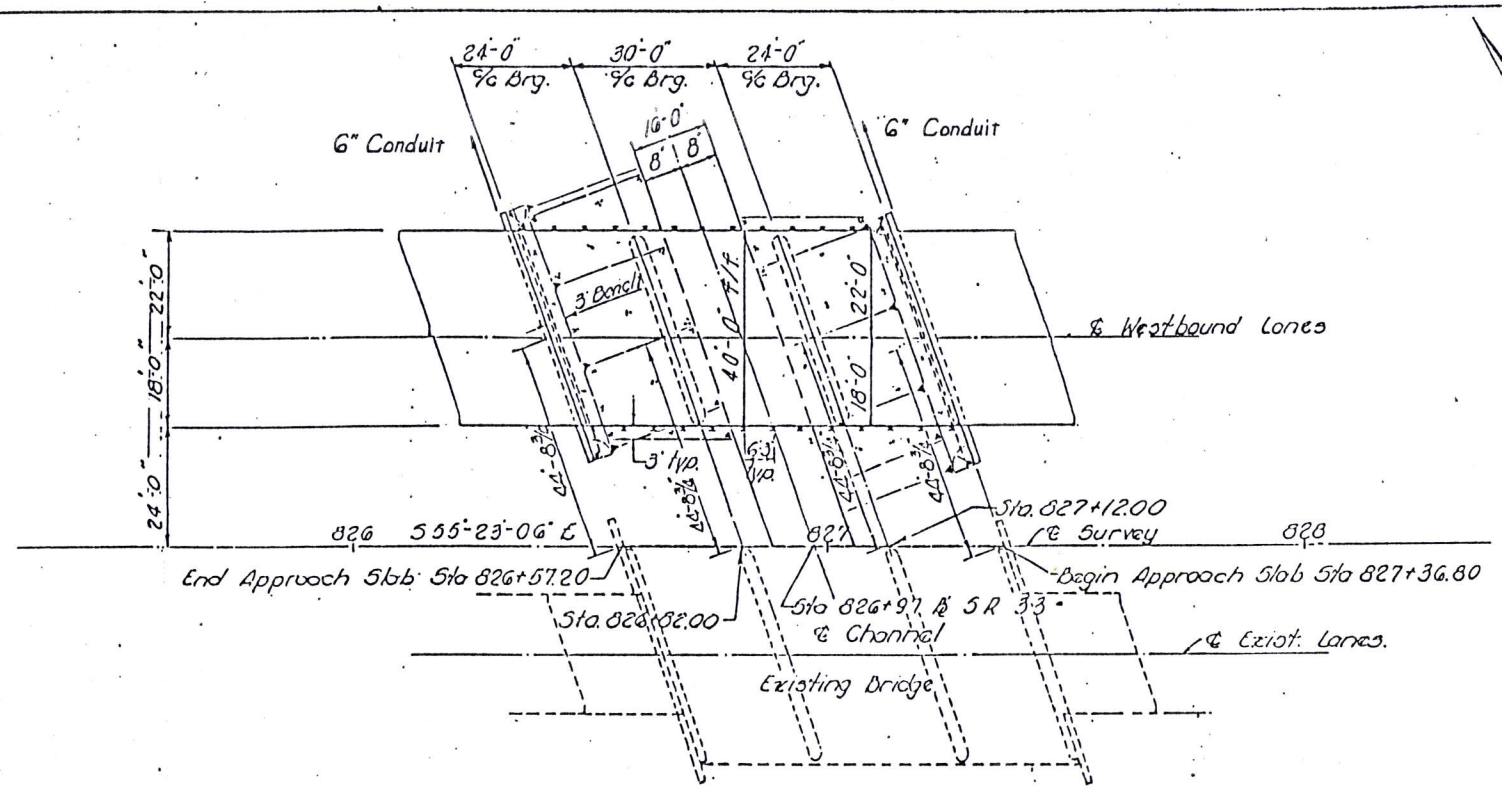
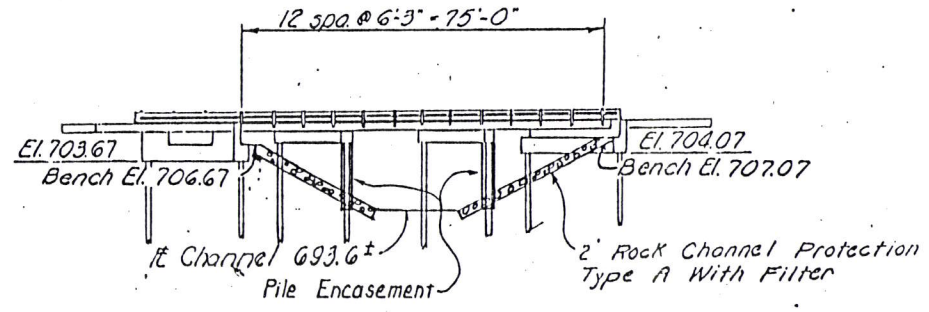
FED. HD. DIVISION	STATE	PROJECT		219 289
	OHIO			

