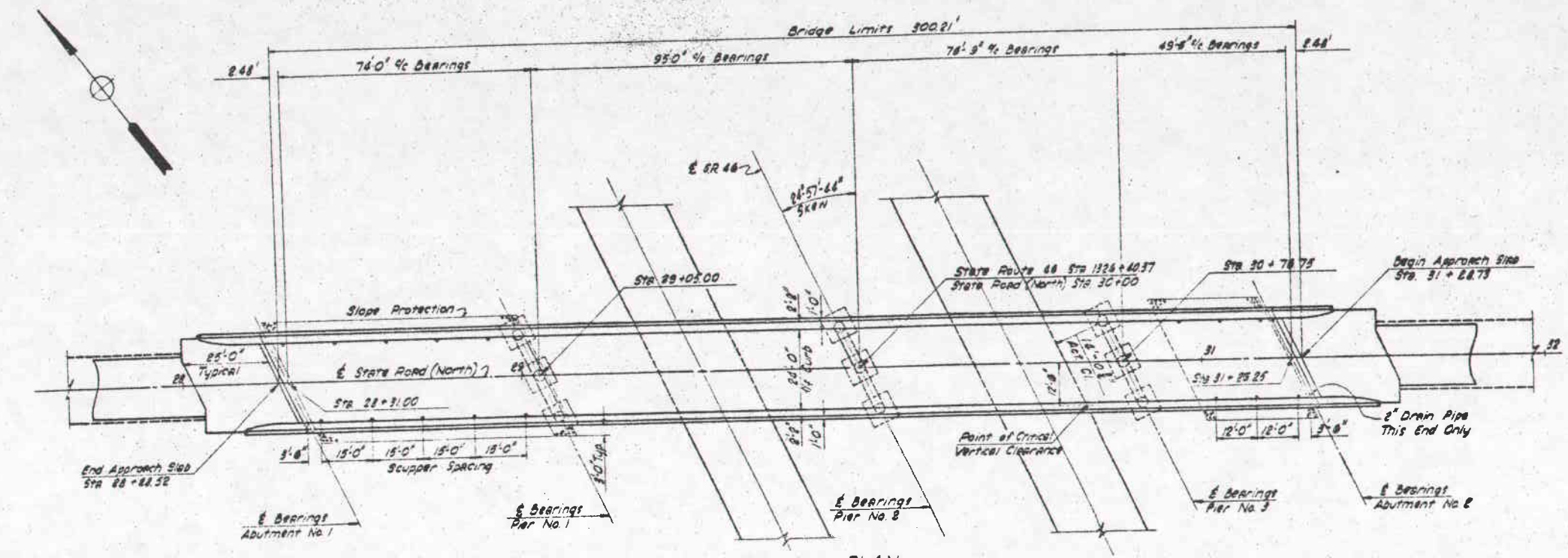
ABUTMENT NO. 2
BRIDGE NO. ATB-46-2
STATE ROAD (NORTH)

YG	YG	EA

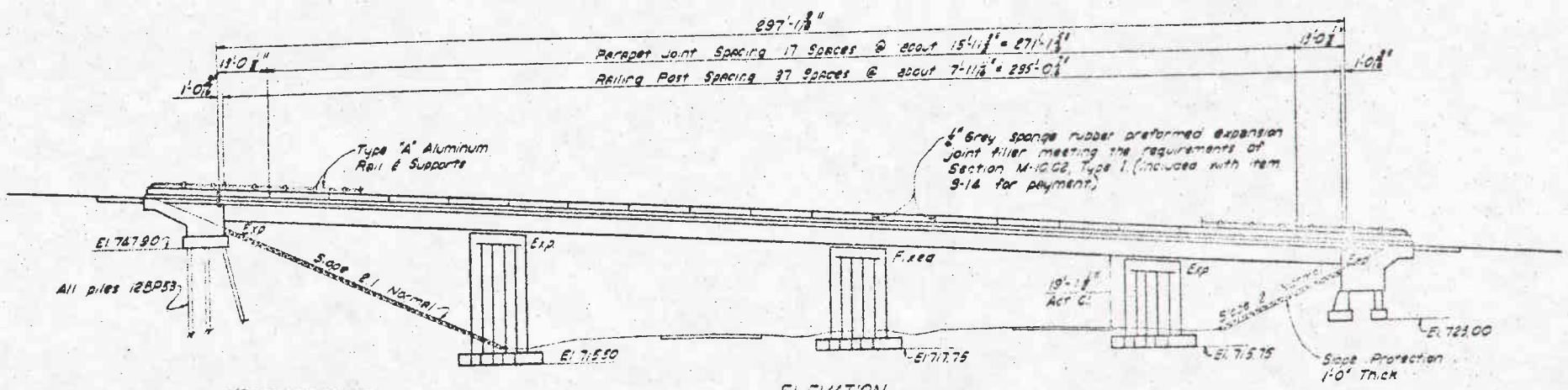
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

262
369

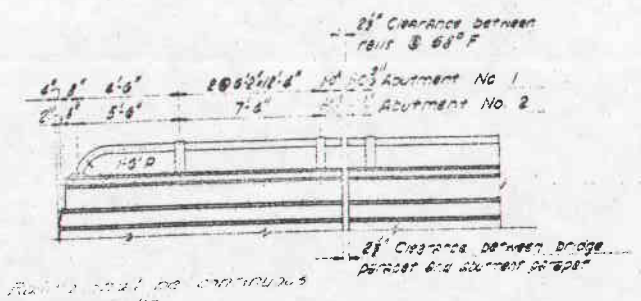
ASHTABULA COUNTY
ATB-46-25.24



PLAN

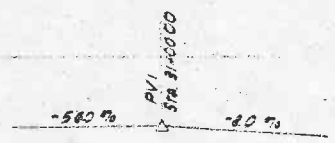


ELEVATION



Rails shall be continuous on wingwalls.

TYPICAL ABUTMENT RAILING DETAIL



400' VC
PVI Sta. 31+00
Elev 745.60
V.O. 1.20

VERTICAL CURVE DATA

GENERAL NOTES

- Reference shall be made to Standard Drawing CSB-2-56, sheets 2 of 3 of 6, RB-1-55, AR-1-57, revised 2-2-59, and Supplemental Specification S-101 dated 12-2-59.
- Design Specifications: This structure conforms to the requirements of "Design Specification for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-67 together with current revisions thereof.
- Loading: CF 130 (57)
- Welding of Structural Steel shall be Class "A" except as shown (—<8). Any welds shown as field welds may, at the option of the Contractor, be made in the shop.
- Piles shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with shale. If the length of penetration is approximately equal to the depth to 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. 9-18.05 is not less than the following value for a pile hammer of the indicated energy rating:
  43 tons per pile using an 11,000 ft.lb. hammer
  36 tons per pile using a 15,000 ft.lb. or greater 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 35 tons per pile.
- Foundation Bearing Pressure: Footings for Piers 1, 2 & 3 and Abutment 2 are designed for a maximum bearing pressure of 6 tons per sq. ft.
- For high tensile strength bolts, see Supplemental Specification S-207, dated 6-2-[illegible]
- Class "C" Concrete: Crushed aggregates for Class "C" Concrete shall be in accordance with Supplemental Specifications 9-101.
- **STEEL:** See Proposal regarding A-373 Steel.
- **MACHINE FINISH:** The top of the bridge deck slab shall be machine finished in accordance with the Proposal Note "Machine Finishing of Bridge Deck Slabs".

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

GENERAL PLAN & ELEVATION
BRIDGE NO. ATB-4[illegible]
OVER
STATE ROAD (NORTH)

ASHTABULA COUNTY

DESIGNED	DRAWN	CHECKED	DATE
GSM	AM	SB	[illegible]

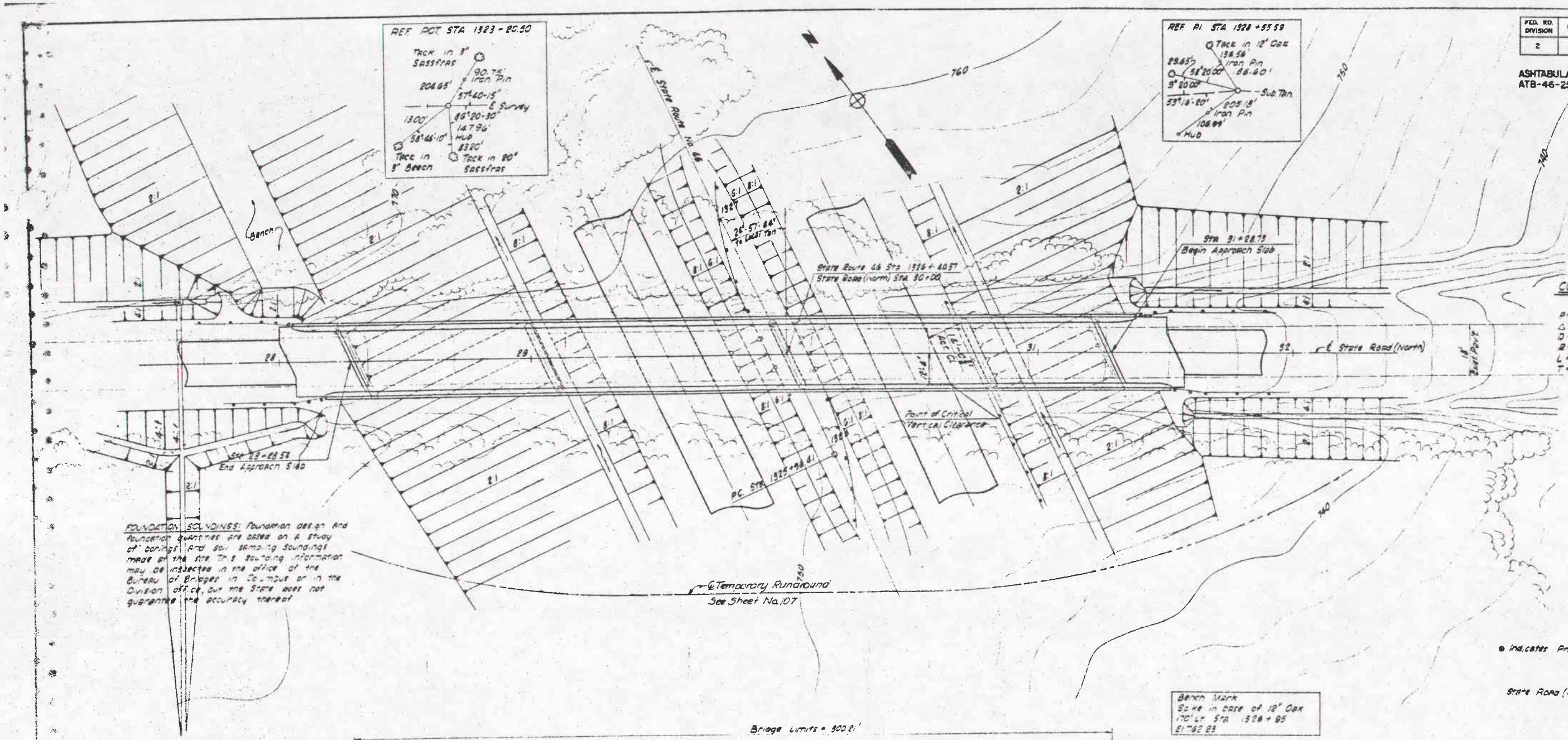
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

261
305

ASHTABULA COUNTY
ATB-46-25.24

REF. POT. STA 1323 + 20.50
Tack in 3" Sassafras
90.75' ℄ Iron Pin
204.65' 57°40'-15" ℄ Survey
1300' 89°20'-30" 147.96' Hub
58°46'-10" 83.20'
Tack in 3" Beech
Tack in 20" Sassafras

REF. PI. STA 1328 + 55.59
Tack in 12" Oak 138.56'
28.65' 58°20'00" Iron Pin 86.60'
9°20'00" Sub. Tan.
53°16'-20" 205.18' ℄ Iron Pin
108.99' ℄ Hub

