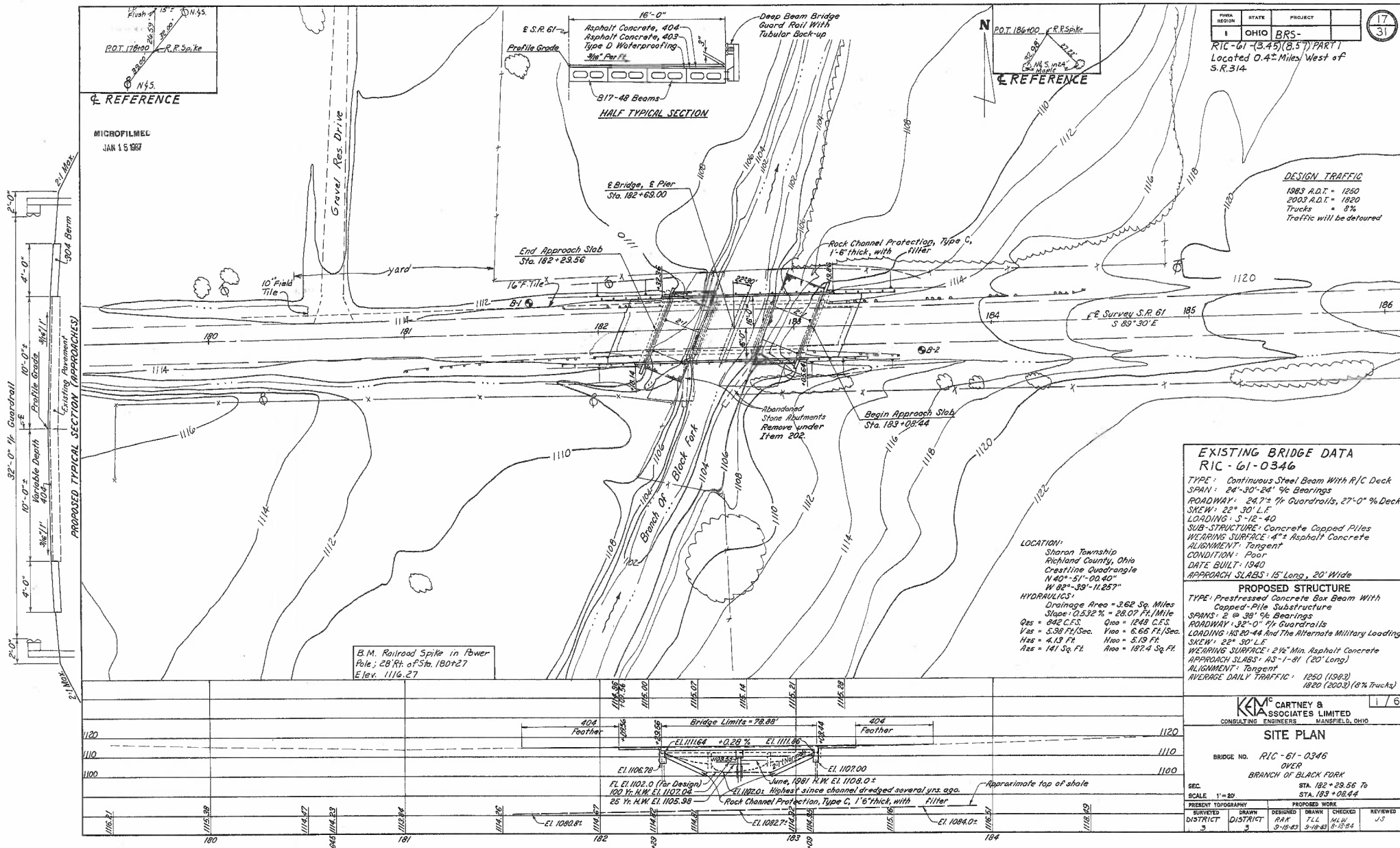
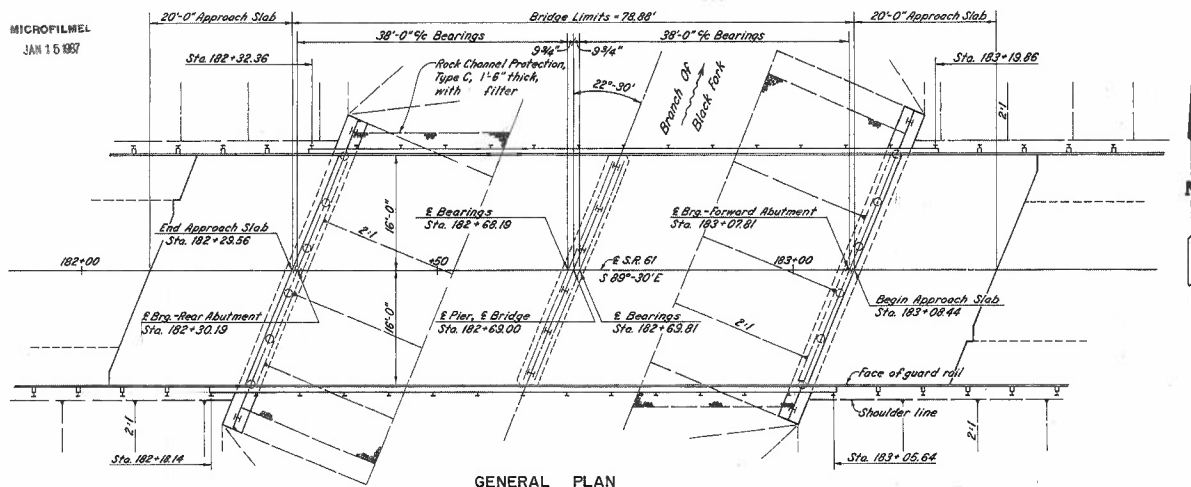


