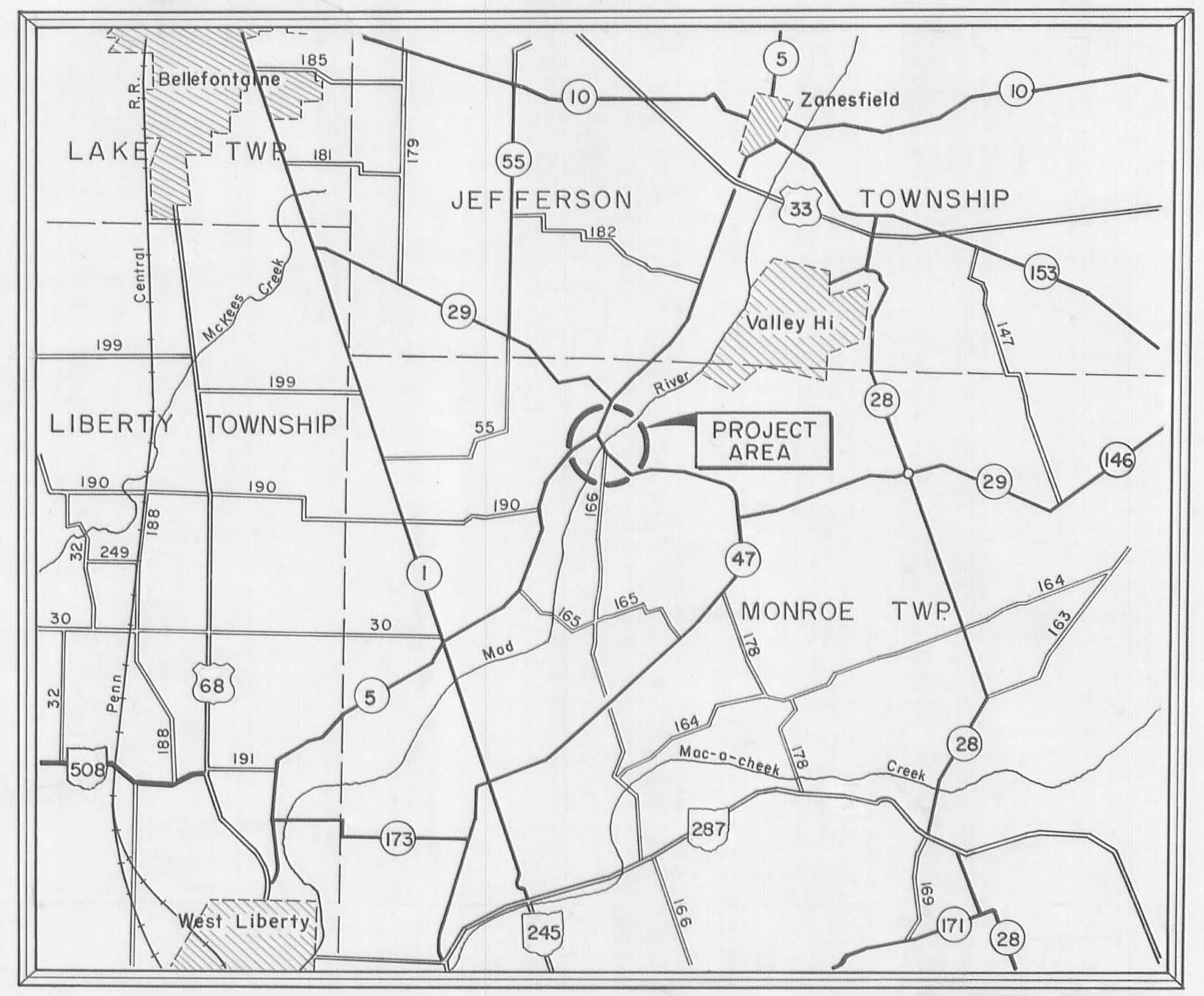
Bridge No. 29-2.70
Monroe Township
Logan County, Ohio

1/19

LOGAN COUNTY

C.R. 29
OVER MAD RIVER

BRIDGE NUMBER 29-2.70



LOCATION MAP

Scale of Miles

0 1/2 1 2 4

LEGEND

PORTION TO BE IMPROVED
U.S. HIGHWAY — 33
STATE HIGHWAY — 287
COUNTY ROADS — 29
TOWNSHIP ROADS — 165
DETOUR

CONVENTIONAL SIGNS

TOWNSHIP LINE
SECTION LINE
CENTER LINE
EXISTING RIGHT OF WAY — Exist. R/W
PROPOSED RIGHT OF WAY
PROPERTY LINE — ℞
TREES (EXISTING)
TREES (TO BE REMOVED)

INDEX OF SHEETS

LINE DATA

END WORK STA. 7+00
BEGIN WORK STA. 0+02

NET LENGTH OF WORK 698.00 L.F. = 0.132 Mi.

END PROJECT STA. 5+93.47
BEGIN PROJECT STA. 0+02.

NET LENGTH OF PROJECT 591.47 L.F. = 0.112 Mi.

1975 SPECIFICATIONS

EXCEPT WHERE OTHERWISE NOTED, THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPT. OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL, SHALL GOVERN THIS IMPROVEMENT.

