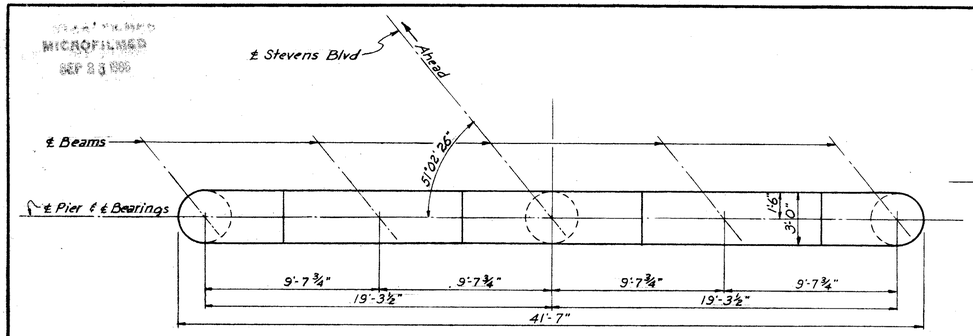
MICROFILMED
SEP 23 1986

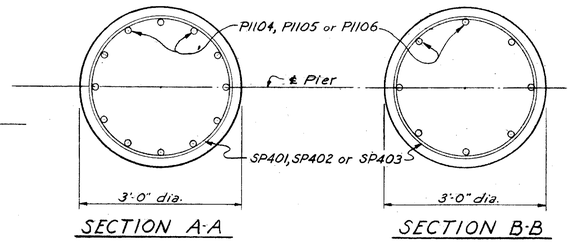
FED. RD. DIVISION	STATE	PROJECT	
2	OH10	F-U-329 (15)	