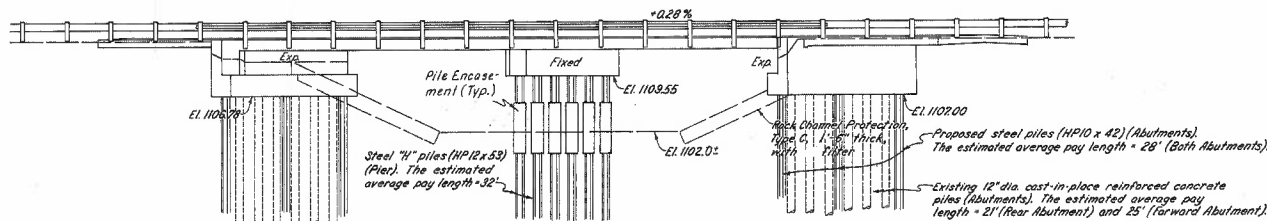
SEAL



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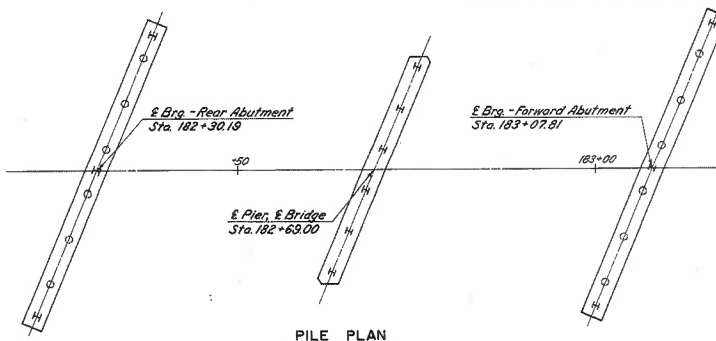


GENERAL PLAN



GENERAL ELEVATION

ESTIMATED QUANTITIES --- BRS-457(3)						
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	PIERS
202	Lump	Lump	Structure Removed			Lump
403	17	Cu Yds	Asphalt Concrete, AC-20	17		
404	10	Cu Yds	Asphalt Concrete, AC-20	10		
503	Lump	Lump	Unclassified Excavation		Lump	
505	Lump	Lump	Pile Driving Equipment Mobilization			Lump
507	170	Lin Ft	Steel Piles (HP10 x 42), As Per Plan		170	
507	190	Lin Ft	Steel Piles (HP12 x 53), As Per Plan			190
509	7,359	Lbs	Reinforcing Steel	315	5,380	1,664
511	3	Cu Yds	Class C Concrete, Superstructure (High Early Strength)	3		
511	14	Cu Yds	Class C Concrete, Pier Caps, As Per Plan			14
511	56	Cu Yds	Class C Concrete, Abutments, As Per Plan		56	
512	285	Sq Yds	Type D Waterproofing, As Per Plan	285		
515	16	Each	Prestressed Concrete Bridge Members, B17-48	16		
516	68	Lin Ft	Joint Sealer, 705.01 or 705.02		68	
516	146	Sq Ft	1" Preformed Expansion Joint Filler		111	35
516	64	Each	1 1/2" x 8" x 12" Elastomeric Bearing Pads		32	32
516	32	Each	1/8" Preformed Bearing Pads, 24" x 24"		16	16
517	175.0	Lin Ft	Railing (Deep Beam Rail with Tubular Back-up and Type 2 Steel Posts and Bolts)	175.0		
518	26	Cu Yds	Porous Backfill		26	
Special	33	Sq Yds	Sealing of Concrete Surfaces (See Proposal Note)	33		
Special	121	Sq Ft	Steel Drip Strip	121		