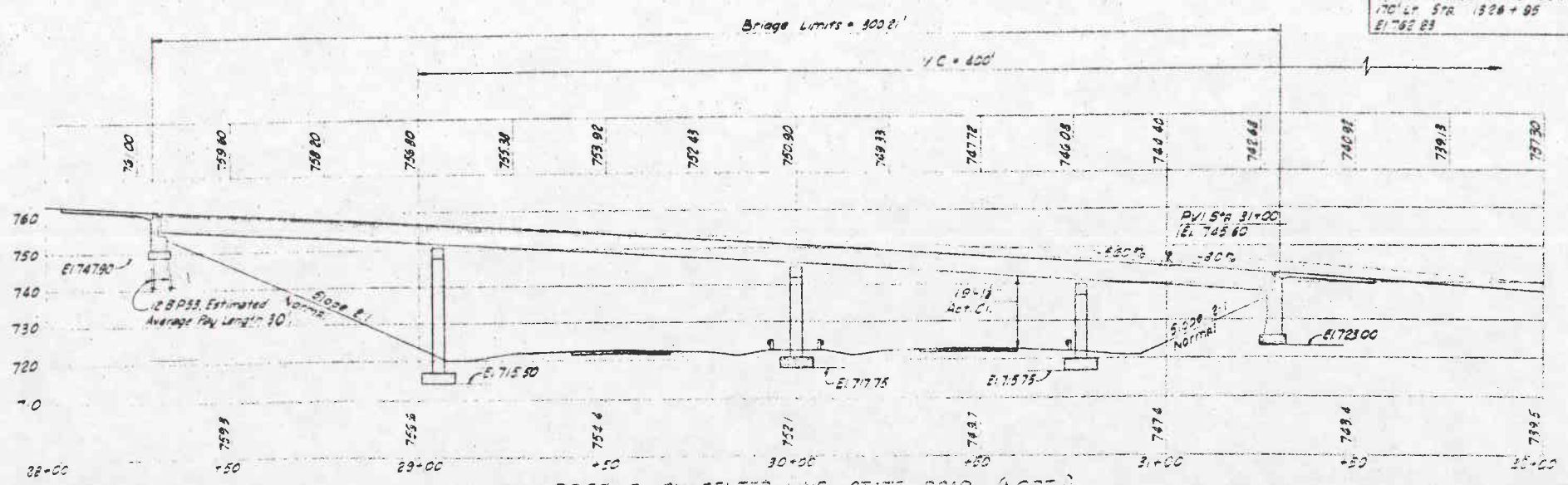


CURVE DATA
(Expressway)
P.I. Sta. 1328 + 55.59
Δ = 2°25'-07" Rt.
D = 0°-28'
R = 12,277.67'
L = 518.27'
T = 259.18'

● Indicates Proposed Boring Location

State Road (North) ADT 960 (1977)

Bench Mark
Spike in base of 12" Oak
170' Lt. Sta. 1326 + 95
El. 762.83



PROFILE ON CENTER LINE STATE ROAD (NORTH)

PROPOSED STRUCTURE
TYPE: Continuous steel plate girder with reinforced concrete deck and substructure
SPANS: 76'-95' + 75'-75' + 76'-95' (to centerline)
ROADWAY: 24'-0" to 28'-0" Sidewalk (Left)
LOAD: HS20 (CF 0.80 (ST))
WEARING SURFACE: 1" Monolithic concrete
APPROACH SLAB: Special Design (25' long)
SKEW: 24°-57'-44" RF
ALIGNMENT: Tangent

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SITE PLAN
BRIDGE NO. ATB-46-2520
OVER
STATE ROAD (NORTH)
ASHTABULA COUNTY

ATB-46-2540

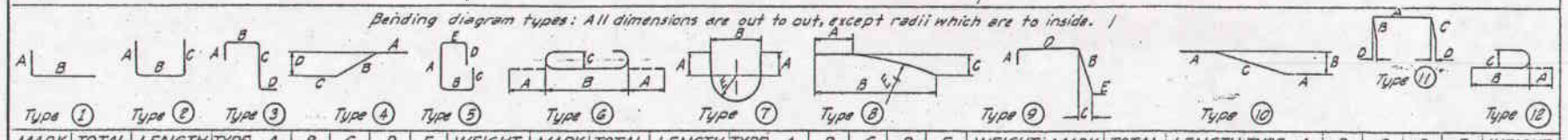
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

ASHTABULA COUNTY
ATB-46-25.24

268
309

REINFORCING STEEL BAR SCHEDULE

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



SUPERSTRUCTURE

MARK	TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT
S601	487	30'-0"	Str.						21,944
S602	32	8'-3" to 27'-0"	Str.						847
S603	8	7'-0"	Str.						84
S604	510	31'-4"	Str.						24,002
S605	66	36'-0"	Str.						3,569
S606	6	8'-6"	Str.						77
S501	487	30'-0"	Str.						15,238
S502	32	8'-3" to 27'-0"	Str.						588
S503	8	7'-0"	Str.						58
S504	594	5'-0"	9	7 7/8"	1'-3"	3"	2'-10"	7 7/8"	3,098
S401	594	4'-10"	2	2'-2"	8"	2'-2"			1,918
S402	594	3'-1"	1	6 3/4"	2'-8"				1,223
R403	16	12'-8"	Str.	Included with railing					
R404	136	15'-7"	Str.	for payment					
	* 2 Sets of 16, Each Bar varies by 1'-3"								
									72,646

PIERS

MARK	TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT
P1101	48	30'-11"	Str.						7,885
P1102	60	23'-0"	Str.						7,332
P1103	108	7'-4"	1	1'-6 1/2"	6'-8"				4,208
P1001	6	15'-0"	Str.						387
P1002	6	34'-0"	11	28'-9"	2'-8"	3'-3"	1 1/2"		878
P1003	6	33'-8"	11	28'-5	2'-8"	3'-3"	1 1/2"		869
P1004	6	31'-8"	11	26'-5"	2'-8"	3'-3"	1 1/2"		818
P901	21	28'-11"	6	11'-3"	26'-5"	11 1/2"			2,065
P902	36	20'-4"	Str.						2,489
P903	36	6'-6"	1	1'-3 1/2"	5'-6"				796
P701	120	9'-4"	6	10"	7'-8"	6 3/4"			2,289
P601	54	8'-0"	6	8"	6'-8"	6"			649
P501	60	3'-8"	2	7 5/8"	2'-8"	7 5/8"			229
P502	6	3'-2"	2	7 5/8"	2'-8"	7 5/8"			20
P503	6	2'-9"	2	7 5/8"	1'-9"	7 5/8"			17
P504	24	7'-0"	7	1'-7"	2'-4 1/2"		1'-4 1/2"		175
P505	6	26'-5"	Str.						165
P506	132	7'-5"	2	2'-6"	2'-8"	2'-6"			1021

SPIRAL BARS

MARK	TOTAL	LENGTH	SIZE	PITCH	NO. TURNS	CORE DIA.	WEIGHT
SP401	3	28'-3"	5/8"ø	4 1/2"	78	32"	1539
SP402	3	20'-4"	5/8"ø	4 1/2"	57	32"	1122
SP403	3	17'-8"	5/8"ø	4 1/2"	50	32"	983
							35,936

ABUTMENT NO. 1

MARK	TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT
A601	28	18'-11"	5	7'-6"	1'-5"	6'-3"	3'-2"	1'-3"	796
A602	13	7'-1"	1	9 3/4"	6'-5"				138
A603	8	6'-10"	1	9 3/4"	6'-2"				82
A604	6	6'-6"	1	9 3/4"	5'-10"				59
A601	18	38'-9"	Str.						618
A602	14	31'-5"	Str.						50
A603	24	3'-2"	2	7 5/8"	2'-2"	7 5/8"			79
A604	10	6'-8"	6	7"	5'-6"	5 1/2"			70
A605	6	8'-5"	Str.						33
A606	24	10'-3" to 10'-11"	Str.	2 sets of 12, each bar varies by 3/4"					265
A507	2	2'-6"	9	7 5/8"	1'-3"	3"	10"	0	5
A508	2	1'-3"	1	7 5/8"	11"				3
A509	12	3'-10" to 4'-1"	9	7 5/8"	1'-3"	3"	1'-5" to 2'-3"	0	44
A510	12	1'-9" to 3'-0"	1	7 5/8"	1'-5" to 2'-3"				30
A511	4	4'-3"	9	7 5/8"	1'-3"	3"	2'-7"	0	18
A512	4	3'-2"	1	7 5/8"	2'-2"				13
A513	19	4'-5"	9	7 5/8"	1'-3"	3"	2'-9"	0	88
A514	19	3'-4"	1	7 5/8"	2'-10"				66
A515	1	16'-2"	Str.						17
A516	4	18'-4"	Str.						76
A517	14	18'-6"	Str.						270
A518	16	3'-6" to 3'-8"	Str.	4 sets of 4, each bar varies by 1/2"					60
A519	4	4'-0"	Str.						17
A520	4	4'-11"	Str.						21
A521	4	5'-10"	Str.						24
A522	4	11'-4"	Str.						47
A523	24	9'-6" to 10'-2"	Str.	2 sets of 12, each bar varies by 3/4"					246
A524	6	7'-9"	Str.						48
A525	16	3'-4"	Str.						49
A526	6	13'-5"	Str.						84
A527	7	33'-10"	Str.						247
A528	56	9'-6"	2	2'-2"	5'-5"	2'-2"			555
A529	5	15'-11"	Str.						83
A530	5	14'-8"	Str.						76
A531	50	7'-3"	2	2'-2"	3'-2"	2'-2"			318
A532	20	9'-11"	2	4'-6"	1'-3"	4'-6"			107
A533	16	5'-2"	1	7 5/8"	4'-8"				86
A534	4	14'-6"	Str.						60
A535	4	13'-5"	Str.						56
A536	4	12'-4"	Str.						51
A537	2	17'-9"	8	7'-2"	17'-6"	2'-5"		29 1/8"	37
A538	2	19'-9"	8	9'-2"	19'-6"	2'-5"		29 1/8"	41
A539	8	13'-1"	Str.						109
A540	9	3'-2"	Str.						30
A541	9	2'-10"	Str.						27
A542	14	3'-0"	Str.						44
A543	1	16'-10"	Str.						18
A544	4	5'-3"	Str.						22
A401	38	3'-3"	1	6 1/2"	2'-10"				82
A402	38	4'-0"	2	2'-2"	8"	2'-8"			123
RA403	8	18'-2"	Str.	Included with Railing for Payment.					
									5,763

* 2 sets of 6, each bar varies by 3"

ABUTMENT NO. 2

MARK	TOTAL	LENGTH	TYPE	A	B	C	D	E	WEIGHT
B701	51	5'-4"	12	10"	4'-6"	6 3/4"			556
B702	51	7'-2"	Str.						747
B601	28	17'-9"	5	7'-6"	1'-5"	6'-1"	3'-2"	5"	746
B602	62	11'-1"	2	4'-0"	3'-5"	4'-0"			1032
B603	15	8'-0"	6	8"	6'-8"	6"			180
B604	12	5'-6"	6	8"	4'-8"	6"			90
B605	8	5'-9"	6	8"	4'-5"	6"			69
B606	8	5'-0"	6	8"	3'-8"	6"			60
B501	24	4'-5"	2	7 5/8"	3'-5"	7 5/8"			111
B502	11	6'-8"	6	7"	5'-6"	5 1/2"			76
B503	24	3'-2"	Str.						816
B504	24	10'-5"	Str.						254
B505	20	3'-5"	Str.						71
B506	4	8'-2"	Str.						34
B507	4	11'-2"	Str.						47
B508	4	15'-10"	Str.						66
B509	6	14'-6"	Str.						91
B510	4	8'-5"	4	3'-6"	3'-8"	1'-7"	1'-4"		35
B511	4	10'-3"	Str.						43
B512	32	8'-8"	Str.						289
B513	32	5'-5" to 6'-10"	Str.	4 sets of 8, each bar varies by 1"					191
B514	4	5'-2"	Str.						22
B515	4	4'-8"	Str.						19
B516	16	3'-7" to 3'-10"	Str.	4 sets of 4, each bar varies by 1"					62
B517	2	18'-7"	8	3'-0"	16'-6"	2'-6"		29 1/8"	33
B518	4	14'-6"	Str.						60
B519	2	11'-6"	Str.						24
B520	2	13'-7"	8	3'-0"	13'-6"	2'-6"		29 1/8"	28
B521	12	4'-5"	9	7 5/8"	1'-3"	3"	2'-9"	0	55
B522	12	3'-4"	1	7 5/8"	2'-10"				42
B523	4	4'-3"	9	7 5/8"	1'-3"	0	2'-7"	3"	18
B524	4	3'-2"	1	7 5/8"	2'-8"				13
B525	12	2'-10" to 4'-1"	9	7 5/8"	1'-3"	0	2'-7" to 4'-0"	3"	43
B526	12	1'-9" to 3'-0"	1	7 5/8"	1'-5" to 2'-3"				29
B527	2	2'-0"	9	7 5/8"	1'-3"	0	10"	3"	3
B528	2	1'-5"	1	7 5/8"	11				3
B529	11	9'-2"	6	7	8'-0"	5 1/2"			105
B530	4	11'-2"	Str.						47
B531	24	8'-3"	2	3'-2"	2'-2"	3'-2"			207
B532	4	4'-3"	2	1'-8"	1'-2"	1'-8"			18
B533	4	4'-7"	2	1'-7"	1'-8"	1'-7"			19
B534	4	4'-11"	2	1'-9"	1'-8"	1'-9"			21
B535	4	5'-9"	2	1'-11"	1'-8"	1'-11"			22
B401	30	3'-3"	1	6 1/2"	2'-10"				65
B402	30	4'-0"	2	2'-2"	8"	2'-2"			97
RB403	8	14'-3"	Str.	Included with Railing for Payment					
									6,670