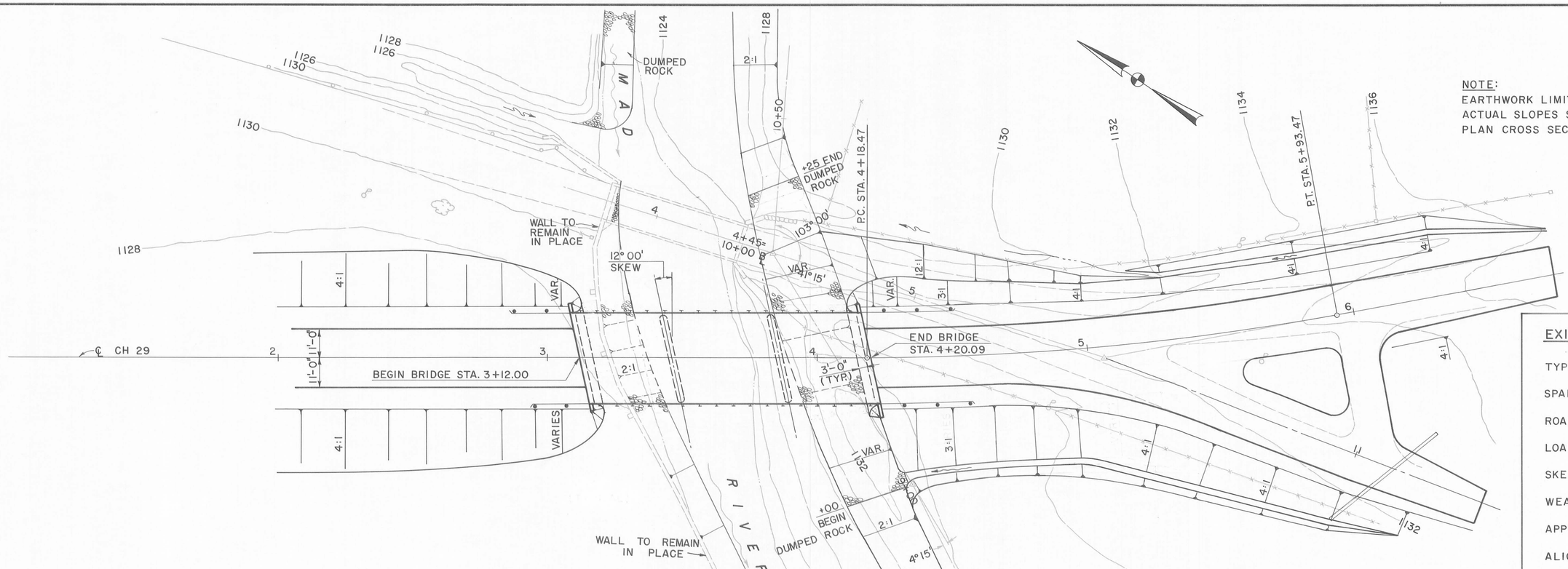
WE, THE COMMISSIONERS OF LOGAN COUNTY, OHIO IN FORMAL SESSION HEREBY APPROVE THESE PLANS AND CERTIFY THAT THE RIGHT OF WAY IS AVAILABLE.

APPROVED *Warren W Smith*
APPROVED *Donaed E Carwin*
APPROVED [illegible]
COMMISSIONERS
DATE

APPROVED *Chester R. Kurtz, P.E. & P.S.*
LOGAN COUNTY ENGINEER
DATE

STANDARD DRAWINGS				
BP-5	6-1-72	MC-3	6-1-73	
		MC-4	6-13-69	
GR-2A	1-1-71			
GR-2B	11-9-71			
GR-3	11-9-71			

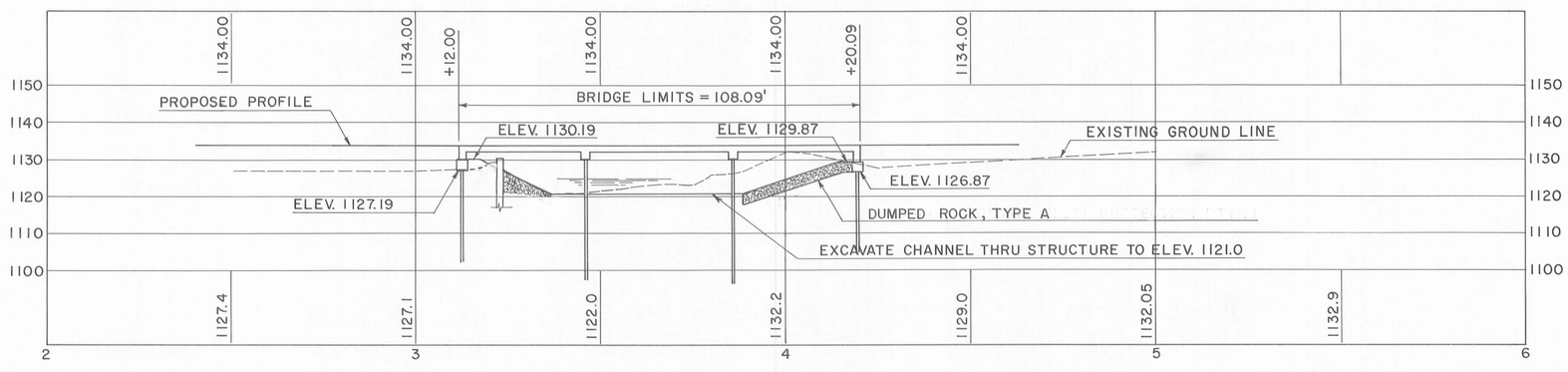
PLANS PREPARED BY
ERIKSSON ENGINEERING, LTD.
COLUMBUS, OHIO



PLAN

NOTE:
EARTHWORK LIMITS ARE SCHEMATIC.
ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTION.

PILES IN ABUTMENTS ARE 14"Ø CAST-IN-PLACE REINFORCED CONCRETE PILES. ESTIMATED AVERAGE PAY LENGTH IS 25 FEET PER PILE.
PILES IN PIERS ARE 14"Ø CAST-IN-PLACE REINFORCED CONCRETE PILES. ESTIMATED AVERAGE PAY LENGTH IS 35 FEET PER PILE.



PROFILE

EXISTING STRUCTURE

TYPE: STEEL TRUSS (PRATT)
SPANS: 52'-0"
ROADWAY: 13.1'
LOADING: UNKNOWN
SKEW: 0°
WEARING SURFACE: BITUMINOUS
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
SUPERELEVATION: NONE
CONDITION: UNSATISFACTORY

PROPOSED STRUCTURE

TYPE: THREE SPAN CONTINUOUS REINFORCED CONCRETE SLAB & CAPPED PILE SUBSTRUCTURES
SPANS: 32'-0", 40'-0", 32'-0"
ROADWAY: 34'-0" F/F GUARDRAILS
LOADING: HS 20-44
SKEW: 12° 00' 00" R.F.
WEAR SURFACE: 1" MONOLITHIC CONC.
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
SUPERELEVATION: VARIES
DRAINAGE AREA: 26.1 SQ. MILES

1 / 8

ERIKSSON ENGINEERING
COLUMBUS OHIO

SITE PLAN

BRIDGE NO. 29-2.70
C.H. 29 OVER MAD RIVER
LOGAN COUNTY, STA. 3+12.00 TO STA. 4+20.09

Designed	Drawn	Checked	Reviewed	Date	Revised
J.B.	G.S.	GEE		5-20-75	

GENERAL NOTES

REFERENCE SHALL BE MADE TO SUPPLEMENT SPECIFICATIONS:
808 DATED 1-1-71
836 DATED 1-1-71

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1973, INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:
DESIGN LOADING - HS 20-44
CONCRETE CLASS C - UNIT STRESS 1200 P.S.I. FOR SUPERSTRUCTURE
- UNIT STRESS 1333 P.S.I. FOR SUBSTRUCTURE
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20,000 P.S.I.