236
297

LAKE COUNTY
SEC. LAK-2-4.42

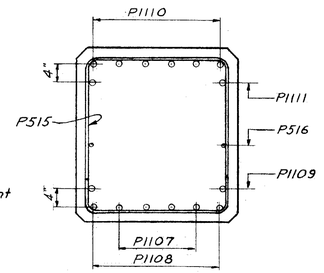


PIER CAP PLAN

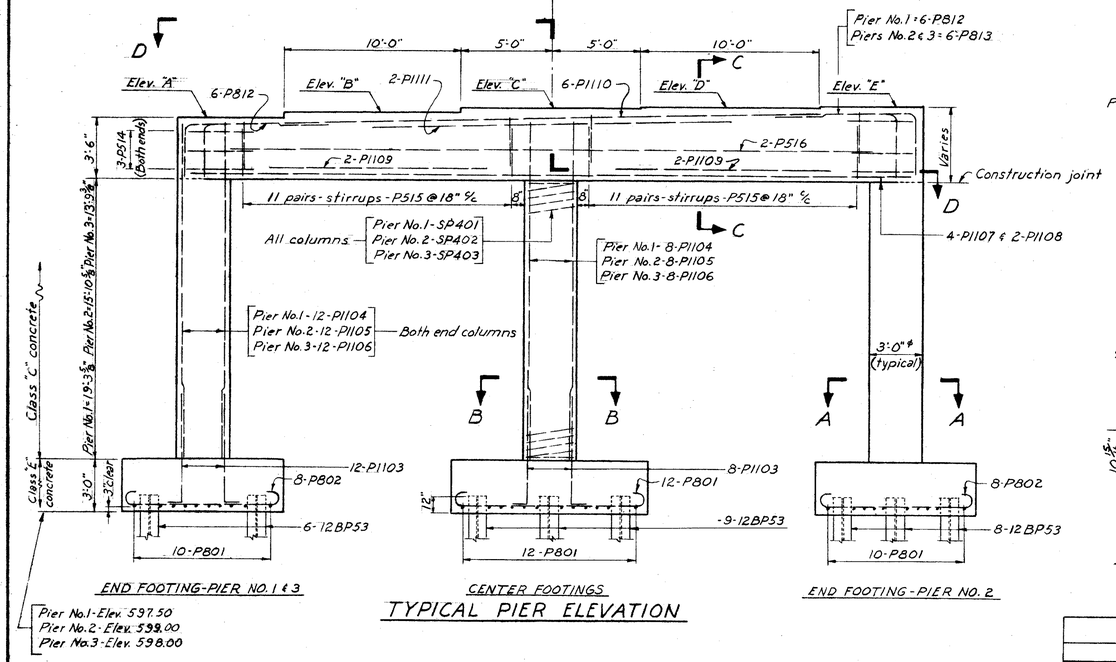


SECTION A-A

SECTION B-B



SECTION C-C



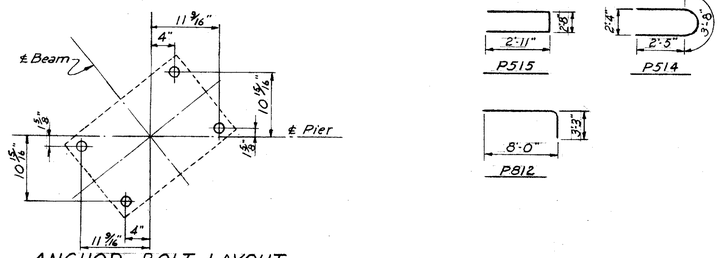
END FOOTING-PIER NO. 1 & 3

CENTER FOOTINGS

TYPICAL PIER ELEVATION

END FOOTING-PIER NO. 2

Pier No.1-Elev. 597.50
Pier No.2-Elev. 599.00
Pier No.3-Elev. 598.00

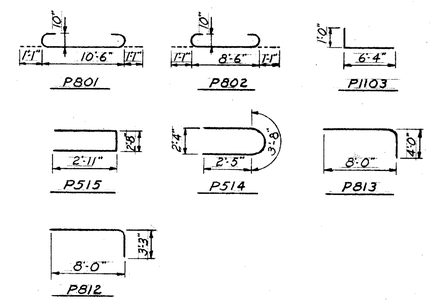


ANCHOR BOLT LAYOUT
PIER NO 2

PIER BAR LIST

MARK	NUMBER REQUIRED PIER 1	PIER 2	PIER 3	TOTAL	SIZE	LENGTH	TYPE	WEIGHT
P801	44	44	44	132	8	12'-8"	Bent	4464
P802	16	16	16	48	8	10'-8"	Bent	1367
P1103	32	32	32	96	11	7'-1"	Bent	3613
P1104	32	-	-	32	11	22'-6"	Str.	3825
P1105	-	32	-	32	11	19'-1"	Str.	3244
P1106	-	-	32	32	11	17'-0"	Str.	2890
P1107	4	4	4	12	11	40'-8"	Str.	2593
P1108	2	2	2	6	11	38'-4"	Str.	1222
P1109	4	4	4	12	11	13'-0"	Str.	829
P1110	6	6	6	18	11	32'-6"	Str.	3108
P1111	2	2	2	6	11	20'-0"	Str.	638
P812	12	6	6	24	8	11'-0"	Bent	705
P813	-	6	6	12	8	11'-9"	Bent	376
P514	6	6	6	18	5	8'-6"	Bent	160
P515	44	44	44	132	5	8'-4"	Bent	1147
P516	2	2	2	6	5	36'-0"	Str.	225

MARK	NO.	SIZE	LENGTH	PITCH	NO. TURNS	CORE DIA.	WEIGHT
SP401	3	4	19'-3"	4½"	54	32"	1061
SP402	3	4	15'-10"	4½"	45	32"	879
SP403	3	4	13'-9"	4½"	40	32"	778
					TOTAL WEIGHT		33,124

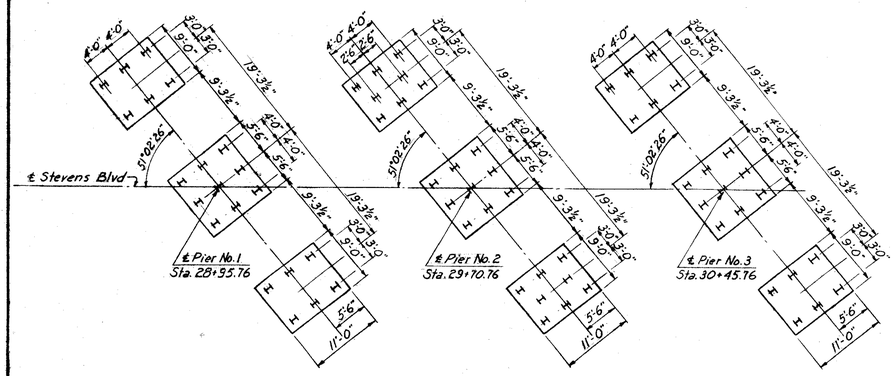


NOTES

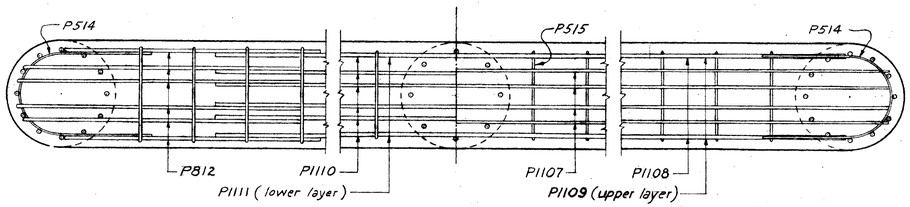
- PILES shall be driven with a hammer of not less than 11000 ft. lbs. per blow to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. S-1B.05 is not less than the following value for a pile hammer of the indicated energy rating:
  40 tons per pile using a 11,000 ft-lb. hammer
  35 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 30 tons per pile for the pier piles.
- 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.
- SPIRAL REINFORCING 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 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. 1½ closed coils shall be provided at the ends of each spiral unit.
  Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. 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 lb. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.
- All columns and footings are similar except as noted.

TABLE OF ELEVATIONS

	A	B	C	D	E
Pier No. 1	623.30	623.55	623.80	623.72	623.64
Pier No. 2	621.39	621.75	622.10	622.13	622.15
Pier No. 3	618.28	618.74	619.20	619.34	619.46



PIER FOOTING PLAN
Skew is Left Forward



SECTION D-D

PREPARED BY
CAPITOL ENGINEERING ASSOCIATES, DILLSBURG, PA.
FOR
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

PIERS

BRIDGE NO. LAK-2-0447
S.R. 2 UNDER STEVENS BLVD.
LAKE COUNTY
STA. 135 + 96.97

DESIGNED	DRAWN	TRACED	CHECKED	REVISED DATE	REVISED
JBM	JBM				9-30-59

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