HOC-33-15.16



PLAN



ELEVATION

ESTIMATED QUANTITIES

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIERS	GEN'L
503	21100	57	CU.YDS.	UNCLASSIFIED EXCAVATION		57		
505	11100	LUMP	LUMP	PILE DRIVING EQUIPMENT MOBILIZATION				
507	42200	1400	LIN.FT.	14" CAST-IN-PLACE REINFORCED CONCRETE PILES		560	840	
509	15800	45615	LBS	EPOXY COATED REINFORCING STEEL (GRADE 60)	35,396	6111	4108	
511	45500	49	CU.YDS.	CLASS C CONCRETE, ABUTMENT		49		
511	33404	142	CU.YDS.	CLASS S CONCRETE, SUPERSTRUCTURE (USING SHRINKAGE COMPENSATING CEMENT) (SEE PROPOSAL NOTE)	142			
511	42500	18	CU.YDS.	CLASS C CONCRETE, PIER CAP			18	
512	33300	13	SQ. YD.	TYPE A WATERPROOFING	13			
* 517	72300	159.20	LIN.FT.	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POST AND ANCHOR BOLTS)	159.20			
518	21200	27	CU.YDS.	POROUS BACKFILL WITH FILTER FABRIC		27		
518	42400	98	LIN.FT.	6" PERFORATED PIPE, INCLUDING SPECIALS 707.17		98		
601	32004	254	CU.YDS.	ROCK CHANNEL PROTECTION TYPE A WITH FABRIC FILTER				254
SPEC	51267502	46	SQ.YD.	SEALING OF CONC. SURFACES (EPOXY) (SEE PROPOSAL NOTE)	46			
SPEC	50771200	210	LIN.FT.	PILE ENCASEMENT			210	
SPEC	51822300	159.20	LIN.FT.	STEEL DRIP STRIP	159.20			
SPEC	60436600	2	EACH	PRECAST REINFORCED CONCRETE OUTLET		2		
518	42450	48	LIN. FT.	6" NON-PERFORATED PIPE, INCLUDING SPECIALS 707.17		48		

* SEE PROPOSAL NOTE

—SEE DETAIL SHEET NO. 39

GENERAL NOTES

REFERENCE SHALL BE MADE TO: STANDARD DRAWINGS AS-1-81 (25'-0" LONG), DATED 11-27-81, CPA-2-73 DATED 4-10-73, CPP-2-73 DATED 4-10-73 DBR-2-73 DATED 4-10-73 & CS-2-73 DATED 4-10-73, SUPPLEMENTAL SPECIFICATIONS 942 DATED 3-18-92 & 944 DATED 5-13-91.

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY AASHTO, 1989, INCLUDING THE 1990 & 1991 SPECIFICATIONS AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS

DESIGN DATA

DESIGN LOADING – HS 20-44 AND ALTERNATE MILITARY LOADING
CONCRETE CLASS S – COMPRESSIVE STRENGTH 4500 P.S.I. FOR SUPERSTRUCTURE
CONCRETE CLASS C – COMPRESSIVE STRENGTH 4000 P.S.I. FOR SUBSTRUCTURES.