PILE PLAN

R.H.W.A. REGION	STATE	PROJECT	18 31
5	OHIO		

RIC-61-(3.45)(8.57) PART I

GENERAL NOTES

REFERENCE shall be made to Standard Drawings:

AS-1-81 (Dated 11-27-81)

OSR-2-73 (Dated 4-10-73)

PSD-1-81 (Dated 9-18-81)

CPP-2-73 (Dated 4-10-73)

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1977, including the 1976, 1979, 1980, 1981 and 1982 Interim Specifications and the Ohio Supplement to these specifications.

DESIGN DATA: Design Loading - HS 20-44 and the Alternate Military Loading
Concrete Class S - Unit stress 1500 p.s.i. for superstructure
Concrete Class C - Unit stress 1323 p.s.i. for substructure
Reinforcing steel - ASTM A616, A616 or A617 Grade 60 Unit stress 20,000 p.s.i.
Concrete for Prestressed Concrete Beams - Unit stress 2200 p.s.i. compression, 444 p.s.i. tension
Prestressing strand ASTM A416-1's = 270,000 p.s.i., initial stress = 0.70 f's

DECK PROTECTION METHOD: Type D Waterproofing (See Note on next sheet) and Asphalt Concrete Overlay

REMOVAL OF EXISTING STRUCTURE: When no longer needed the existing structure shall be removed and shall become the property of the Contractor. Suitable waste masonry from the existing structure may be placed as bank protection as directed by the Engineer. Existing abutment piles shall be left in place and used to support proposed abutments.

BEARING PAD SHIMS: Two 1/4" x 8" x 12" preformed bearing pads per beam are provided for use as shims where needed for proper seating of the prestressed beams.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

511 CLASS C CONCRETE, As Per Plan: All Class C Concrete shall use limestone or slag for the coarse aggregate.

PILE HAMMER: The pile hammer used to install the steel "H" bearing piles shall have a State's energy rating of not less than 13,000 foot-pounds. This requirement does not relieve the Contractor from 108.05 which states that the Contractor is to provide sufficient equipment for prosecuting the required work. Refer to O.D.T.'s Manual of Procedures for Structures to obtain the State's energy rating.

PILES shall be driven to refusal on bedrock. Refusal shall be considered as attained by penetrating soft bedrock with a minimum resistance of 20 blows per inch, or refusal shall be considered as attained after the pile has contacted hard bedrock and the pile has then received at least 20 blows.

The design load for the Pier piles is 374 tons per pile. The design load for the existing abutment piles is unknown, but is probably about 24 tons per pile. The design load for the proposed abutment piles is 24 tons per pile.