EMBANKMENT CONSTRUCTION: THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 50 FEET BACK OF THE ABUTMENTS, EXCAVATION SHALL THEN BE MADE FOR THE ABUTMENTS AND FOR THE BENCHES.

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 28 TONS PER PILE FOR THE ABUTMENTS AND 40 TONS PER PILE FOR THE PIERS.

REMOVAL OF EXISTING STRUCTURE: WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED. SUITABLE WASTE MASONRY MAY BE PLACED AS BANK PROTECTION AS DIRECTED BY THE ENGINEER.

CONCRETE SURFACE TREATMENT: THE TOP, ALL FOUR SIDES, AND THE UNDERSIDES TO THE DRIP GROVE OF THE CONCRETE DECK, AND ALL SIDES OF THE ABUTMENTS AND WINGWALLS ABOVE THE FOOTINGS SHALL BE TREATED WITH SINMAST DEEP CONSERVATION.

MATERIALS AND APPLICATION SHALL BE AS SPECIFIED BY THE SINMAST OF AMERICA CORPORATION FOR ITS DEEP CONSERVATION TREATMENT. COPIES OF THESE SPECIFICATIONS ARE AVAILABLE AT THE COUNTY ENGINEERS' OFFICE.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	PIERS	ABUT.	GEN.	AS BUILT	
202	LUMP	SUM	STRUCTURE REMOVED				LUMP		
503	82	CU. YD.	UNCLASSIFIED EXCAVATION			82			
507	840	LIN. FT.	14" CAST-IN-PLACE REINFORCED CONCRETE PILES		490	350			
509	52,441	LB.	REINFORCING STEEL	45,071	2,842	4,528			
511	211	CU. YD.	CLASS C CONCRETE, SUPERSTRUCTURE	211					
511	12	CU. YD.	CLASS C CONCRETE, PIER CAPS		12				
511	42	CU. YD.	CLASS C CONCRETE, ABUTMENTS			42			
517	216.18	LIN. FT.	RAILING (DEEP BEAM RAIL WITH STEEL POSTS AND BOLTS)	216.18					
518	13	CU. YD.	POROUS BACKFILL			13			
SPECIAL	LUMP	SUM	CONCRETE SURFACE TREATMENT						
808	211	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B, OR D	211					

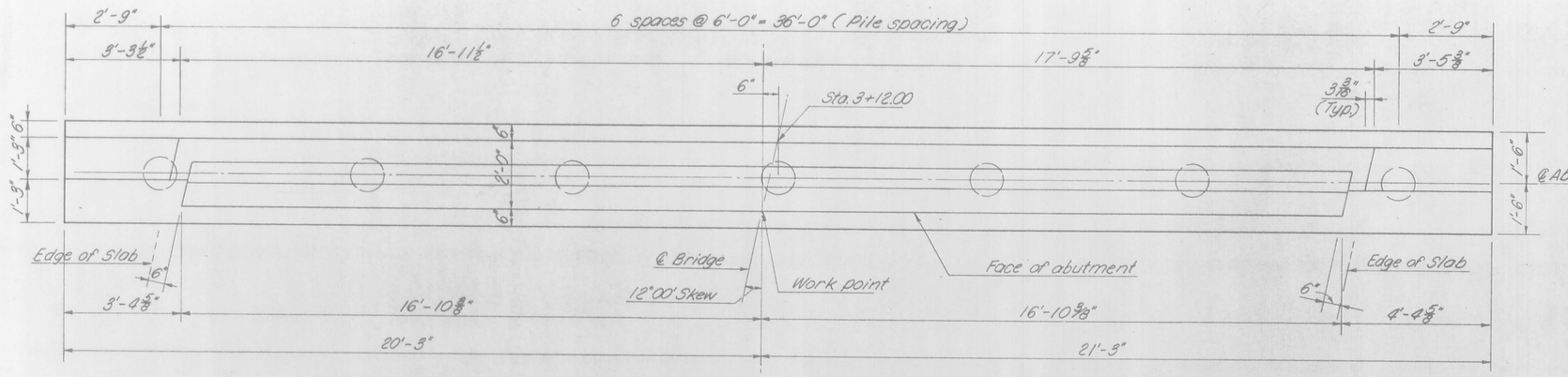
ERIKSSON ENGINEERING
COLUMBUS OHIO

GENERAL NOTES & ESTIMATED QUANTITIES

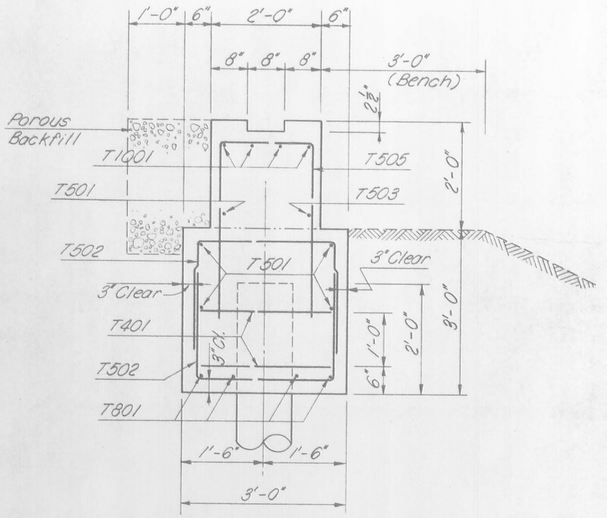
BRIDGE NO. 29-2.70
C.H. 29 OVER MAD RIVER