REINFORCING STEEL

ASTM A615, A616 OR A617 GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.
DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL, TOP & BOTTOM MATS.

CONSTRUCTION CONSTRAINTS:

PRIOR TO DRIVING PILES, THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND EACH ABUTMENT. THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE INSTALLATION OF THE ABUTMENT AND PIER PILES SHALL NOT BEGIN UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED.

PILES:

PILES SHALL BE DRIVEN TO REFUSAL TO 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 IS 35 TONS PER PILE FOR THE ABUTMENT AND 40 TONS PER PILE FOR THE PIER PILES.

ITEM SPECIAL – PILE ENCASEMENT

ALL PILES FOR THE CAPPED PILE PIERS SHALL BE ENCASED IN CLASS F CONCRETE (499.03) AND SHALL BE IN ACCORDANCE WITH 511, EXCEPT AS MODIFIED AND SUPPLEMENTED HEREIN. THE REQUIRED SLUMP IS 6 (SIX) INCHES, PLUS OR MINUS ONE-HALF INCH. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.50. IF CONCRETE IS PLACED UNDER WATER, THE REQUIREMENTS OF ADDING 10 PERCENT MORE CEMENT TO THE CONCRETE SHALL BE WAIVED. THE CONCRETE SHALL BE PLACED WITHIN A FORM THAT CONSISTS OF POLYETHYLENE PIPE (707.16 OR SS 944), OR PVC PIPE (SS 942). THE ENCASEMENT SHALL EXTEND FROM 3 FEET BELOW THE FINISHED GROUND SURFACE UP TO THE CONCRETE PIER CAP AND SHALL BE POSITIONED SO THAT AT LEAST 2 INCHES OF CONCRETE COVER IS PROVIDED AROUND THE EXTERIOR OF THE PILE.

THE LENGTH OF PILE ENCASEMENT SHALL BE MEASURED IN FEET ALONG THE LENGTH OF THE PILE. THIS ITEM INCLUDES ALL WORK AND MATERIALS NECESSARY TO FURNISH THE REQUIRED ENCASEMENT. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT OF PILE ENCASEMENT APPROVED IN PLACE.

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Consulting Engineers
COLUMBUS, OHIO

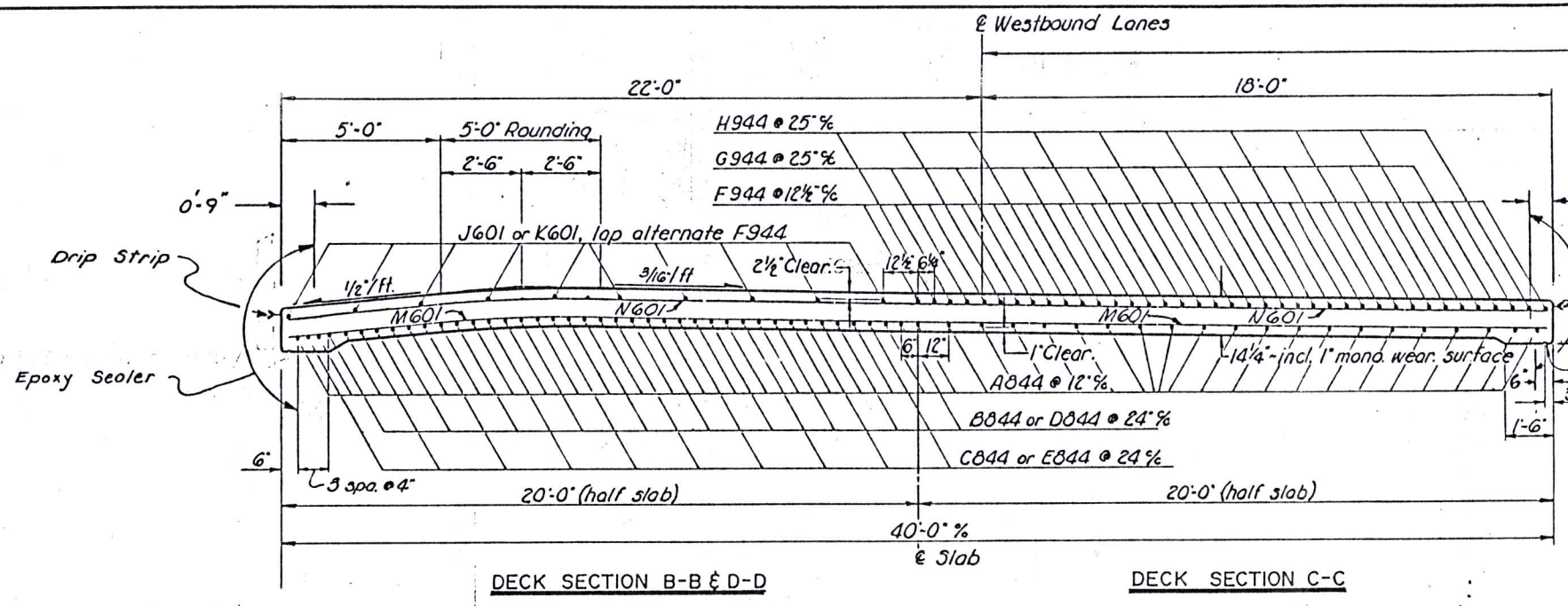
GENERAL PLAN & NOTES
ESTIMATED QUANTITIES