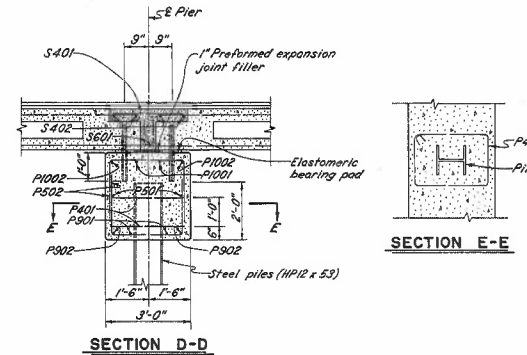
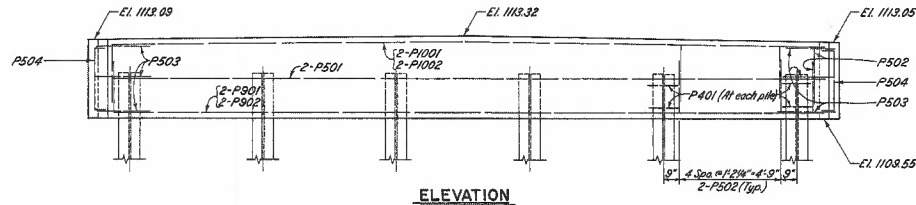
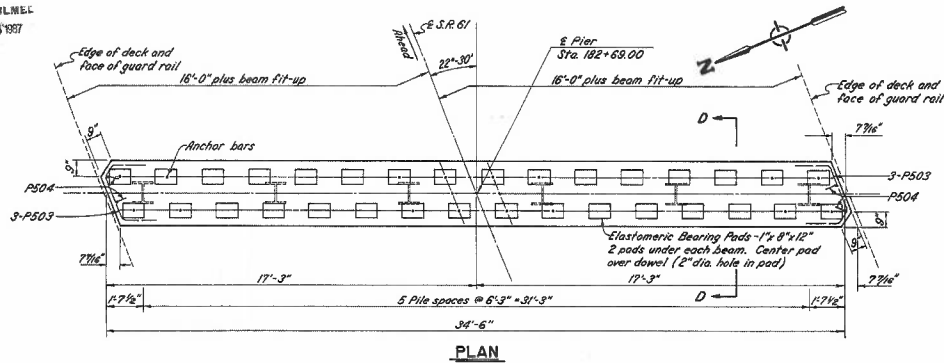
See additional notes on Sheet 2 of 6

K&M [®] CARTNEY & ASSOCIATES LIMITED CONSULTING ENGINEERS MANSFIELD, OHIO		2 / 6
GENERAL PLAN, GENERAL NOTES AND ESTIMATED QUANTITIES		
BRIDGE NO. RIC-61-0346 OVER BRANCH OF BLACK FORK		
RICHLAND COUNTY S.R. 61		
STA. 182+29.66 TO STA. 183+08.44		
DESIGNED RPM 11-6-83	DRAWN GAF 11-6-83	CHECKED JG 11-6-83
TRACED 11-6-83		REVIEWED JG 11-6-83

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15 JAN 15 1987

FEDERAL REGION	STATE	PROJECT	20 31
5	OHIO		

RIC-61-(3.45)(8.57) PART I

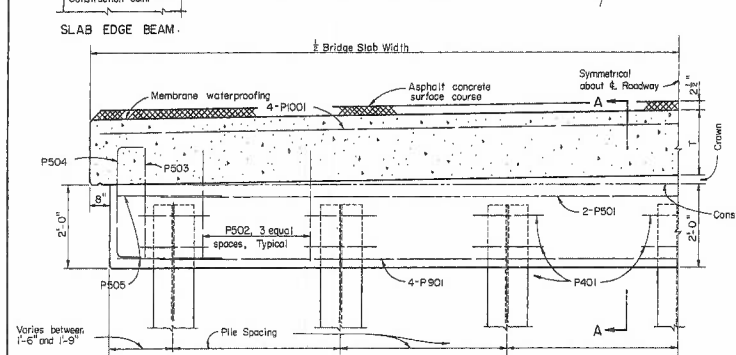
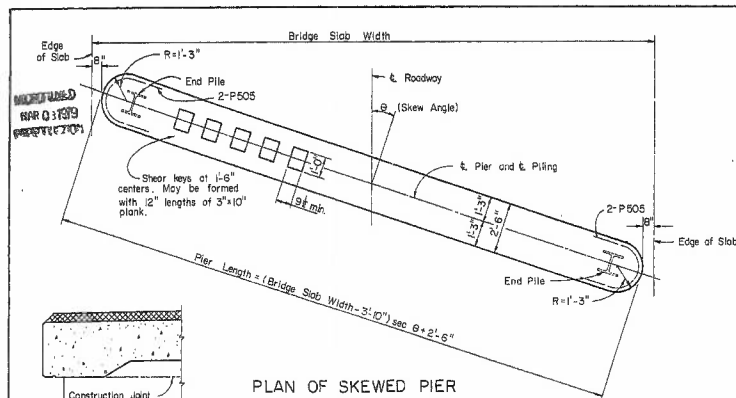


PILE ENCASUREMENT: Exposed steel piles in capped pile piers shall have pile encasement similar to that shown on Std. Draw. CPP-2-73. The encasement shall consist of Class C Concrete placed within a shell of extra-strength vitrified clay pipe, galvanized corrugated steel pipe, or plain or corrugated plastic pipe all having a minimum inside diameter of approximately 18" for HP12 x 53 piles. Encasement shall extend approximately 4' below and 4' above the flowline or groundline.