LOGAN COUNTY, STA. 3+12.00 TO STA.4+20.09

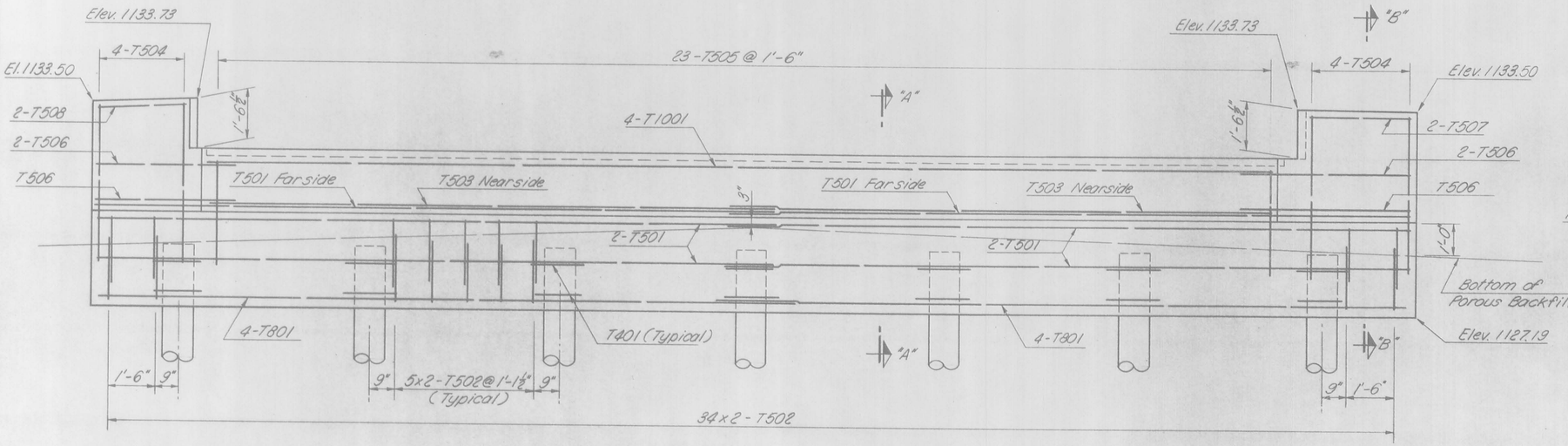
Designed	Drawn	Checked	Reviewed	Date	Revised	
V. K.	G. S.	[illegible]		5-20-75		



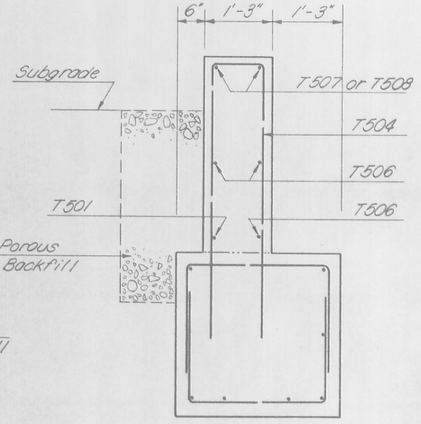
PLAN



SECTION "A-A"



ELEVATION



SECTION "B-B"

POROUS BACKFILL shall extend upward to the plane of the Subgrade and laterally to the surface of the embankment slopes.

ERIKSSON ENGINEERING
COLUMBUS OHIO

ABUTMENT NO. 1

BRIDGE NO. 29-2.70
C.H. 29 OVER MAD RIVER
LOGAN COUNTY, STA. 3+12.00 TO STA. 4+20.09

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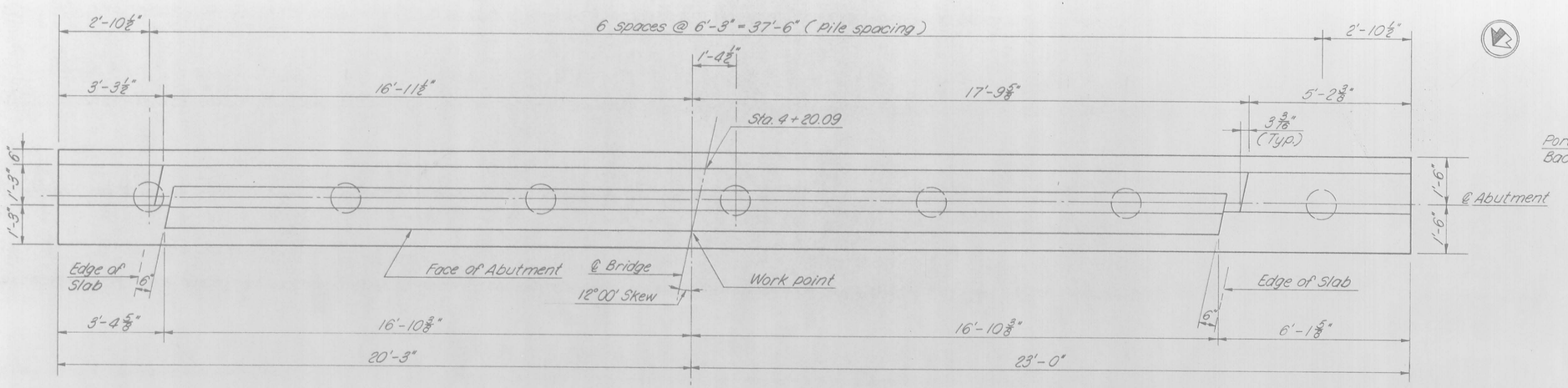
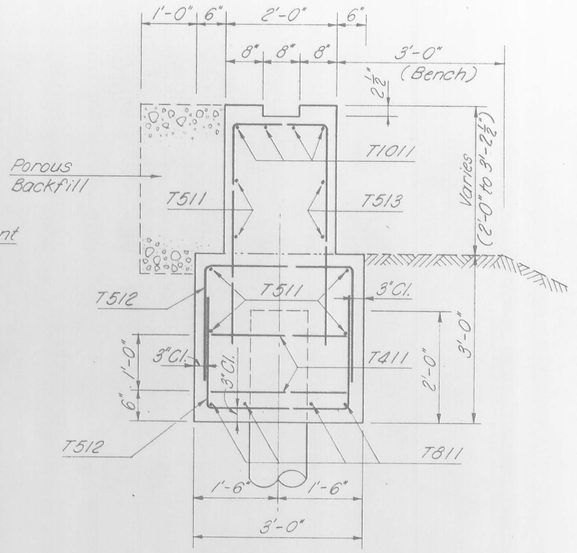
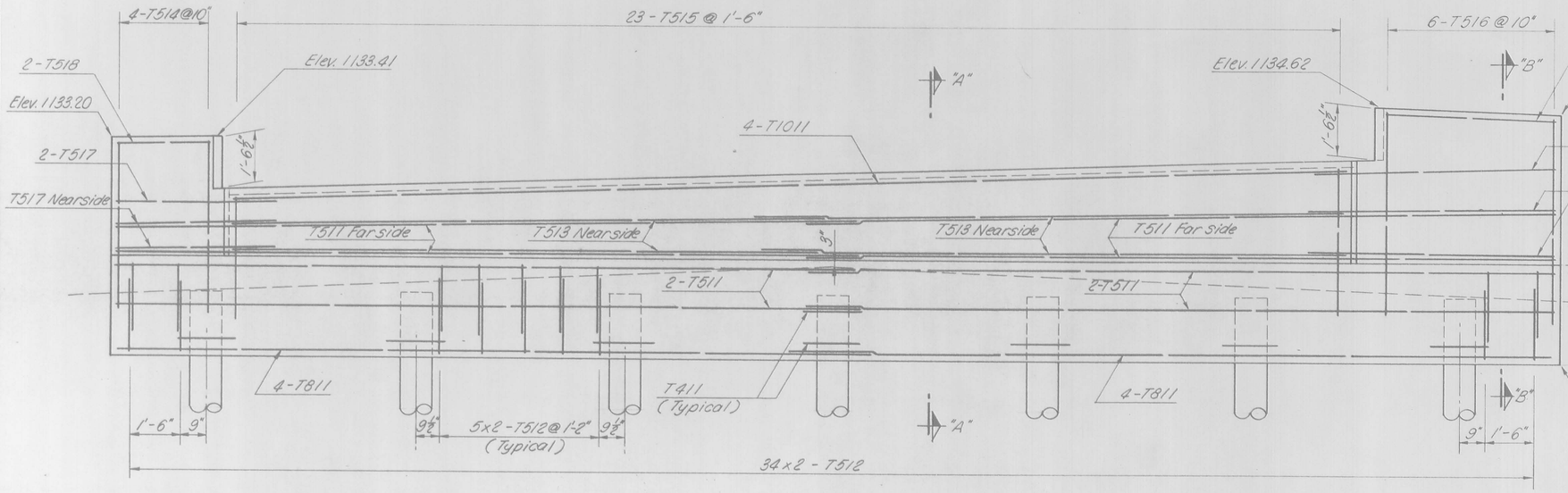
V.K.	G.S.	[illegible]		5-20-75	