BRIDGE NO HOC-33-1553 L
USR-33 over FIVE MILE CREEK
HOCKING COUNTY S.R. 33

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

220 / 289

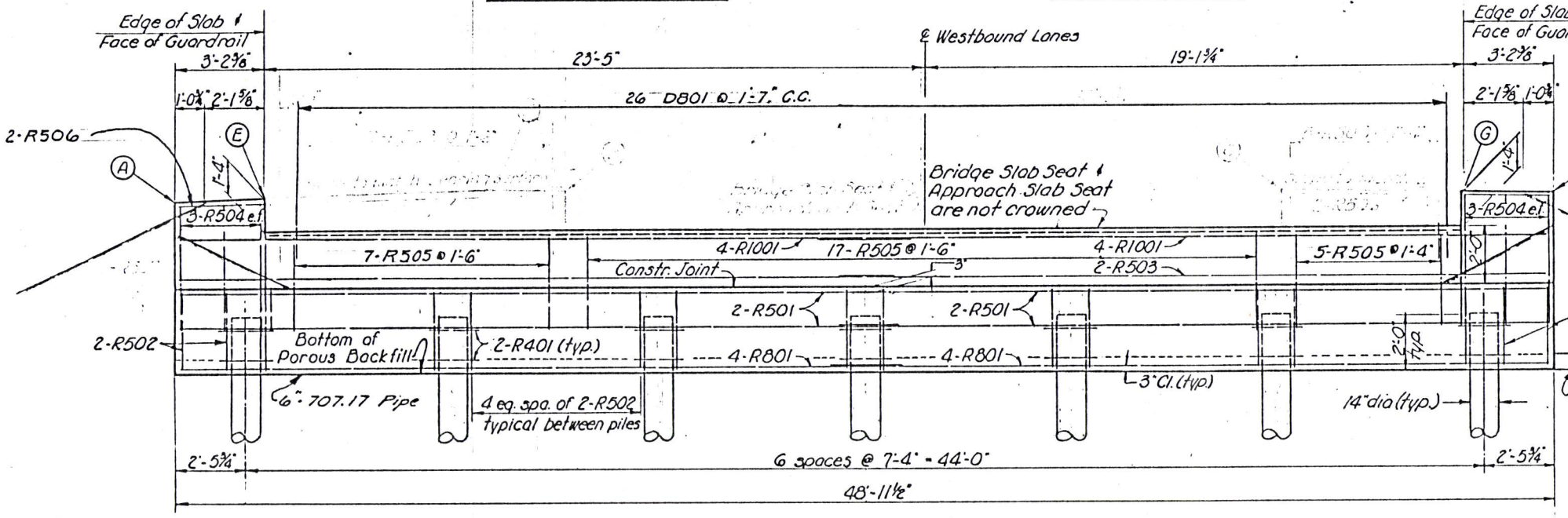
HOC-33-15.16



ITEM SPECIAL, SEALING OF CONCRETE SURFACES:
An Epoxy Concrete Sealer Shall Be Applied As Per Plan Details.
See Proposal Note For Surface Preparation and Material Requirements, Application Rates and Procedures.