Cost of encasement shall be included with the piles for payment.

BRIDGE SEAT REINFORCING: Reinforcing steel in the vicinity of the bridge seat shall be accurately placed to avoid interference with the drilling of anchor bar holes.

KIM [®] CARTNEY & ASSOCIATES LIMITED		4/6
CONSULTING ENGINEERS		MANSFIELD, OHIO
PIER		
BRIDGE NO. RIC-61-0346		
OVER BRANCH OF BLACK FORK		
RICHLAND COUNTY		S.R. 61
STA. 182+29.56 TO STA. 183+08.44		
DESIGNED RHK	DRAWN JLB	CHECKED JLB
7-3-83	11-3-83	4-17-84
		6-13-84
		VS
		6-22



GENERAL NOTES

DESIGN SPECIFICATIONS: This standard drawing conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1969, including the Ohio "Supplement" to these specifications.

DESIGN DATA

Design Loading - HS 20-44 and the Interstate Alternate Loading.
Concrete Class C - unit stress 1,333 p.s.i.
Reinforcing Steel - ASTM A615, A616 or A617, unit stress 20,000 p.s.i.
Bend tests shall be required for A616 as per AASHTO M42-70.

PILE CASINGS: The casings of cast-in-place concrete piles shall be of the type that is left in place and is designed to resist both direct compression and bending. The portion above the proposed surface of the ground shall be of uniform diameter (not tapered) and shall have a thickness of metal not less than 0.175 inches.

PILE ENCASUREMENT shall be furnished if so specified on the Project Plans.

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.

REINFORCING STEEL: The P1001, P901, and P501 bars, at the option of the Contractor, may be furnished in one length as shown herein, or in pairs lapped at, or near, the centerline of the roadway. Determination of the quantity will be according to the number and length of bars

GENERAL NOTES (Continued)

as shown on the project plans. The P1001 bars shall be lapped 4'-10". The other bars shall be lapped 30 diameters.

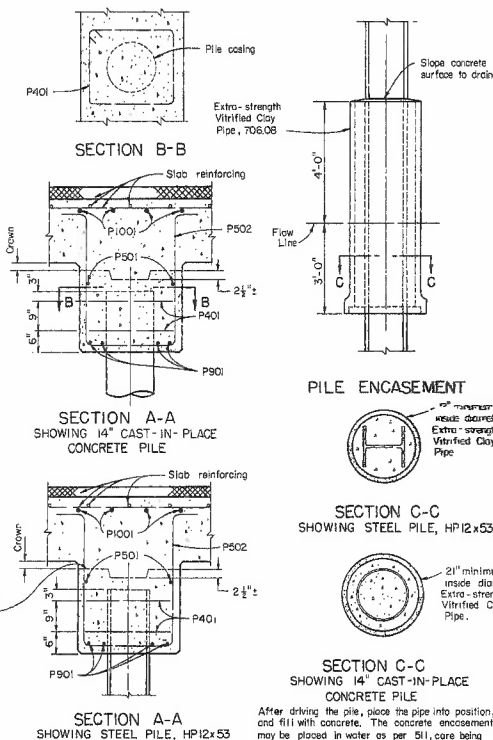
DESIGN NOTES

GENERAL: This drawing provides design and general construction details and is intended to be used with Standard Drawing CS-2-73. The project plans for each structure will show stationing, span lengths, roadway width, skew, curve and superelevation. (If any), elevations, superstructure details, estimated quantities, reinforcing steel list and other necessary details and special notes.

LIMITS OF CAPPED PILE PIER. The pier design shown on this drawing should not be used if:

- Sloped embankment would cause appreciable horizontal force against the pile bent.
- Road or other firm material would prevent driving piles at least ten feet below stream bed.
- The length of piles, from ground line to bottom of cap would exceed fifteen feet.

PILE TYPE AND SIZE: The piles shall be specified on the project plans (usually as 14" diameter cast-in-place reinforced concrete, or as 12" steel).



After driving the pile, place the pile into position, and fill with concrete. The concrete encasement may be placed in water as per 511, care being taken to remove all dirt between the pile and the pipe. The concrete and clay pipe shall be included with Piles for payment.