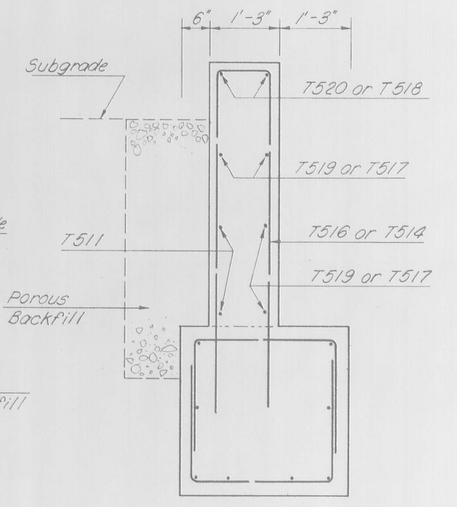
PLAN



SECTION "A-A"



ELEVATION



SECTION B-B

POROUS BACKFILL shall extend upward to the plane of the Subgrade and laterally to the surface of the embankment slopes.

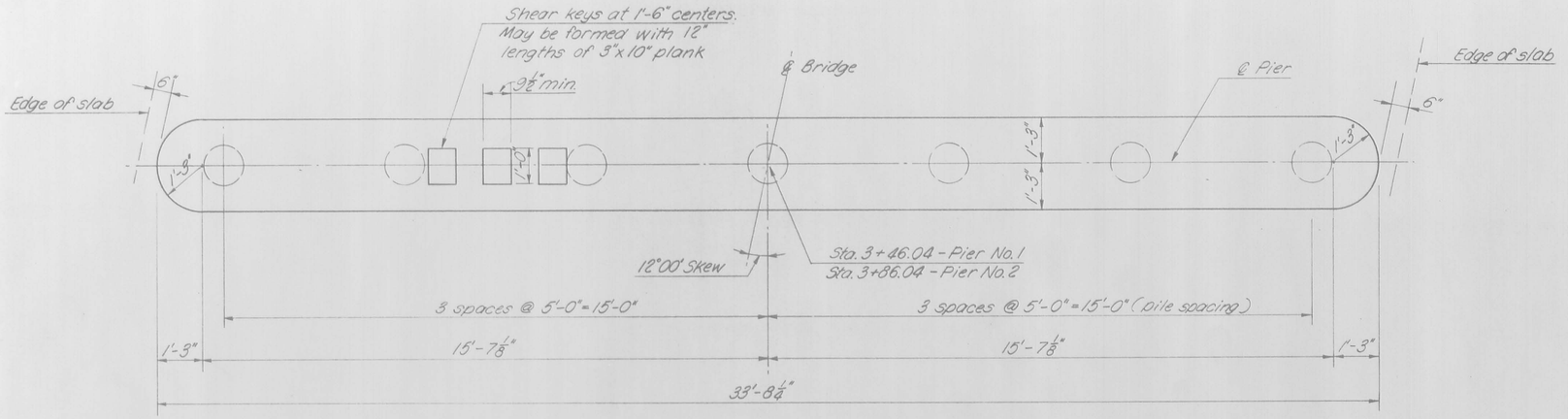
ERIKSSON ENGINEERING
COLUMBUS OHIO

ABUTMENT NO. 2

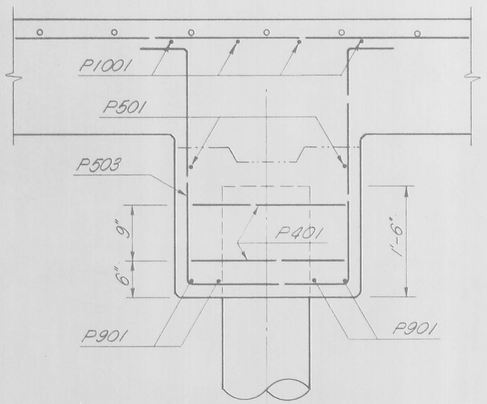
BRIDGE NO. 29-2.70
C.H. 29 OVER MAD RIVER

LOGAN COUNTY, STA. 3+12.00 TO STA. 4+20.09

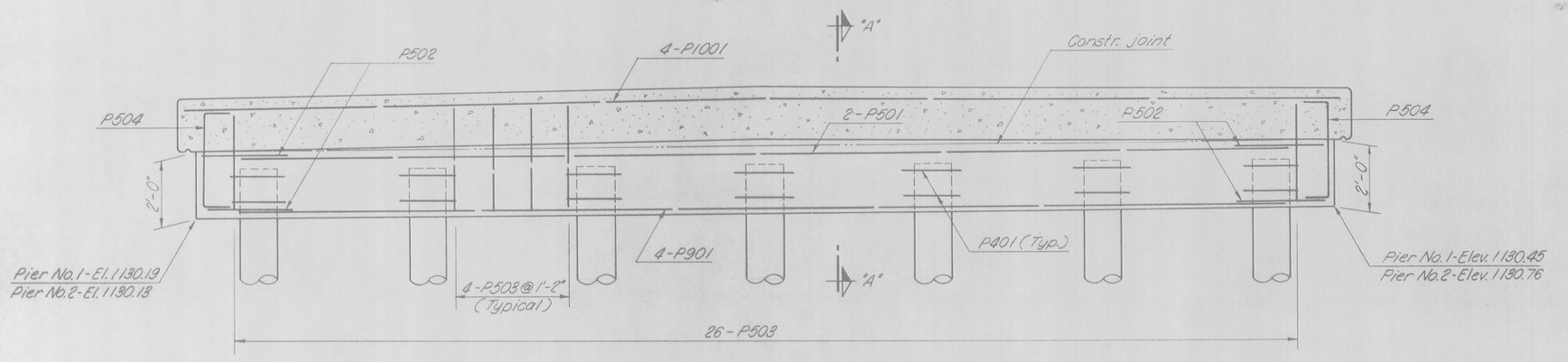
Designed	Drawn	Checked	Reviewed	Date	Revised	
V.K.	G.S.	[illegible]		5-20-75		



PLAN



SECTION "A-A"



ELEVATION

FALSEWORK SUPPORT: Attachment of falsework support members to pier piles will be permitted, if the attachment is made to that portion of pile encased in the pier cap.