DECK SECTION B-B & D-D

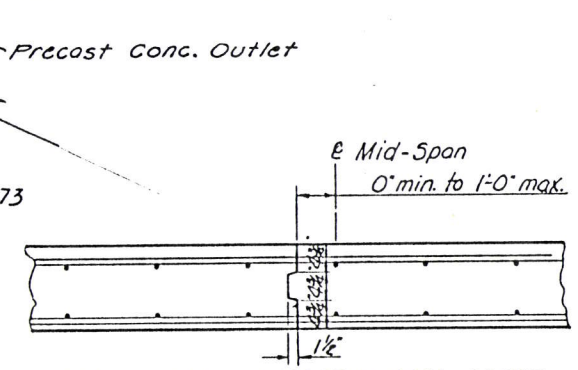
DECK SECTION C-C



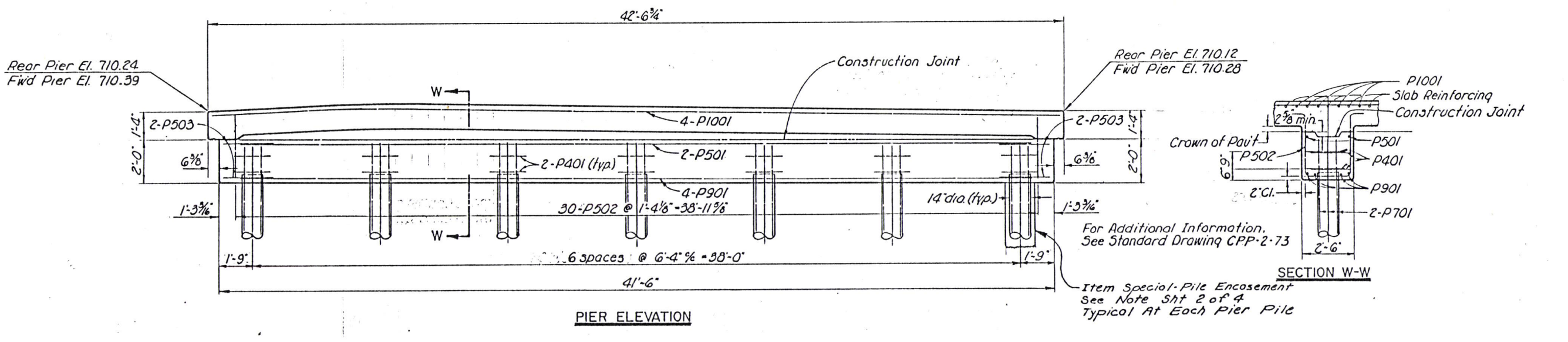
ABUTMENT ELEVATION
Forward shown - Rear opposite hand

ABUTMENT ELEVATIONS								
	A			O	E		G	H
Rear Abutment	710.00			709.96	710.13		710.00	703.67
Fwd Abutment	710.40			710.36	710.53		710.40	704.07

POROUS BACKFILL, 1'-6" thick, shall extend upward to the plane of the subgrade and laterally to the ends of the Wingwalls.