DESIGN NOTES (Continued)

PILE CAPACITY shall be as specified on the project plans. The required capacity, according to the formula in 507, Determination of Capacity, generally will be the design load listed in the table, except for steel piles that are to be driven to firm contact with rock or other hard material.

NUMBER AND SPACING OF PILES: In case of skew, the number of piles shall be the same as shown, but the tabulated spacing dimension shall be multiplied by the secant of the skew angle.

REINFORCING STEEL: The length of all straight horizontal bars shall be determined for each pier. Splices near the centerline of roadway should be used where necessary to avoid unreasonably long bars.

PILE ENCASUREMENT: Piles driven in corrosive streams shall be protected by the use of Vitrified Clay Pipe placed over the piles as shown on this drawing. Where such protection is required, it shall be specified on the Project Plans.

PILE DATA FOR ONE NON-SKEWED PIER

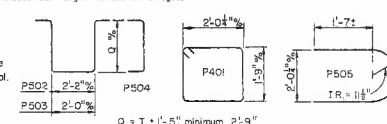
SPANS (In feet)	28' ROWY WIDTH			32' ROWY WIDTH			36' ROWY WIDTH			40' ROWY WIDTH			44' ROWY WIDTH		
	No. of Piles	Spacing	Load	No. of Piles	Spacing	Load	No. of Piles	Spacing	Load	No. of Piles	Spacing	Load	No. of Piles	Spacing	Load
14 - 17.5-14	5	6'-4"	27	6	5'-10"	25	7	5'-6"	24	7	6'-2"	27	8	5'-10"	29
15 - 18.75-15	5	6'-4"	28	6	5'-10"	26	7	5'-6"	25	7	6'-2"	28	8	5'-10"	28
16 - 20 - 16	5	6'-4"	29	6	5'-10"	27	7	5'-6"	26	7	6'-2"	29	8	5'-10"	27
17 - 21.25-17	5	6'-4"	30	6	5'-10"	28	7	5'-6"	27	7	6'-2"	30	8	5'-10"	29
18 - 22.5-18	5	6'-4"	31	6	5'-10"	29	7	5'-6"	28	7	6'-2"	31	8	5'-10"	30
19 - 23.75-19	5	6'-4"	32	6	5'-10"	30	7	5'-6"	29	7	6'-2"	32	8	5'-10"	31
20 - 25 - 20	5	6'-4"	33	6	5'-10"	31	7	5'-6"	30	7	6'-2"	33	8	5'-10"	32
21 - 26.25-21	5	6'-4"	34	6	5'-10"	32	7	5'-6"	31	7	6'-2"	34	8	5'-10"	33
22 - 27.5-22	5	6'-4"	35	6	5'-10"	33	7	5'-6"	32	7	6'-2"	35	8	5'-10"	34
23 - 28.75-23	5	6'-4"	36	6	5'-10"	34	7	5'-6"	33	7	6'-2"	36	8	5'-10"	35
24 - 30 - 24	5	6'-4"	37	6	5'-10"	35	7	5'-6"	34	7	6'-2"	37	8	5'-10"	36
25 - 31.25-25	5	6'-4"	38	6	5'-10"	36	7	5'-6"	35	7	6'-2"	38	8	5'-10"	37
26 - 32.5-26	5	6'-4"	39	6	5'-10"	37	7	5'-6"	36	7	6'-2"	39	8	5'-10"	38
27 - 33.75-27	5	6'-4"	40	6	5'-10"	38	7	5'-6"	37	7	6'-2"	40	8	5'-10"	39
28 - 35 - 28	5	6'-4"	41	6	5'-10"	39	7	5'-6"	38	7	6'-2"	41	8	5'-10"	40
29 - 36.25-29	5	6'-4"	42	6	5'-10"	40	7	5'-6"	39	7	6'-2"	42	8	5'-10"	41
30 - 37.5-30	5	6'-4"	43	6	5'-10"	41	7	5'-6"	40	7	6'-2"	43	8	5'-10"	42
31 - 38.75-31	5	6'-4"	44	6	5'-10"	42	7	5'-6"	41	7	6'-2"	44	8	5'-10"	43
32 - 40 - 32	5	6'-4"	45	6	5'-10"	43	7	5'-6"	42	7	6'-2"	45	8	5'-10"	44
33 - 41.25-33	5	6'-4"	46	6	5'-10"	44	7	5'-6"	43	7	6'-2"	46	8	5'-10"	45
34 - 42.5-34	5	6'-4"	47	6	5'-10"	45	7	5'-6"	44	7	6'-2"	47	8	5'-10"	46
35 - 43.75-35	5	6'-4"	48	6	5'-10"	46	7	5'-6"	45	7	6'-2"	48	8	5'-10"	47
36 - 45 - 36	5	6'-4"	49	6	5'-10"	47	7	5'-6"	46	7	6'-2"	49	8	5'-10"	48
37 - 46.25-37	5	6'-4"	50	6	5'-10"	48	7	5'-6"	47	7	6'-2"	50	8	5'-10"	49
38 - 47.5-38	5	6'-4"	51	6	5'-10"	49	7	5'-6"	48	7	6'-2"	51	8	5'-10"	50
39 - 48.75-39	5	6'-4"	52	6	5'-10"	50	7	5'-6"	49	7	6'-2"	52	8	5'-10"	51
40 - 50 - 40	5	6'-4"	53	6	5'-10"	51	7	5'-6"	50	7	6'-2"	53	8	5'-10"	52
41 - 51.25-41	5	6'-4"	54	6	5'-10"	52	7	5'-6"	51	7	6'-2"	54	8	5'-10"	53
42 - 52.5-42	5	6'-4"	55	6	5'-10"	53	7	5'-6"	52	7	6'-2"	55	8	5'-10"	54
43 - 53.75-43	5	6'-4"	56	6	5'-10"	54	7	5'-6"	53	7	6'-2"	56	8	5'-10"	55
44 - 55 - 44	5	6'-4"	57	6	5'-10"	55	7	5'-6"	54	7	6'-2"	57	8	5'-10"	56
45 - 56.25-45	5	6'-4"	58	6	5'-10"	56	7	5'-6"	55	7	6'-2"	58	8	5'-10"	57
46 - 57.5-46	5	6'-4"	59	6	5'-10"	57	7	5'-6"	56	7	6'-2"	59	8	5'-10"	58