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ERIKSSON ENGINEERING
COLUMBUS OHIO

PIERS

BRIDGE NO. 29-2.70
C.H. 29 OVER MAD RIVER

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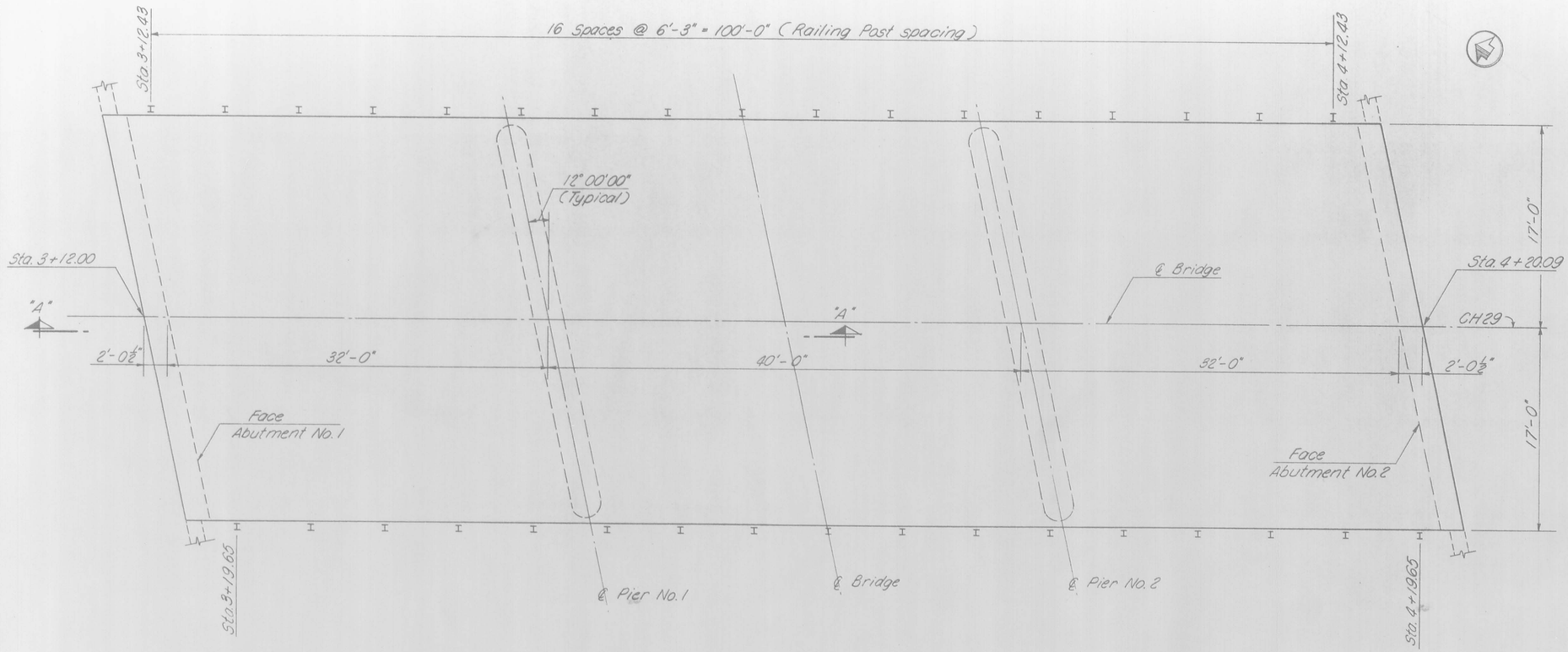
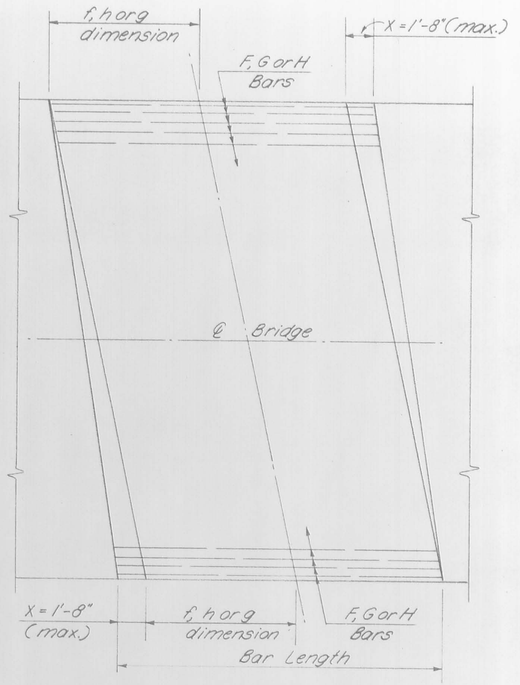
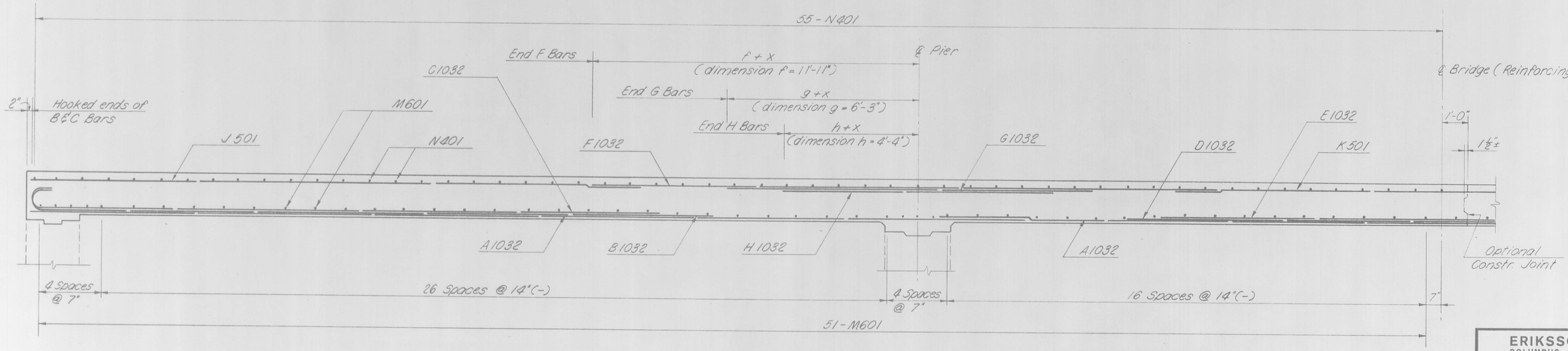