TRANSVERSE CONSTRUCTION JOINT
Optional



For Additional Information.
See Standard Drawing CPP-2-73

SECTION W-W

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Consulting Engineers
COLUMBUS, OHIO

TRANSVERSE SECTION, PIER and ABUTMENT DETAILS

BRIDGE Nº HOC-33-1553 L.
USR-33 over FIVE MILE CREEK
HOCKING COUNTY USR-33

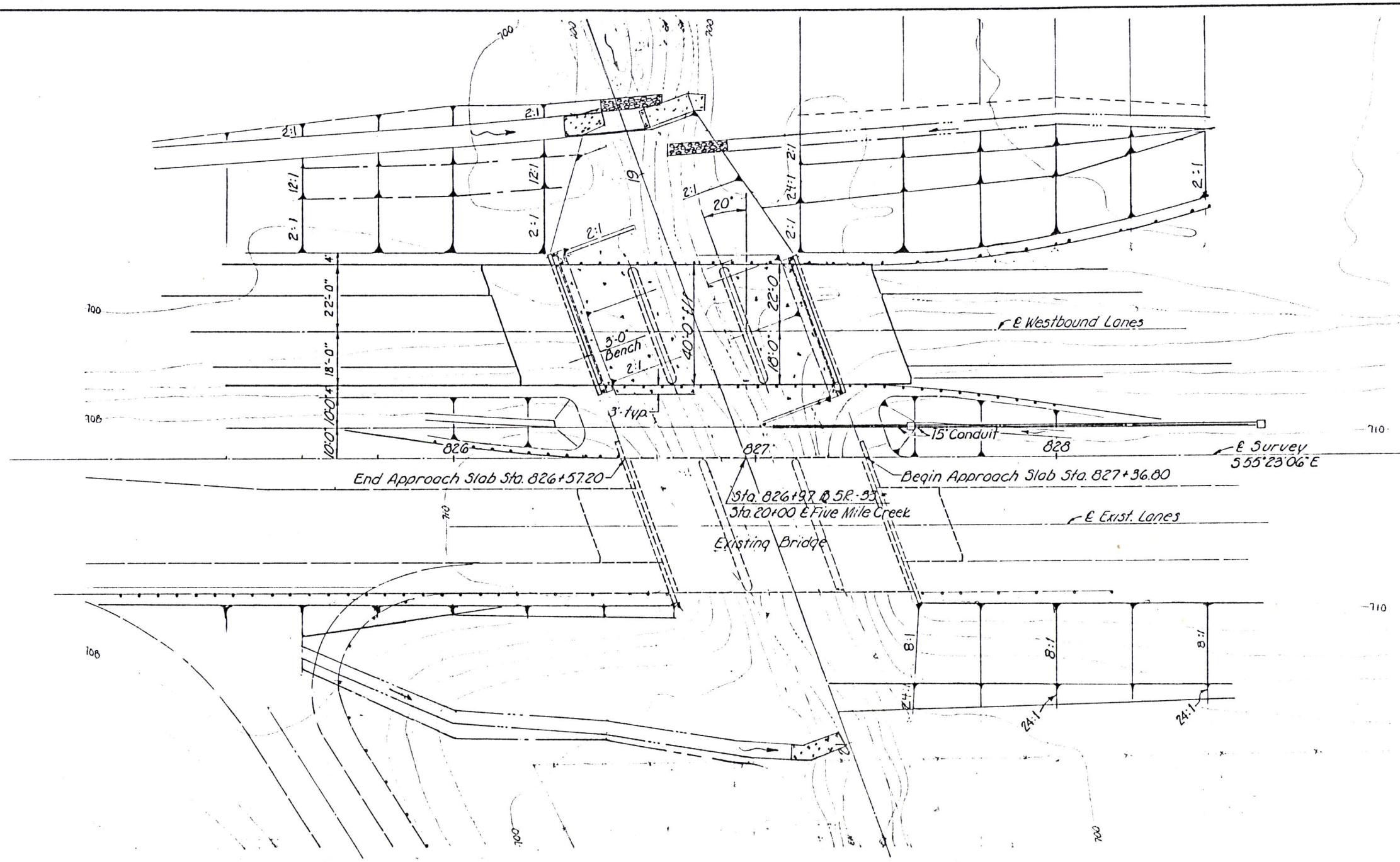
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
					15/16-10	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