* 2 sets of 6, each bar varies by 3"

ESTIMATED QUANTITIES

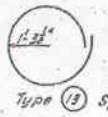
ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUTS.	PIERS	GENERAL
E2	403	Cu.Yds.	Unclassified Excavation		242	161	
S-1	299	Cu.Yds.	Class "C" Concrete, Superstructure	299			
S-1	85	Cu.Yds.	Class "C" Concrete, Pier Caps & Columns			85	
S-1	116	Cu.Yds.	Class "E" Concrete, Abutments above Footing		116		
S-1	102	Cu.Yds.	Class "E" Concrete, Footings		43	59	
S-4	121,017	Lbs.	Reinforcing Steel	72,646	12,635	35,936	
S-7	217,000	Lbs.	Structural Steel	217,000			
S-2	217,000	Lbs.	Field Painting of Structural Steel, As per plan	217,000			
S-16	680	Lin.Ft.	Railing (Aluminum Rail & Support, Concrete Parapet)	594	66		
S-16	Lump Sum		First Test Pile				Lump Sum
S-18	480	Lin.Ft.	Steel Piles 12 BP 53		480		
S-29	28	Cu.Yds.	Porous Backfill		28		
S-29	16	Each	Scuppers	16			
1-10	611	Sq.Yds.	Crushed Aggregate Slope Protection			611	

REPLACEMENT BARS

MARK	NO.	LENGTH	TYPE	WEIGHT
RE1101	1	7'-6"	Str.	
RE1002	1	7'-2"	Str.	
RE903	1	6'-10"	Str.	
RE704	1	6'-2"	Str.	
RE505	3	5'-11"	Str.	
RE506	2	5'-7"	Str.	
RE407	1	5'-3"	Str.	
RE408	1	5'-3"	13	

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 S-4.02 need not be furnished and replacement bars will not be required.



SPIRAL NOTES

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 the 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 S-4.

1 1/2 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.

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, A 401 is a number 4 size bar and A1114 is a number 11 size bar.

MICROFILMED
OCT 15 1985

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

REINFORCING STEEL LIST & ESTIMATED QUANTITIES

BRIDGE NO. ATB-46-2529
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY — STA. 1326 + 40.37

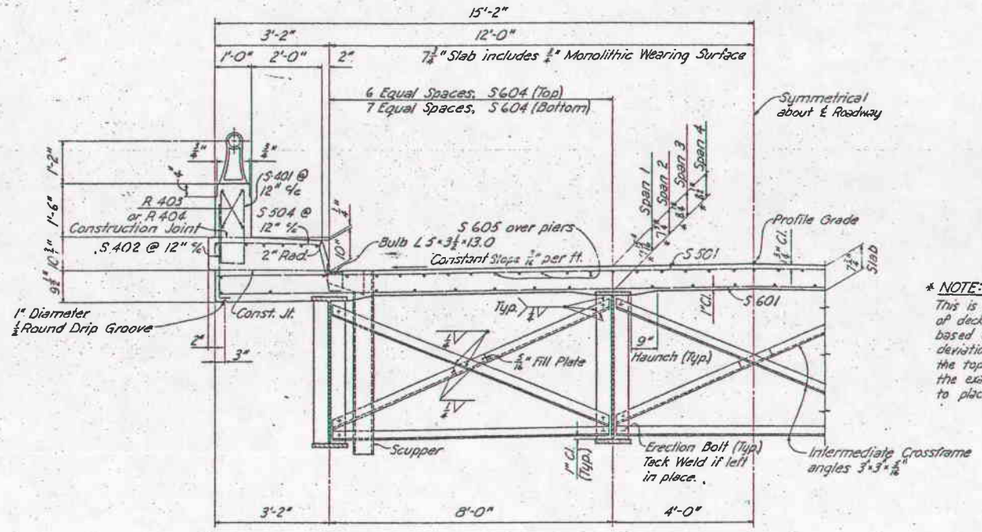
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
W.R.B. G.S.W.	A.C.M.	A.C.M.	D.E.B. G.M.W.	H&H 1-28-60	

Sheet 8 of 8

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

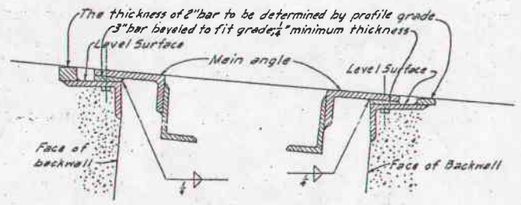
267
309

ASHTABULA COUNTY
ATB-46-25.24

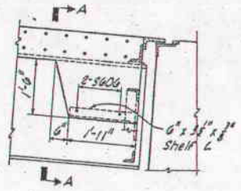


HALF CROSS SECTION

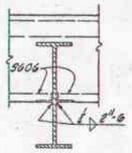
* NOTE:
This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade.



END DAM DETAIL



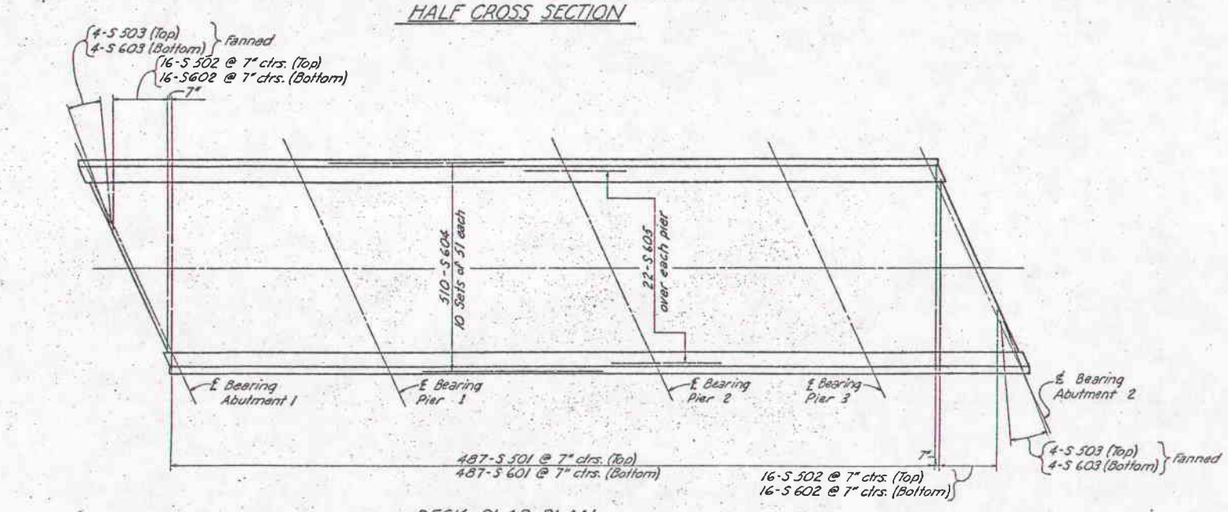
COUNTERWEIGHT DETAIL
At Abut. No. 2 Only



SECTION A-A

NOTES

- Refer to Standard Drawing CSB-2-56, Sheet 2 of 6 for details of end dam.
- 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 Dam: A welded butt joint in the end dam, at the center line of roadway will be required for that portion of the end dam 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"
- Painting: After erection and after the shop coat has been cleaned and, where necessary, repainted in accordance with Sec. 8.04, an additional coat of the same paint as used in the shop shall be applied over the outside face of the outside steel girders and all sides of bottom flange.
- For radiographic examination of welds, see "Welding Notes" sheet 296.



DECK SLAB PLAN

DEFLECTION AND CAMBER								
LOCATION	EXTERIOR BEAMS SPAN NO.				INTERIOR BEAMS SPAN NO.			
	1	2	3	4	1	2	3	4
Deflection due to weight of steel.	1/16"	1/8"	1/16"	0	1/16"	1/8"	1/16"	0
Deflection due to remaining dead load	3/8"	11/16"	5/16"	1/8"	5/16"	5/8"	5/16"	1/8"
Convexity required for Vertical Curve	0	3/16" 3/16"	2 3/8" 1/32"	2 5/8" 1/16"	0	3/16" 3/16"	2 3/8" 1/32"	2 5/8" 1/16"
Sum of Deflection and Convexity.	7/16"	3 3/8" 1/16"	3 3/8" 3/16"	2 5/8" 1/16"	3/8"	3 1/16" 1/16"	2 7/8" 1/16"	2 5/8" 1/16"
Camber Required	0	3 3/8" 1/16"	3 3/8" 3/16"	2 5/8" 0	0	3 1/16" 1/16"	3 3/8" 1/16"	2 5/8" 0

DECK PLACING PROCEDURE

In placing the deck concrete, construction joints will be permitted, parallel to the transverse reinforcing steel and near the middle of any span. Because of the flow of curing water from the surface of the previously placed deck concrete, the sequence of pours shall be up grade, starting at the lowest end of the vertical curve.

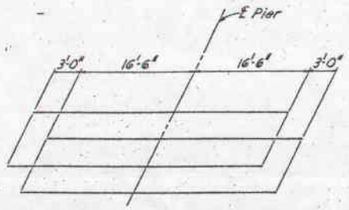


DIAGRAM SHOWING STAGGER OF S 605 BARS OVER PIERS

MICROFILMED
OCT 15 1985

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SUPERSTRUCTURE
BRIDGE NO. ATB-46-2529
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY STA. 1326 + 40.37

Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
W.R.B.	W.B.	F.E.H.	G.M.W.	H.G.H. 1-28-60	3-7-61