PLACEMENT DIAGRAM FOR F, G & H BARS



SECTION "A-A"

NOTE:
Camber of 1/800 of the span shall be provided in each span (in addition to that required for conformance with the profile of the highway) to allow for dead load deflection. This is the amount of camber required before falsework is released. To obtain this proper allowance shall be made for the deflection of falsework members.

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ERIKSSON ENGINEERING
COLUMBUS OHIO

SUPERSTRUCTURE DETAILS

BRIDGE NO. 29-2.70
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LOGAN COUNTY, STA. 3+12.00 TO STA. 4+20.09

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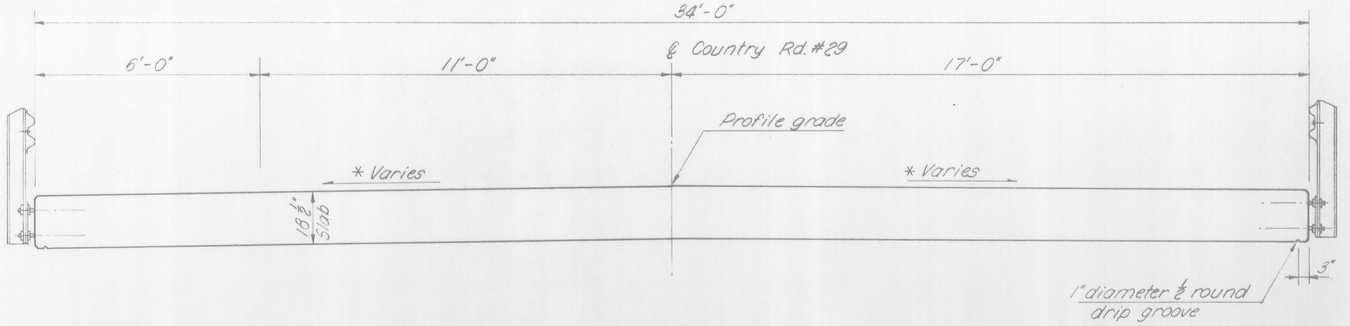
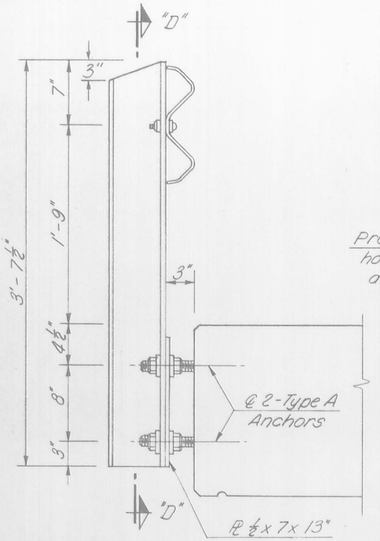
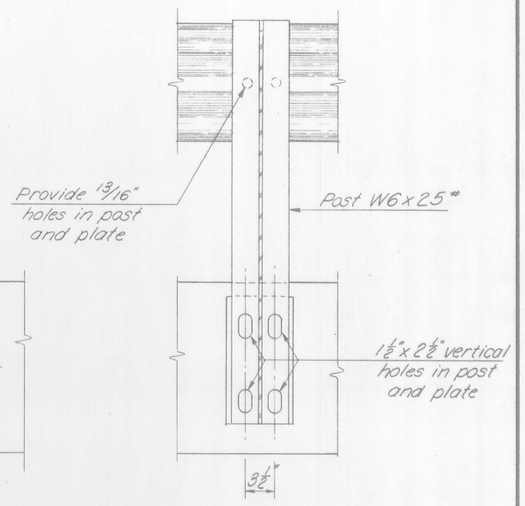


TYPICAL TRANSVERSE SECTION

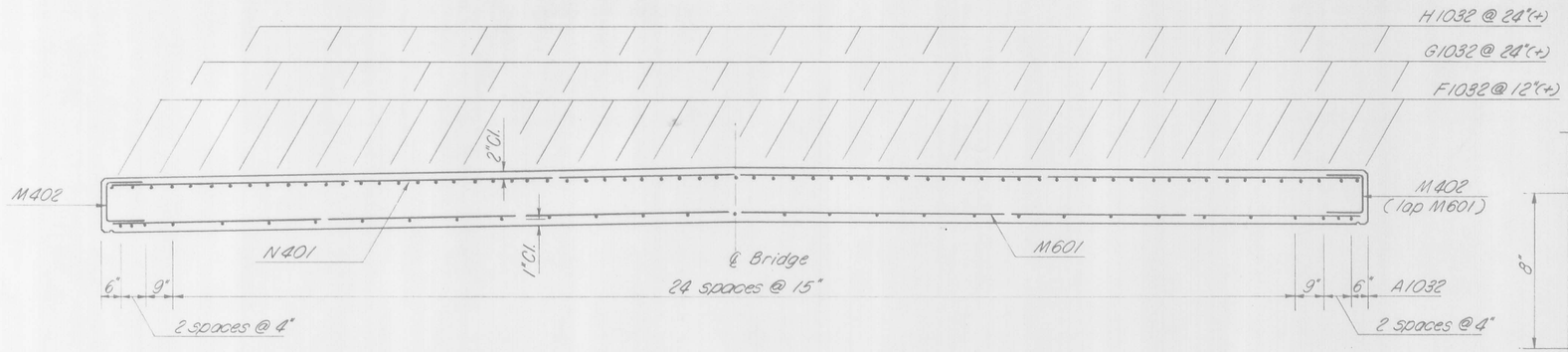
* See "SUPERELEVATION DIAGRAM"