ROWY Indicates Bridge Roadway Width (face to face of guard rail)

REINFORCING STEEL DATA FOR ONE NON-SKEWED PIER

Bridge Roadway Width	P1001 Straight 4 req'd	P901 Straight 4 req'd	P501 Straight 2 req'd	P502 Bent 2 req'd	P503 Bent 2 req'd	P504 Bent 2 req'd	P505 Bent 2 req'd	P401 Bent 8'-4"
Length	Length	Length	Length	Length	Length	Length	Length	Number
28'	28'-0"	25'-6"	25'-6"					
32'	32'-0"	29'-6"	29'-6"					
36'	36'-0"	33'-6"	33'-6"					
40'	40'-0"	37'-6"	37'-6"					
44'	44'-0"	41'-6"	41'-6"					

* Increase bar length for skewed Bridges.



REVISIONS DATE: 10/10/73 PREPARED BY: [Signature] CHECKED BY: [Signature] DESIGNED BY: [Signature]		TITLE OF DRAWING CAPPED PILE PIER FOR CONTINUOUS SLAB BRIDGES WITHOUT CURBS WITH GUARD RAIL DESIGN LOADING: HS20-44 AND THE INTERSTATE ALTERNATE LOADING
APPROVED BY: [Signature] DATE: 10/10/73 PREPARED BY: [Signature]	ENGINEER: [Signature] DATE: 10/10/73 CHECKED BY: [Signature]	DRAWING NO. CPP-2-73