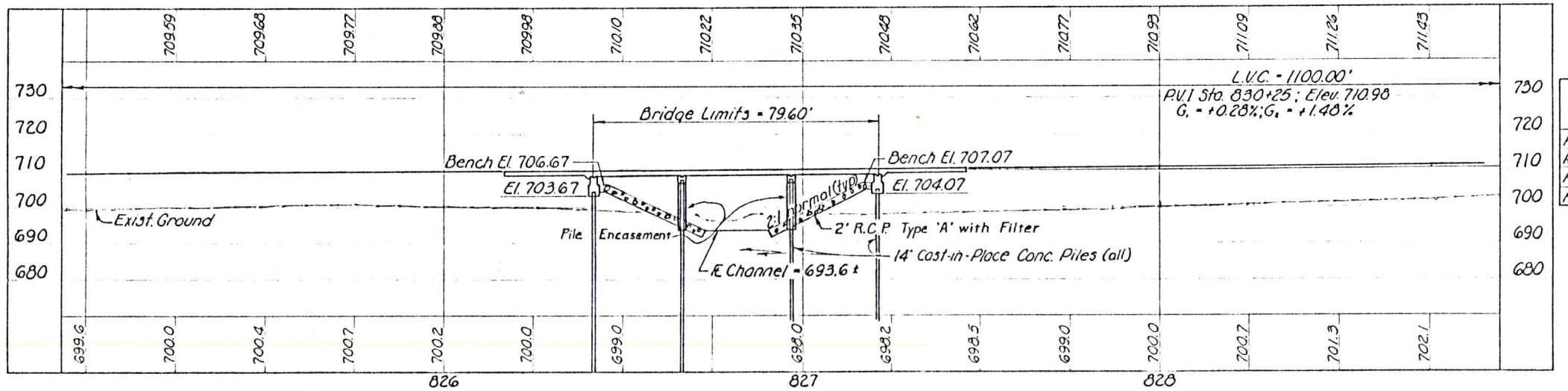
218
289

HOC-33-15.16

Proj. 861 (93)



PLAN



PROFILE ALONG ℄ WESTBOUND LANES

	Estimated Average Pay Length of Idaho Cast-in-Place Piles	
Rear Abut.	40	lin. ft.
Rear Pier	60	lin. ft.
Fwd Pier	60	lin. ft.
Fwd. Abut	40	lin. ft.

Earthwork Limits shown are schematic. Actual slopes shall conform to plan cross-sections.

Drainage Area: 5.1 SQ. Miles
Q100 = 1800 c.f.s. d100 = 6.24 Elev = 699.89
Q50 = 1551 c.f.s. d50 = 5.79 Elev = 699.31
Q25 = 1297 c.f.s. d25 = 5.28 Elev = 699.89
V100 = 10.1 f.p.s.

EXISTING STRUCTURE (Right)

TYPE: Continuous reinforced concrete slab with capped pile abutments and piers
SPANS: 24'-0"; 30'-0"; 24'-0" ℄ bearings
ROADWAY: 44'-0" f/f of guard rail
LOAD FREQUENCY: CF = 400
WEARING SURFACE: 1" monolithic concrete
SKEW: 20° R.F.
APPROACH SLAB: A5-1-54 (20'-0")
ALIGNMENT: tangent

1 | 5

PROPOSED STRUCTURE

TYPE: Continuous reinforced conc. slab bridge with capped pile abuts and piers
SPANS: 24'-0"; 30'-0"; 24'-0" ℄ brgs.
ROADWAY: 40'-0" f/f of guard rail
LOADING: HS 20-44 and Alternate Military Loading
WEARING SURFACE: 1" monolithic concrete
SKEW: 20°00'00" R.F.
APPROACH SLAB: A5-1-81 (25'-0" long)
ALIGNMENT: tangent
SUPERELEVATION: none
AVERAGE DAILY TRAFFIC: 5887 (2012)

FRANKLIN ENGINEERING, LIMITED
Consulting Engineers
COLUMBUS, OHIO

SITE PLAN

BRIDGE NO. HOC-33-1553L
USR-33 over FIVE MILE CREEK

HOCKING COUNTY USR-33

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
					12/18/70	