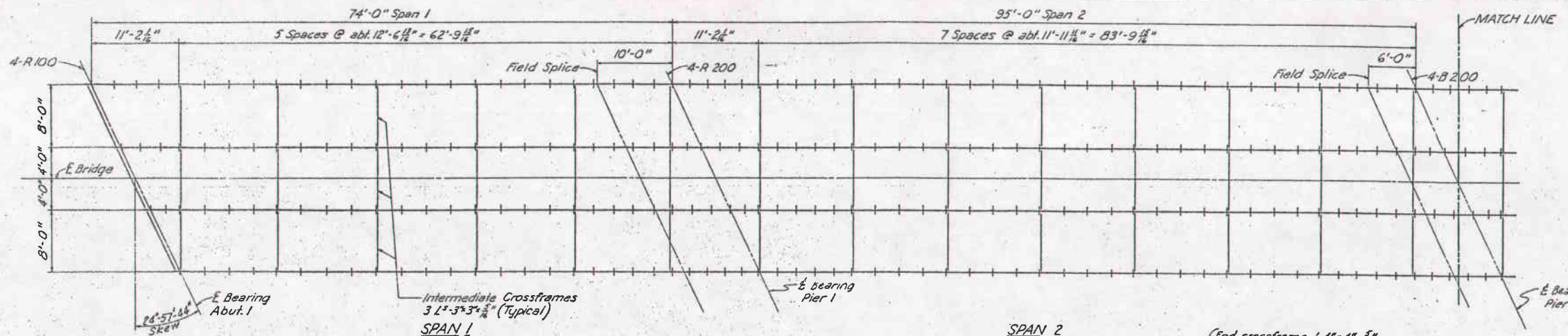
Sheet 7 of 8

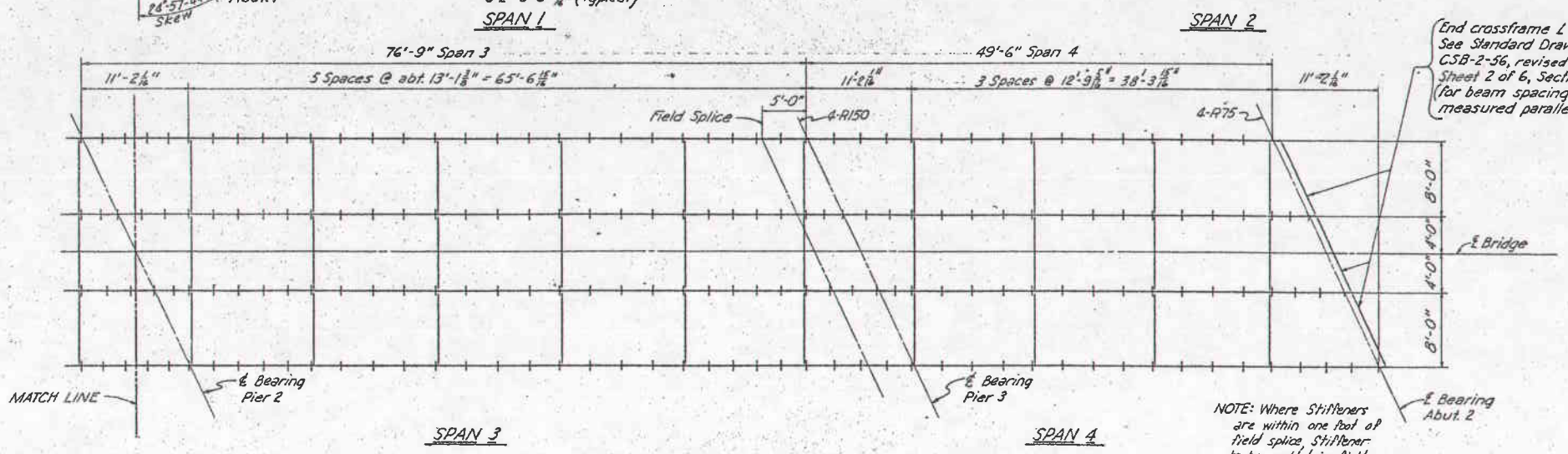
59-8

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

266/309

ASHTABULA COUNTY
ATB-46-25.24

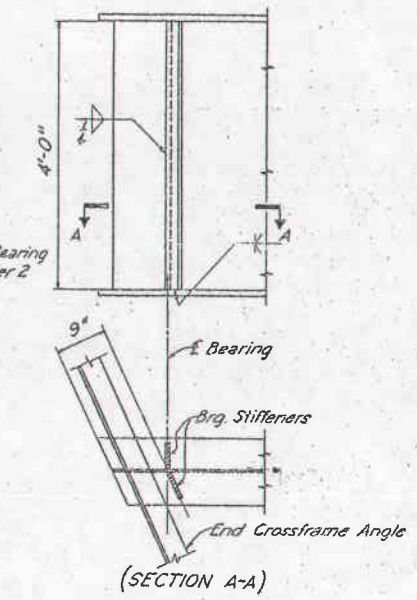




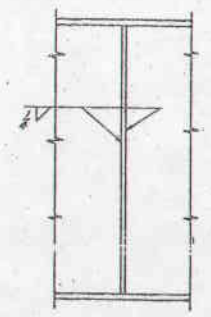
End crossframe L 4"×4"×3/8". See Standard Drawing CSB-2-56, revised 2-2-59. Sheet 2 of 6, Section B-B (for beam spacing 8'-0" to 12'-0" measured parallel to end dam.)

NOTE: Where Stiffeners are within one foot of field splice, Stiffener to be welded in field.

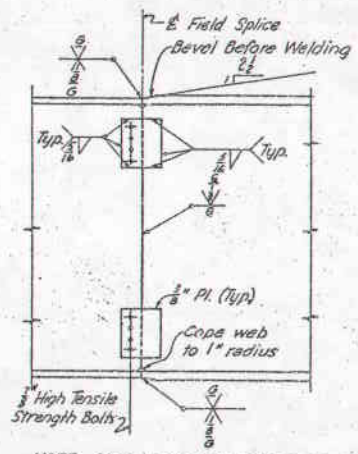
STEEL FRAMING PLAN



AT ABUTMENTS

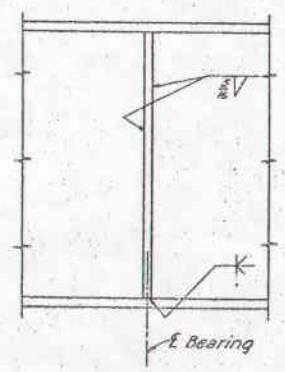


AT INTERMEDIATE STIFFENERS



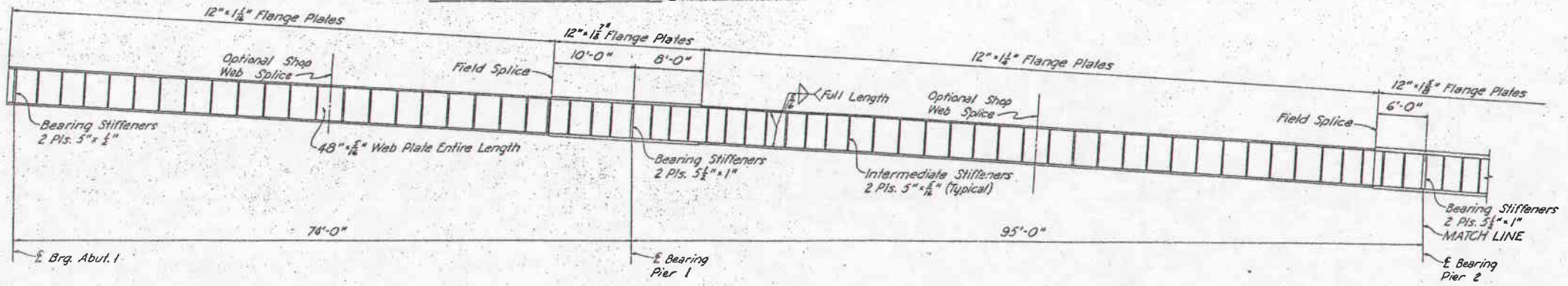
NOTE: Shop welding for change in flange thickness same as shown above.

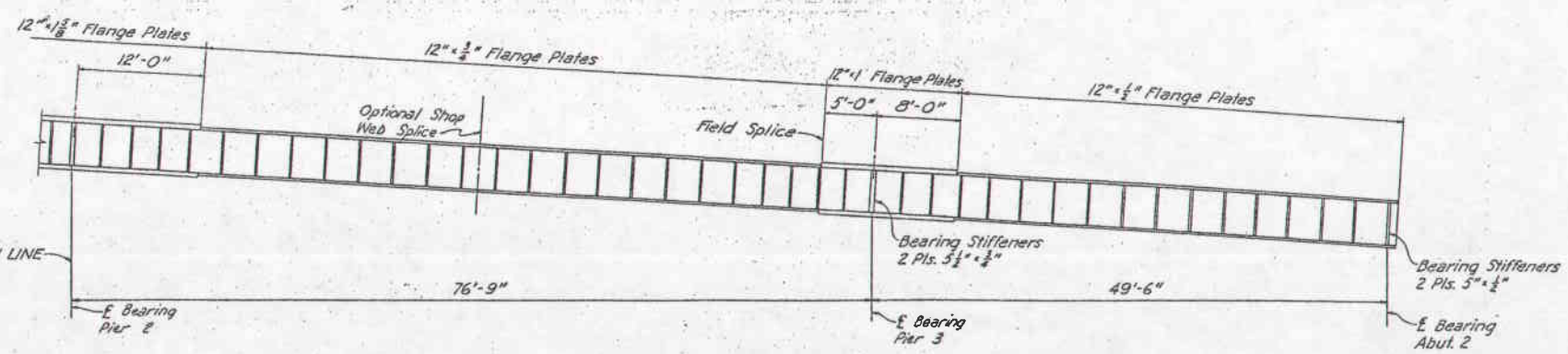
AT FIELD SPLICE



AT PIERS

GIRDER DETAILS





GIRDER ELEVATION

NOTE: Intermediate Stiffeners shall not be welded to the flange but shall be fitted to the flanges in close enough contact that when the shop paint is applied it will fill and close the openings. The bearing stiffeners over supports shall be grooved and fully butt welded to the lower flange and fitted in close contact, without welding at the upper flange.

SHOP DRAWINGS for the girders shall include an overall layout with dimensions showing the relative unloaded vertical position of each girder or girder segment with respect to the others in the same girder line and with respect to a full length base or work line taking into account (camber and) the profile of the highway.

SHOP ASSEMBLY. At least three adjacent girder segments shall be assembled in the shop in their correct unloaded positions as shown on the shop drawing layout required in the above note so that the faced joints for welding the segments together may be checked for proper fit-up.

MICROFILMED
OCT 15 1965

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SUPERSTRUCTURE
BRIDGE NO. ATB-46-2529
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY STA. 1326 + 40.37

Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
W.R.B.	W.B	F.E.H.	G.M.W.	H.&H. 1-21-60	

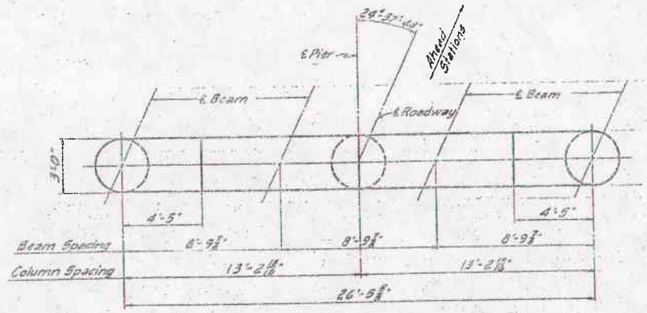
Sheet 6 of 8

59-B

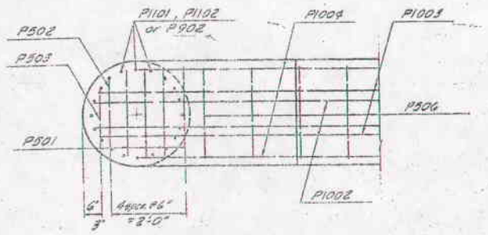
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

265/309

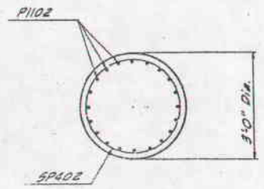
ASHTABULA COUNTY
ATB-46-25.24



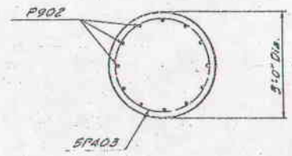
PLAN



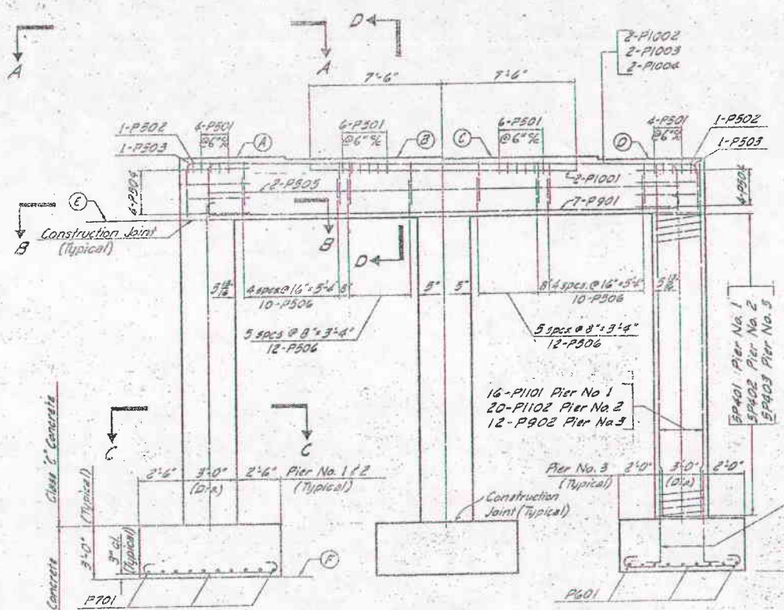
SECTION A-A



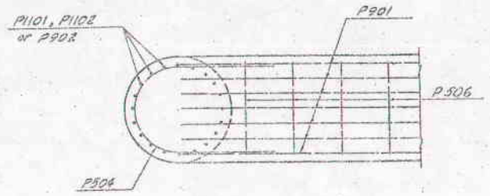
SECTION C-C
Pier No. 2



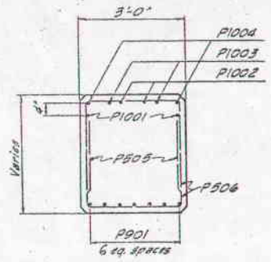
SECTION C-C
Pier No. 3



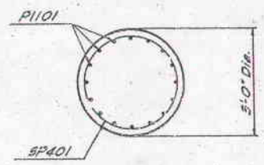
ELEVATION



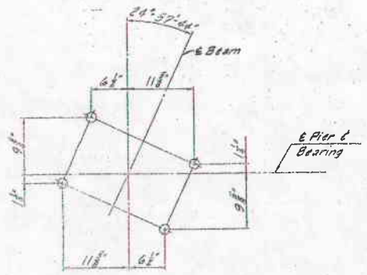
SECTION B-B



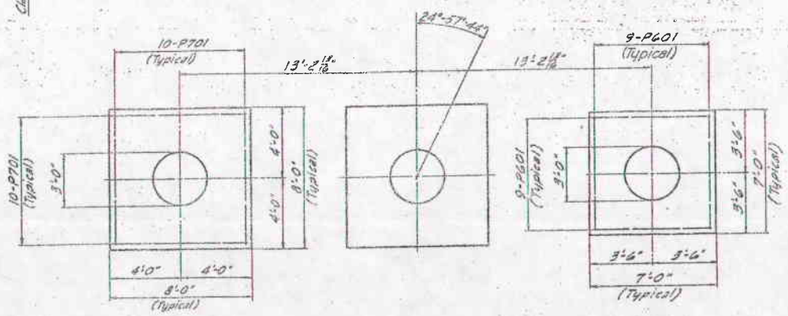
SECTION D-D



SECTION C-C
Pier No. 1



TYPICAL ANCHOR BOLT LAYOUT
(At Pier 2 Only)



PIER NO. 1 & 2

PIER NO. 3

FOOTING PLAN

NOTES

- Special care shall be taken in placing reinforcing steel in the bridge seat at Pier 2 so that it will not interfere with the drilling of anchor bolt holes.
- Foundation Bearing Pressure: Pier footings are designed for a maximum bearing pressure of 6 tons per sq. ft.