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

NO. OF STRUCTURES 0 NO. OF PROPERTY OWNERS 3 NO. OF TOTAL TAKES 0

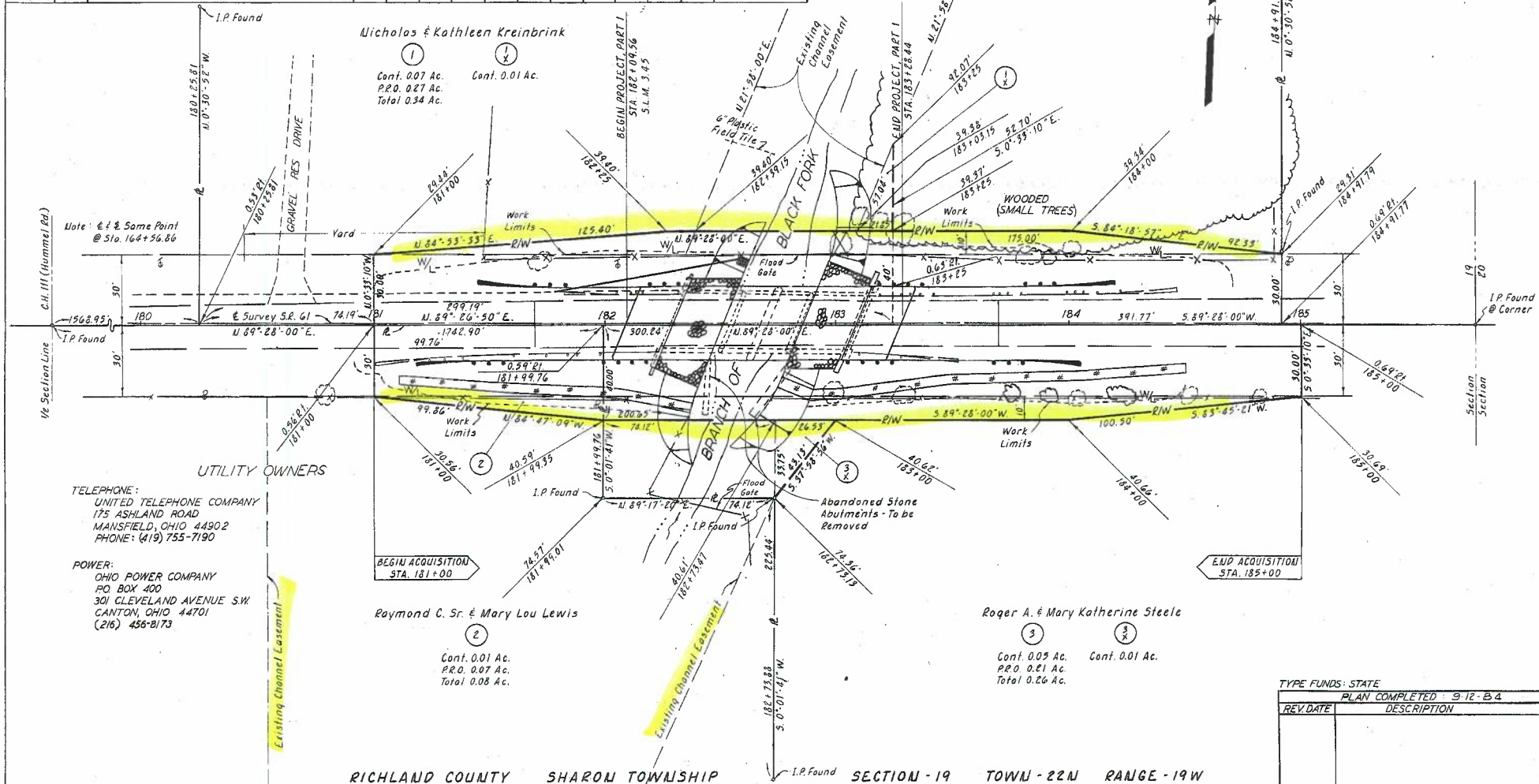
PARCEL NO.	TYPE FUNDS	PROPERTY OWNER	RECORDED VOL.	DEED PAGE	TOTAL AREA	PRO. TAKE	NET TAKE	NET RESIDUE	BLDG. NO.	SHEET NO.	REMARKS
1	State	Nicholas & Kathleen Kreinbrink	737	597	5.57	0.32	0.34	0.27	0.07	5.18	No
1X	"	"				0.01	0	0.01			Channel Work
2	State	Raymond C. Sr. & Mary Lou Lewis	630	18/19	17.33	0.48	0.08	0.07	0.01	16.85	No
3	State	Roger A. & Mary Katherine Steele			5.42	0.58	0.26	0.21	0.05	4.79	No
3X	"	"	635	58		0.01	0.01	0.01			Channel Work

20 0 20 40
SCALE IN FEET

NOTE: For Existing Right of Way
See Plan RIC-SH-204-Sec D
82-21-61-35

STATE	NO. OF PARCELS	NO. OF ACRES	STATE	PROJECT
OHIO	3	30.31	OHIO	

RIC-61-(345)(B.57)
PART I
RIGHT OF WAY PLAN



TYPE FUNDS: STATE	PLAN COMPLETED: 9-12-84
REV. DATE	DESCRIPTION