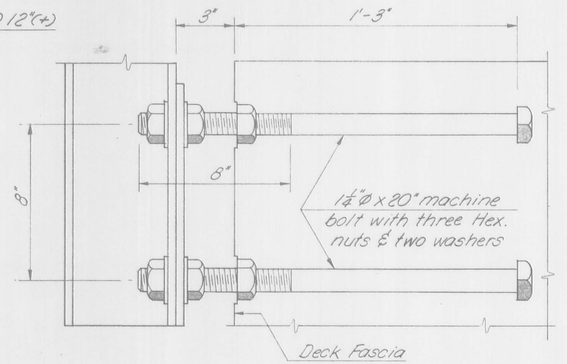
RAILING DETAILS



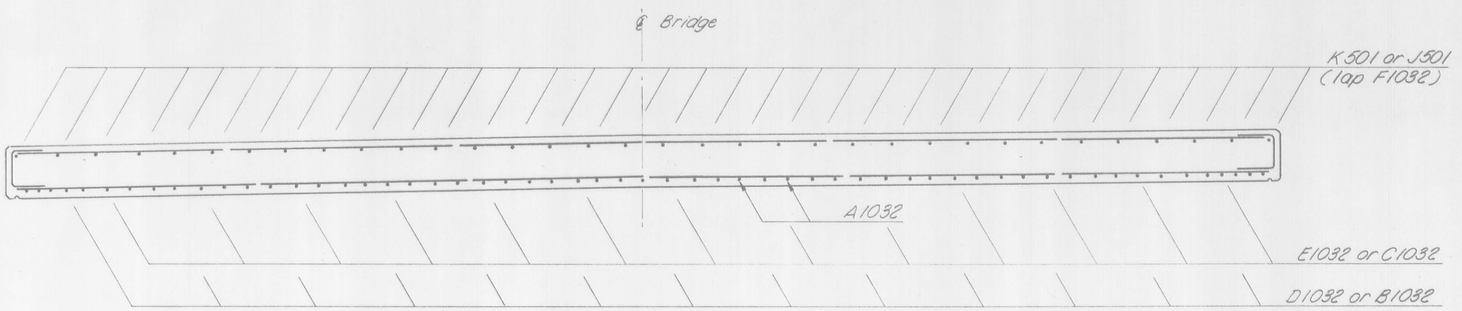
SECTION "D-D"



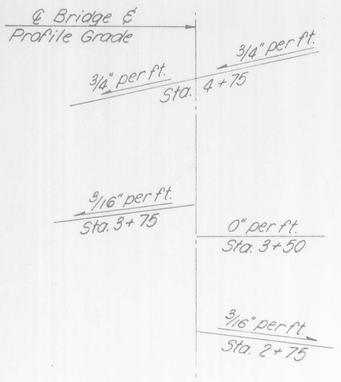
SECTION "B-B" (at Piers)



TYPE "A" ANCHOR DETAIL



SECTION "C-C" (at midspan)



SUPERELEVATION DIAGRAM

NOTES

MATERIAL: All anchor bolts, nuts & studs shall conform to A.S.T.M. A325.

GALVANIZING: All metal parts of the railing including anchor bolts shall be galvanized in accordance with the latest requirements of A.S.T.M. A123 and A.S.T.M. A153 after fabrication.

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ERIKSSON ENGINEERING
COLUMBUS OHIO

SUPERSTRUCTURE DETAILS

BRIDGE NO. 29-2.70
C.H. 29 OVER MAD RIVER
LOGAN COUNTY, STA. 3+12.00 TO STA. 4+20.09

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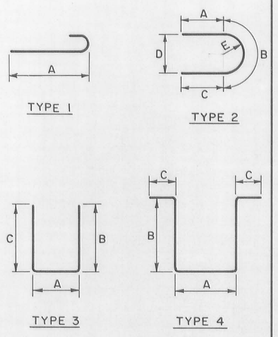
V.K.	G.S.	[illegible]		5-20-75	

REINFORCING STEEL LIST

BENDING DIAGRAM



S IN THE COLUMN FOR "TYPE" INDICATES STRAIGHT BARS.

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E
			ABUTMENT NO. 1						
T401	14	8-8	81	5	1-9	2-4¾			
T501	10	21-4	223	5					
T502	68	6-5	455	3	2-8	2-0	2-0		
T503	2	17-6	37	5					
T504	8	10-8	89	3	0-11	5-0	5-0		
T505	23	7-11	190	3	1-8	3-3	3-3		
T506	6	5-6	34	5					
T507	2	3-2	7	5					
T508	2	2-9	6	5					
T801	8	21-9	465	5					
T1001	4	33-4	574	5					
			2,161 LBS.						
			ABUTMENT NO. 2						
T411	14	8-8	81	5	1-9	2-4¾			
T511	12	22-3	278	5					
T512	68	6-5	455	3	2-8	2-0	2-0		
T513	4	17-6	73	5					
T514	4	10-8	45	3	0-11	5-0	5-0		
T515	11	9-1	104	3	1-8	3-10	3-10		
T516	12	10-3	128	3	1-8	4-5	4-5		
T517	6	12-8	79	3	0-11	6-0	6-0		
T518	4	5-0	21	5					
T519	2	2-9	6	5					
T520	4	7-6	31	5					
T811	2	5-0	10	5					
T1011	8	22-7	482	5					
	4	33-4	574	5					
			2,367 LBS.						

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E
			PIERS						
P401	28	8-0	150	5	1-9	2-0¼			
P501	4	31-0	129	5					
P502	8	6-4	53	2	1-8	1-8	3-0	2-0¼	0-11½
P503	52	8-7	466	4	2-2	2-10	0-7½		
P504	4	3-10	16	3	2-10	0-7½	0-7½		
P901	8	31-0	843	5					
P1001	8	34-5	1,185	5					
			2,842 LBS.						
			SUPERSTRUCTURE						
A1032	93	38-2	15,274	5					
B1032	26	27-5	3,067	1	26-0				
C1032	26	25-8	2,872	1	24-3				
D1032	13	24-0	1,343	5					
E1032	13	21-6	1,203	5					
F1027	68	24-9	7,242	5					
G1027	34	14-0	2,048	5					
H1027	32	10-4	1,423	5					
J501	68	24-0	1,702	5					
K501	34	20-0	709	5					
M601	102	34-5	5,273	5					
M402	204	3-0	409	3	1-2	1-0	1-0		
N401	109	34-5	2,506	5					
			45,071 LBS.						

NOTES

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, A700 IS A NO. 7 SIZE BAR AND A1014 IS A NO. 10 SIZE.

ERIKSSON ENGINEERING
COLUMBUS OHIO

REINFORCING STEEL LIST

BRIDGE NO. 29-2.70
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LOGAN COUNTY, STA. 3+12.00 TO STA. 4+20.09

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