TABLE OF ELEVATIONS

LOCATION	A	B	C	D	E	F
Pier No. 1	750.36	750.28	750.07	749.73	746.73	715.50
Pier No. 2	744.80	744.69	744.46	744.10	741.10	717.75
Pier No. 3	740.19	740.07	739.82	739.45	736.45	715.75

MICROFILMED
OCT 15 1985

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

PIERS
BRIDGE NO. ATB-46-2529
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY STA. 1326 + 40.37

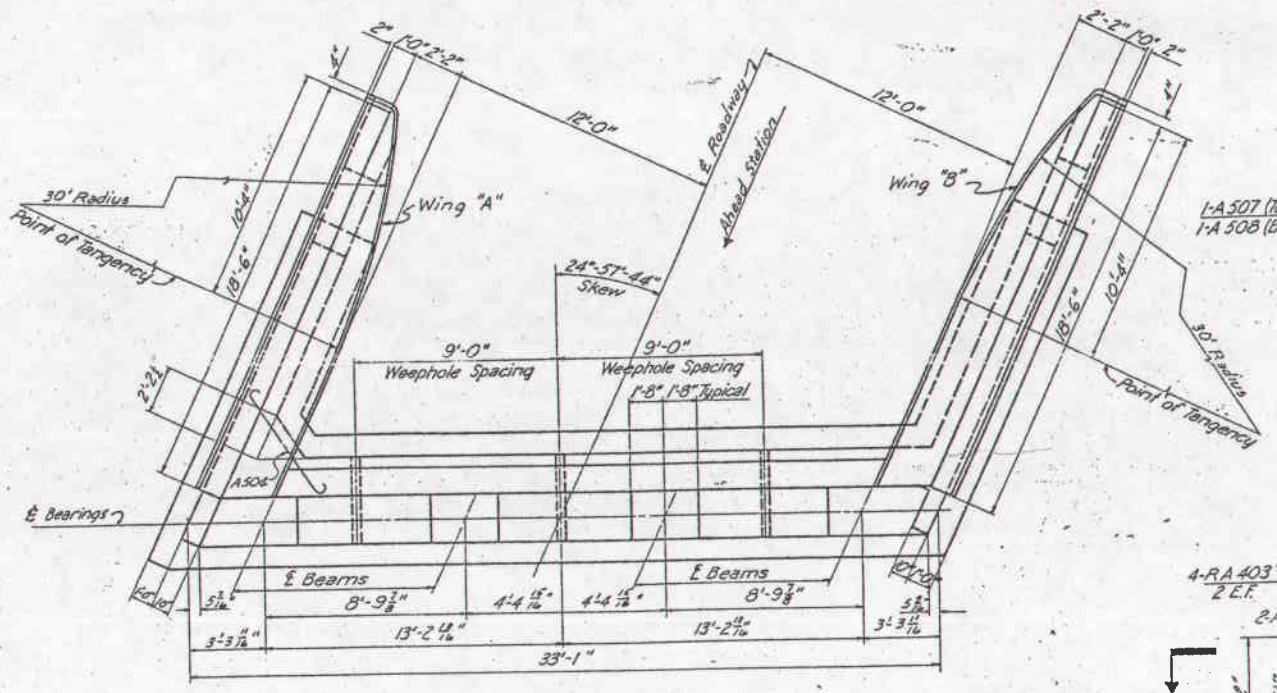
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
G.S.W.	B.R.S.	B.R.S.	G.M.W.	H.G.H. 1-28-60	

Sheet 5 of 8

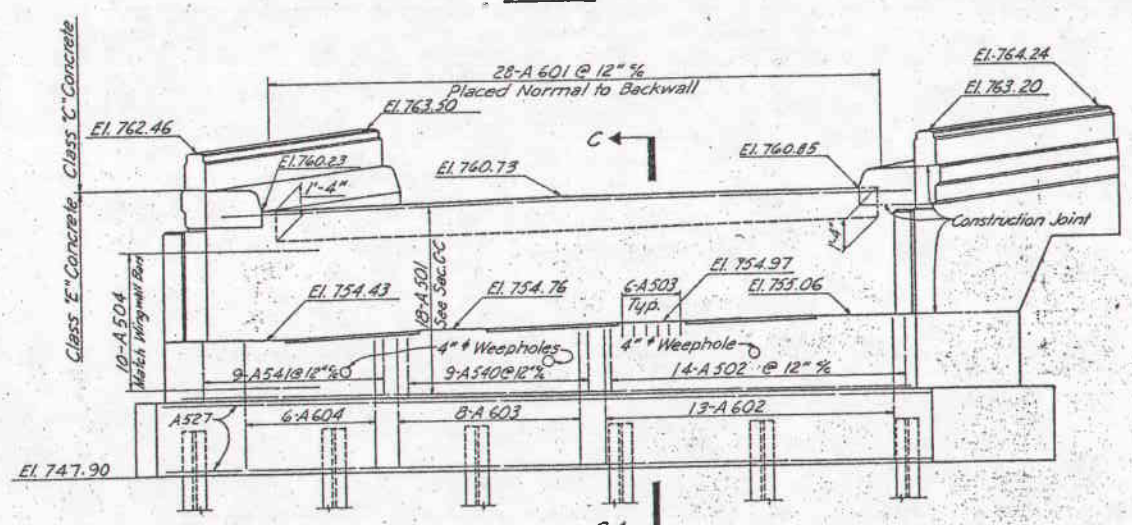
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

264
309

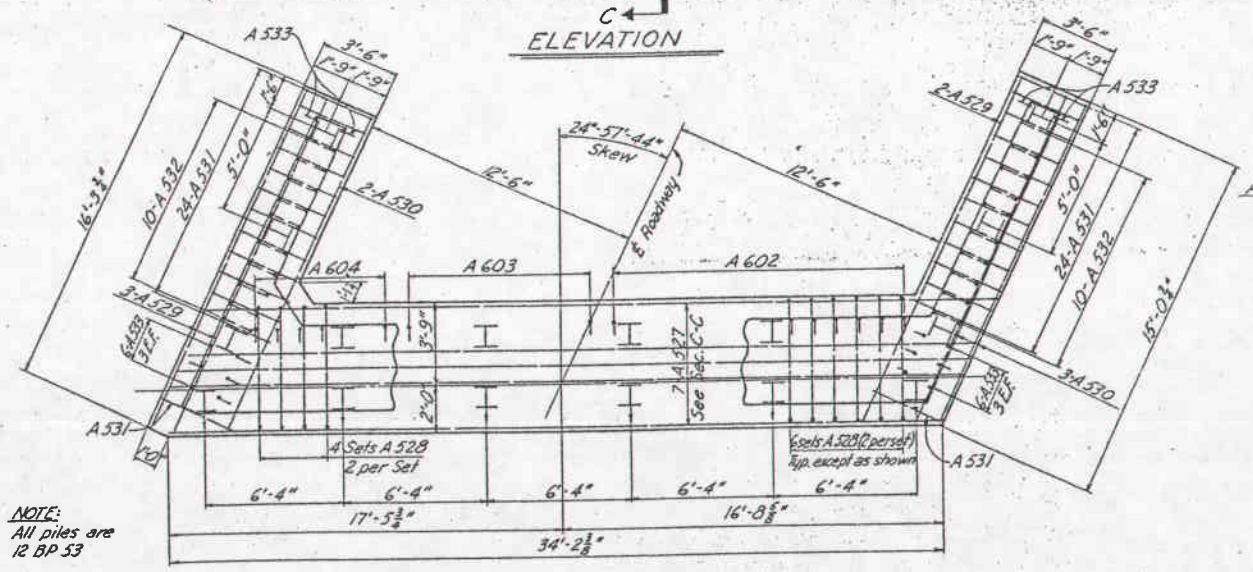
ASHTABULA COUNTY
ATB-46-25.24



PLAN



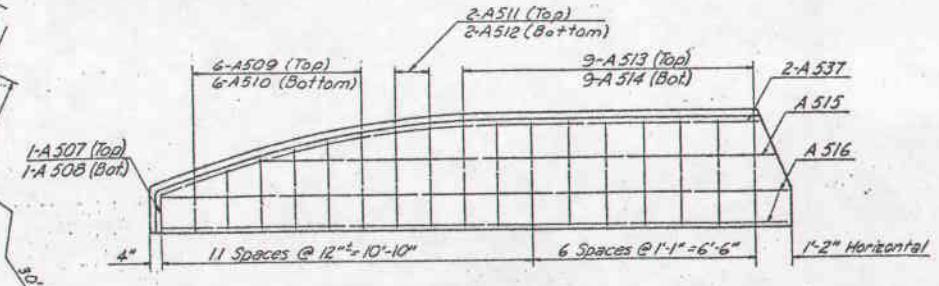
ELEVATION



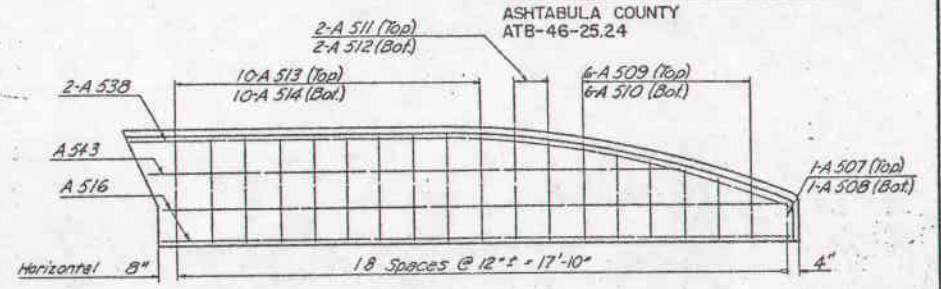
NOTE:
All piles are 12 BP 53

Batter Piles 2:12 in Direction Shown.

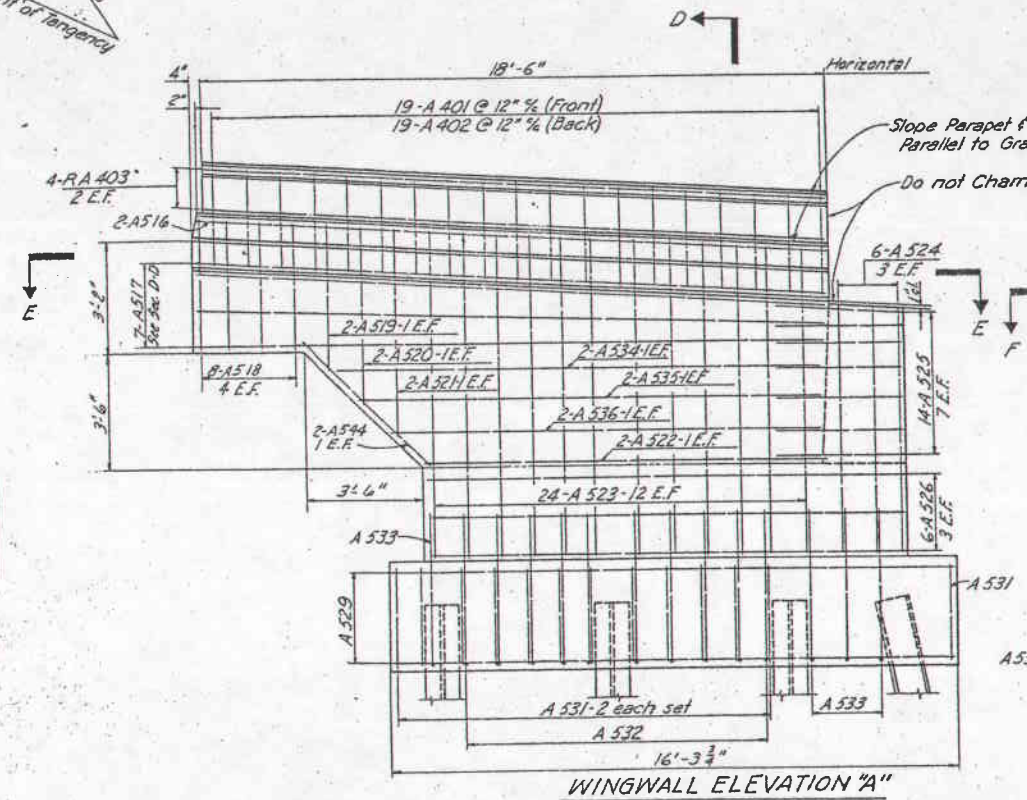
FOOTING PLAN



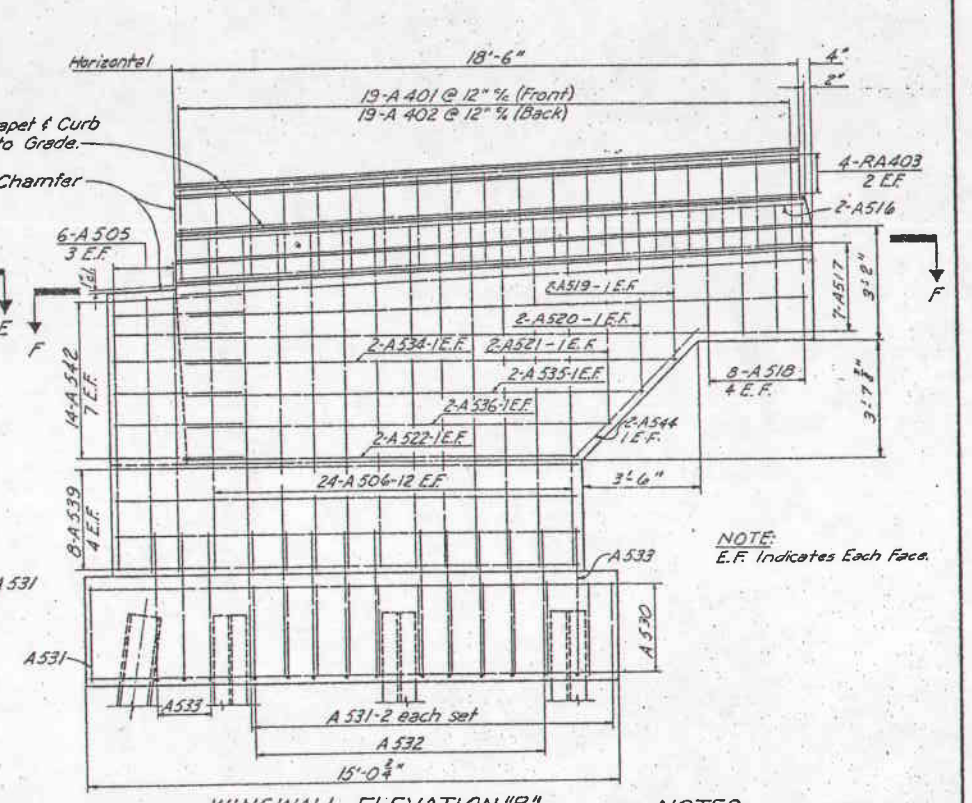
SECTION E-E



SECTION F-F

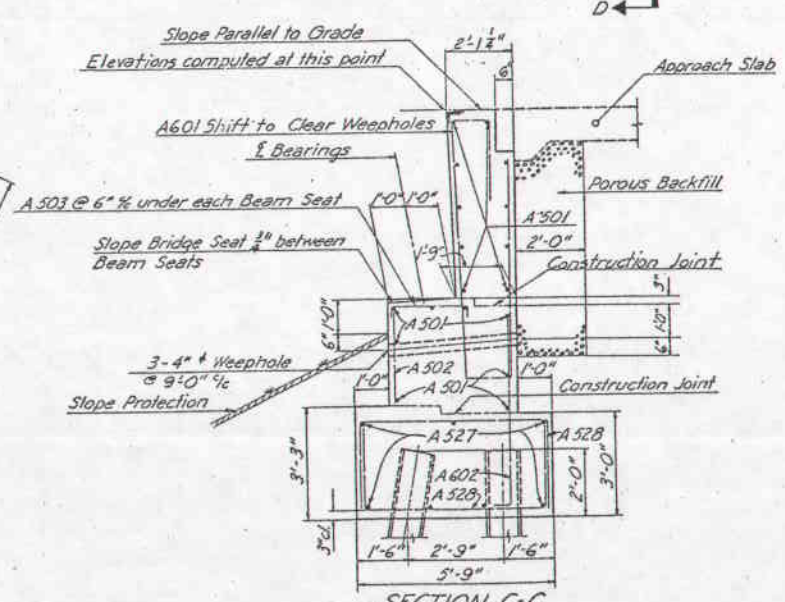


WINGWALL ELEVATION "A"

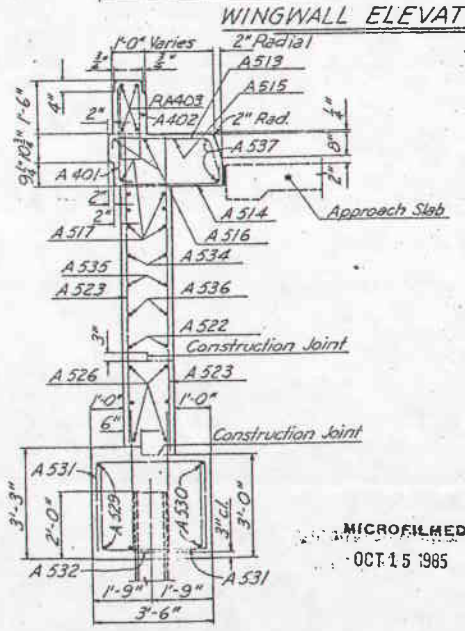


WINGWALL ELEVATION "B"

NOTE:
E.F. Indicates Each Face.



SECTION C-C



SECTION D-D

NOTES

- Porous backfill 2'-ft. thick full length of abutment shall extend up to the underside of the approach slab.
- Concrete above bridge seat construction joint shall not be placed until after the steel work is erected, but shall be placed before placing deck slab.
- All abutment concrete shall be Class "E."
- Concrete and reinforcing steel above parapet construction joint included with railing for payment.
- Railing not shown. See "General Plan & Elevation" for railing post spacing.
- Piles for Abutment No. 1 to be 12 BP 53 and shall be driven to a bearing capacity as given in the general notes on the "General Plan and Elevation."

MICROFILMED
OCT 15 1985

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

ABUTMENT NO 1
BRIDGE NO. ATB-46-2529
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY — STA. 1326 + 40.37

Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
G.M.W.	A.C.M.	F.E.H.	G.M.W.	H.G.H. 1-28-60	

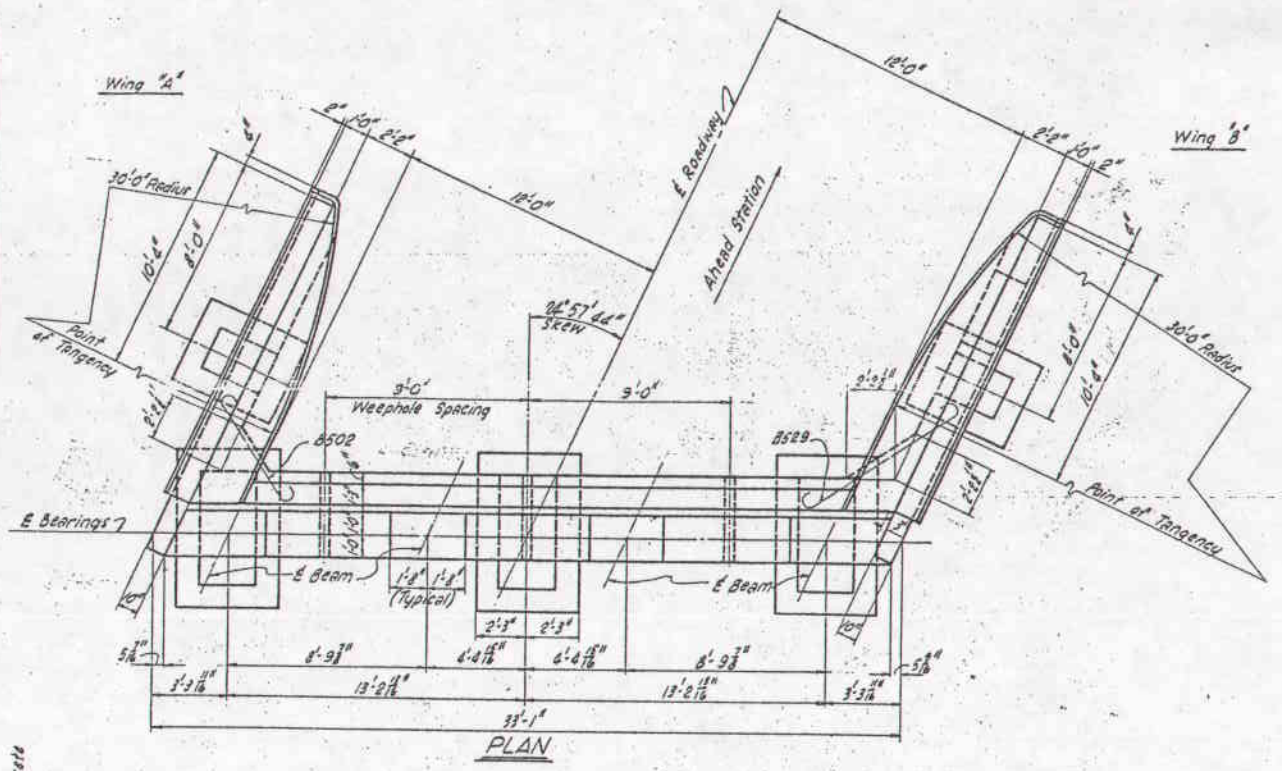
Sheet 3 of 8

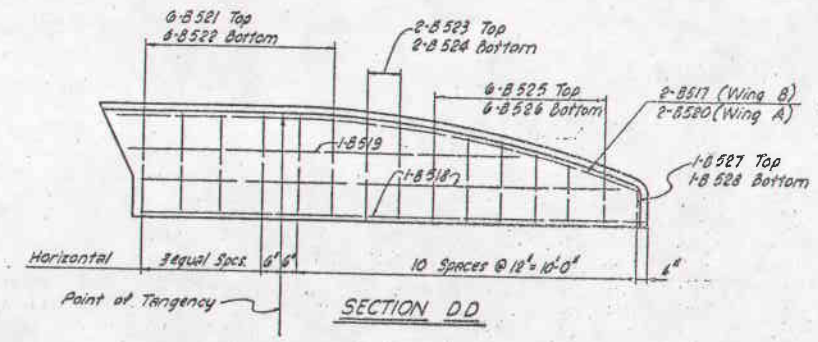
59-B-192

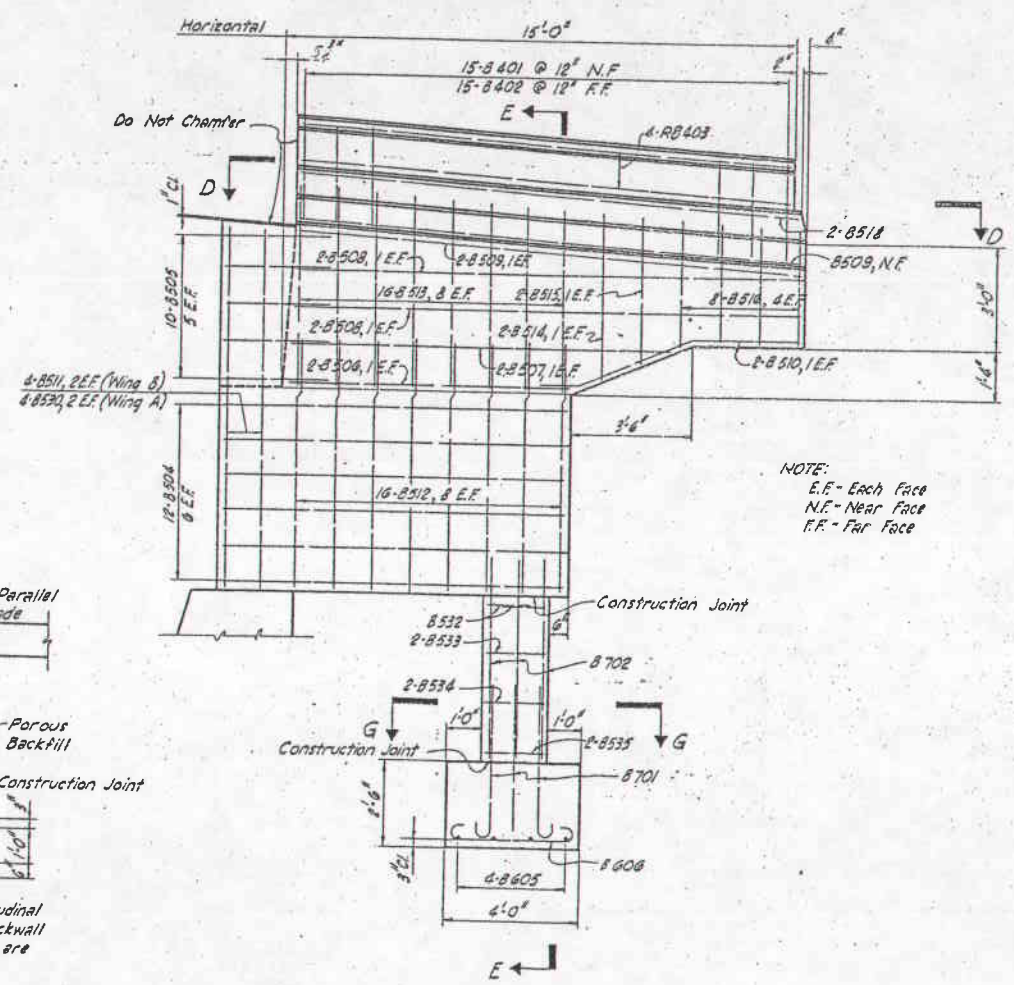
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

263/309

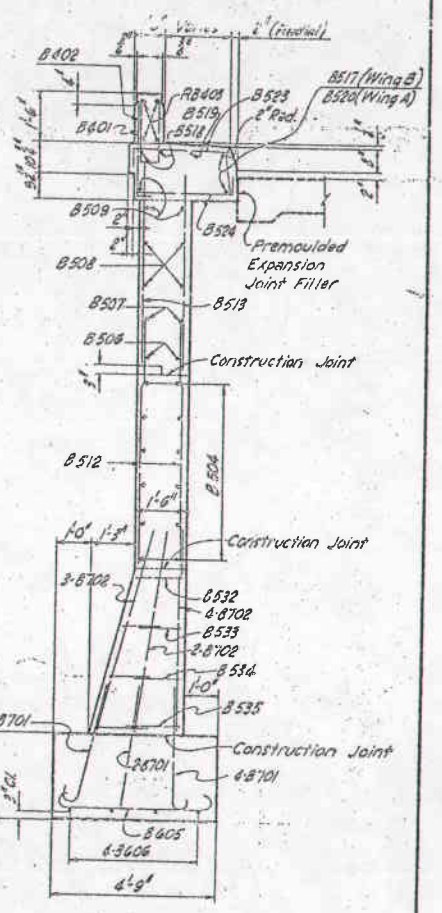
ASHTABULA COUNTY
ATB-46-25.24

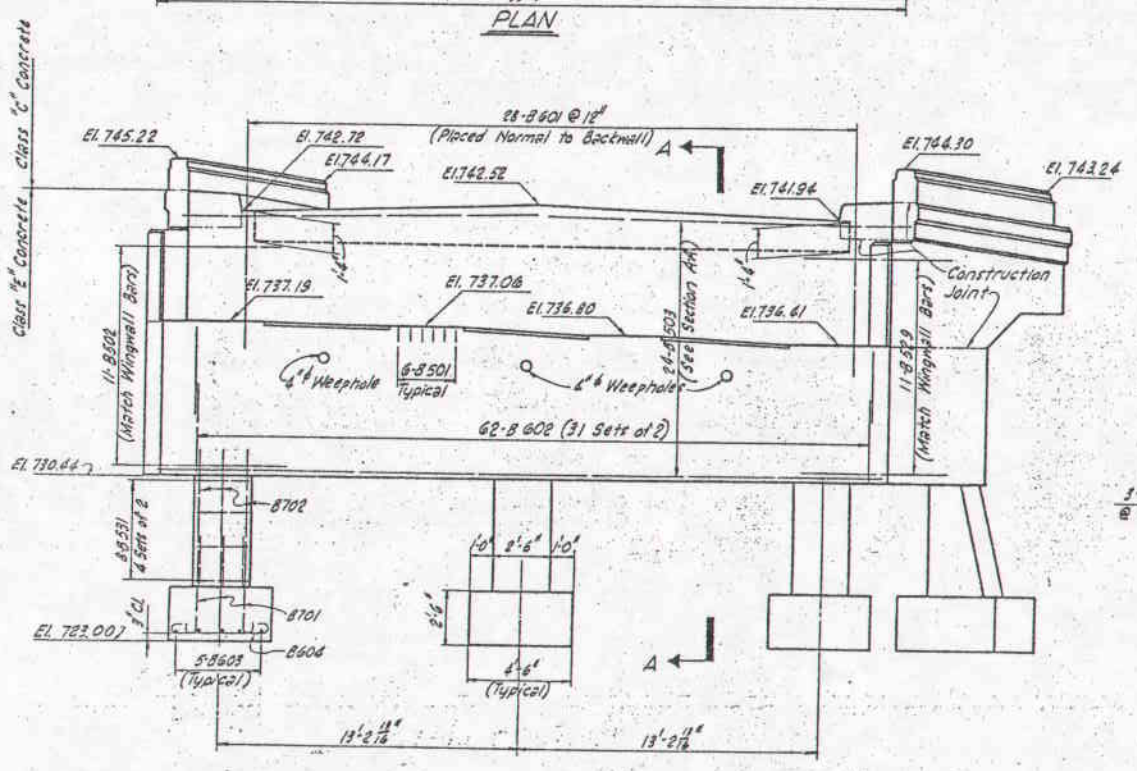


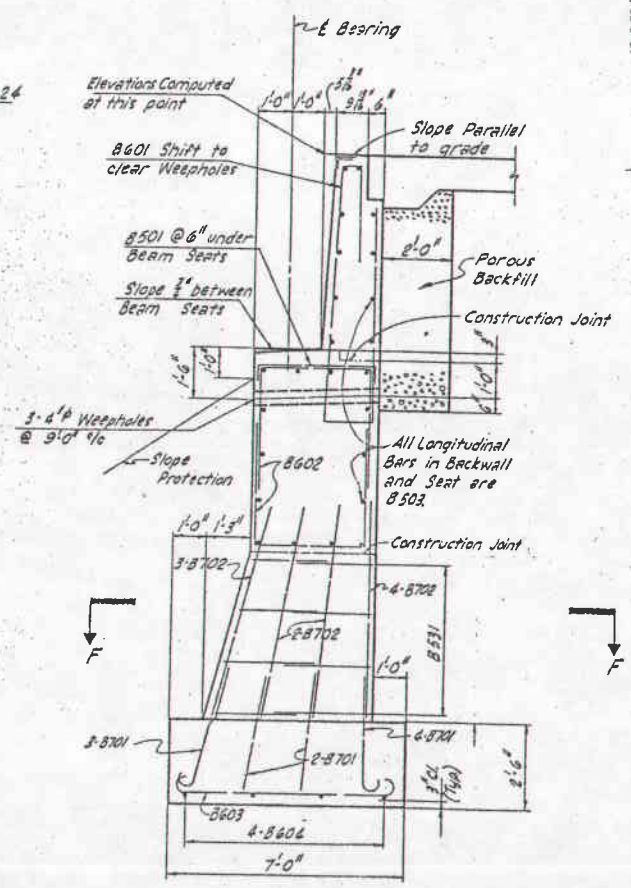


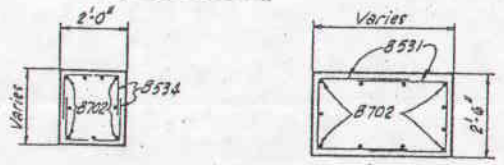


NOTE:
E.F. - Each Face
N.F. - Near Face
F.F. - Far Face









NOTES

- Foundation Bearing Pressure: Abutment No. 2 footings are designed for a maximum bearing pressure of 6 tons per sq. ft.
- See Abutment No. 1 for other notes.

MICROFILMED
OCT 15 1985

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

ABUTMENT NO 2
BRIDGE NO. ATB-46-2529
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY — STA. 1326 + 40.37

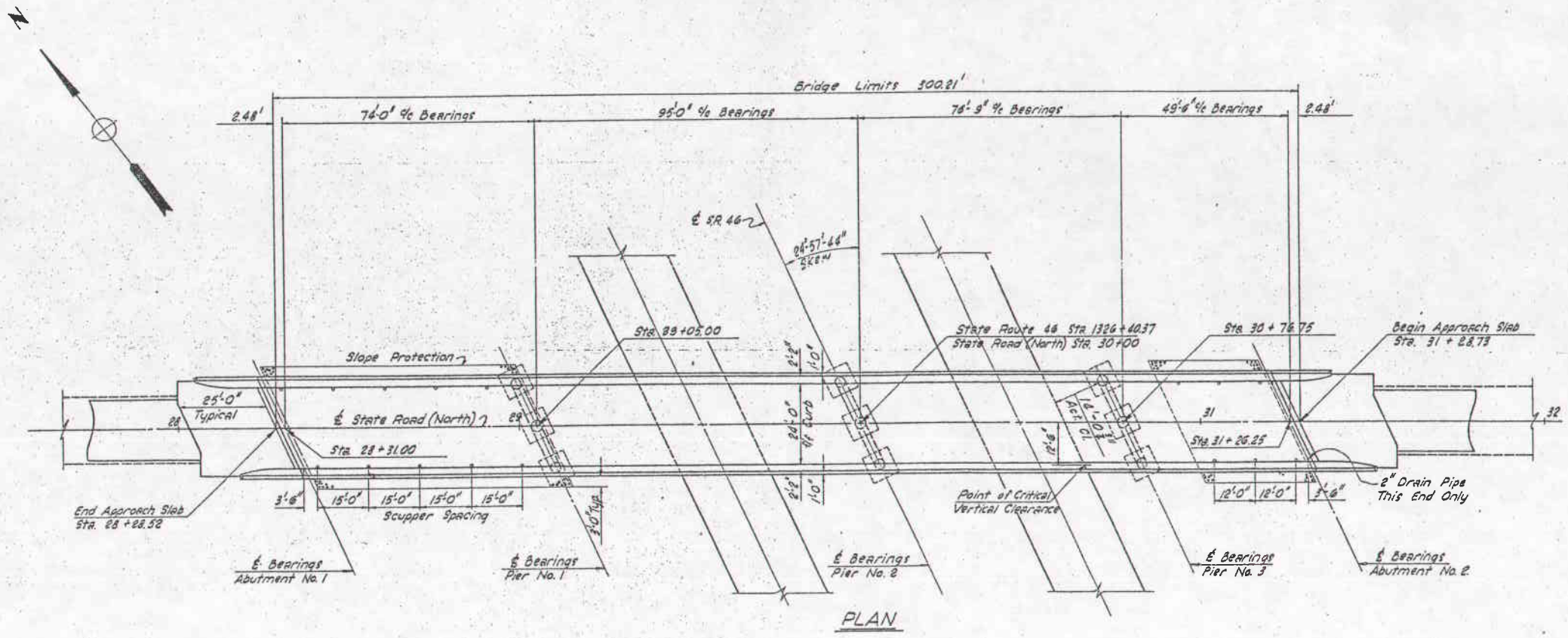
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
Y.G.	Y.G.	B.B.	G.M.W.	H.G.H. 1-28-60	

Sheet 4 of 8

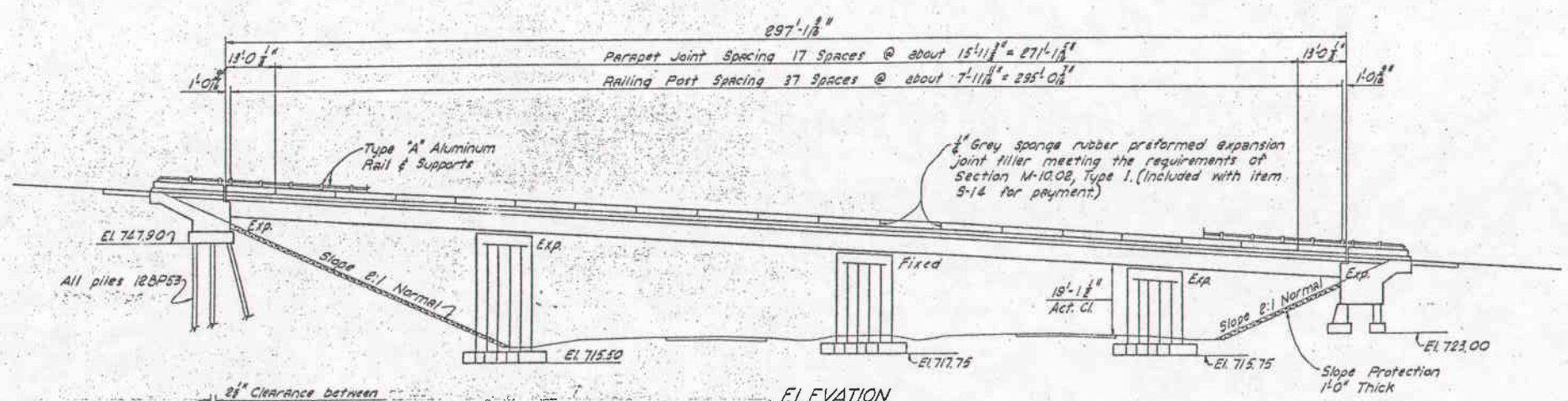
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

262/309

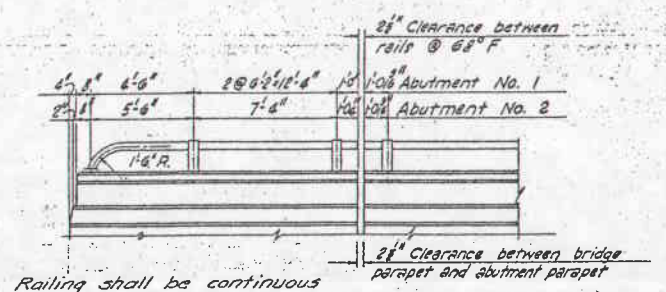
ASHTABULA COUNTY
ATB-46-25.24



PLAN



ELEVATION



Railing shall be continuous on Wingwalls.

TYPICAL ABUTMENT RAILING DETAIL

400' V.C.
PVI Sta. 31+00
Elev. 745.60
M.O. 1.20'

VERTICAL CURVE DATA

GENERAL NOTES

- Reference shall be made to Standard Drawing CSB-2-56, sheets 2 of 3 of 6, RB-1-55, AR-1-57, revised 2-2-59, and Supplemental Specification S-101 dated 12-2-59.
- Design Specifications: This structure conforms to the requirements of "Design Specification for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.
- Loading: CF 130(57)
- Welding of Structural Steel shall be Class "A" except as shown (—B). Any welds shown as field welds may, at the option of the Contractor, be made in the shop.
- Piles shall be driven with a hammer of not less than 11,000 ft. lbs. per blow to firm contact with shale. If the length of penetration is approximately equal to the depth to 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. 5-16.03 is not less than the following value for a pile hammer of the indicated energy rating:
  43 tons per pile using an 11,000 ft. lb. hammer
  36 tons per pile using a 15,000 ft. lb. or greater 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 35 tons per pile.
- Foundation Bearing Pressure: Footings for Piers 1, 2 & 3 and Abutment 2 are designed for a maximum bearing pressure of 6 tons per sq. ft.
- For high tensile strength bolts, see Supplemental Specification S-207, dated 4-28-55.
- Class "C" Concrete: Crushed aggregates for Class "C" Concrete shall be in accordance with Supplemental Specifications 9-101.
- STEEL: See Proposal regarding A-373 Steel.
- MACHINE FINISH: The top of the bridge deck slab shall be machine finished in accordance with the Proposal Note "Machine Finishing of Bridge Deck Slabs".

MICROFILMED
OCT 15 1985

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

GENERAL PLAN & ELEVATION
BRIDGE NO. ATB-46-2529
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY STA. 1326 + 40.37

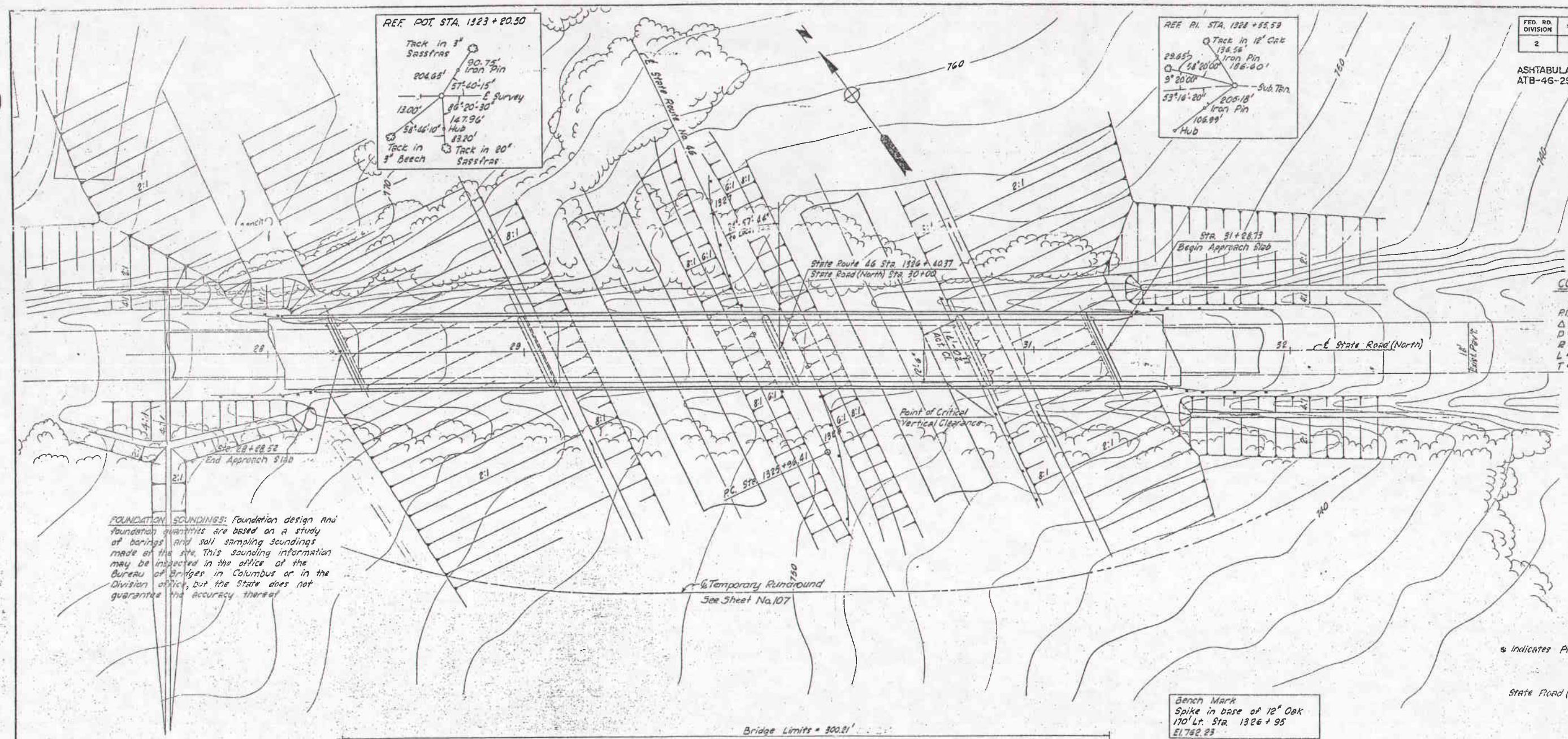
Designed	Drawn	Traced	Checked	Reviewed-Date	Revised
W.R.B. G.S.W.	A.M.	B.B.	D.E.B.	H.G.H. 1-28-60	

Sheet 2 of 8

59-B-190

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F665(5)	

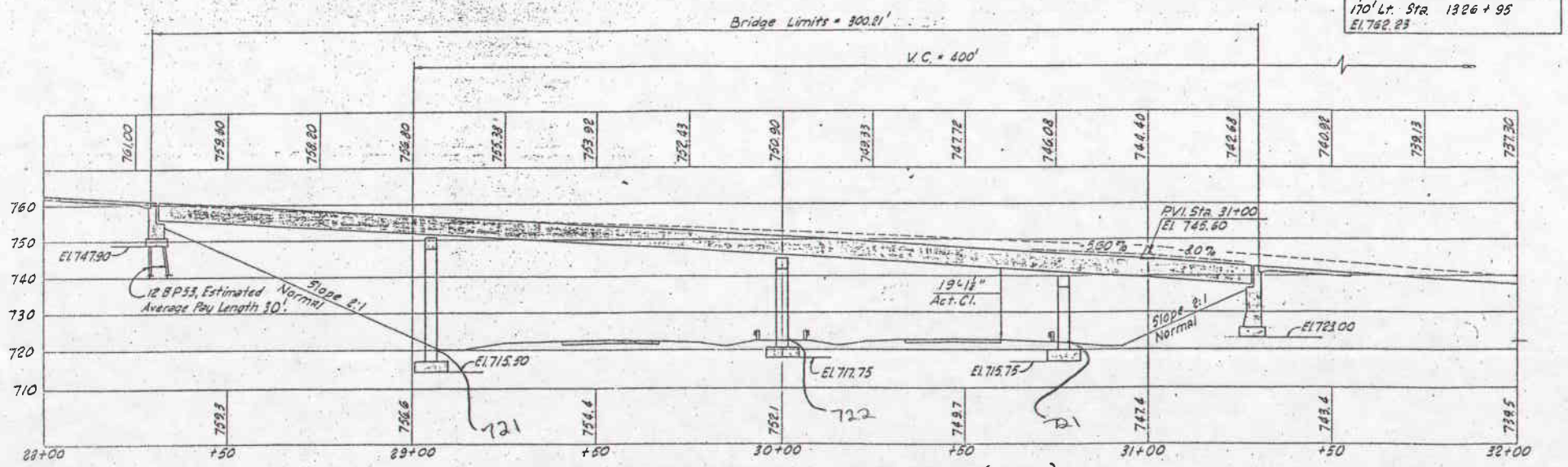
ASHTABULA COUNTY
ATB-46-25.24



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 office of the Bureau of Bridges in Columbus or in the Division office, but the State does not guarantee the accuracy thereof.

CURVE DATA

(Expressway)
PI. Sta. 1328 + 55.59
Δ = 2°25'07" Rt.
D = 0°.28'
R = 12,277.67'
L = 518.27'
T = 259.18'



PROFILE ON CENTER LINE STATE ROAD (NORTH)

PROPOSED STRUCTURE

TYPE: Continuous steel welded girder with reinforced concrete deck and substructure.
SPANS: 74'-95'-76.75'-48.5' ℄ bearings.
ROADWAY: 24'0" w/ 2'2" Safety Curbs.
LOAD FREQ: CF = 130(5T)
WEARING SURFACE: ¾" monolithic concrete.
APPROACH SLAB: Special Design (25' long)
SKEW: 28°-57'-44" RF
ALIGNMENT: Tangent

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SITE PLAN
BRIDGE NO. ATB-46-2529
UNDER
STATE ROAD (NORTH)

ASHTABULA COUNTY
Scale 1" = 20'
STA. 1326 + 40.37

PRESENT TOPOGRAPHY		PROPOSED WORK			
Surveyed	Drawn	Designed	Drawn	Checked	Reviewed
	M.S.	C.V.P.	B.B.	D.E.B.	H.d.H. 1-28-60

MICROFILMED
OCT 15 1985

Sheet 1 of 8

ATB-11-25.42