126

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	68 F-	

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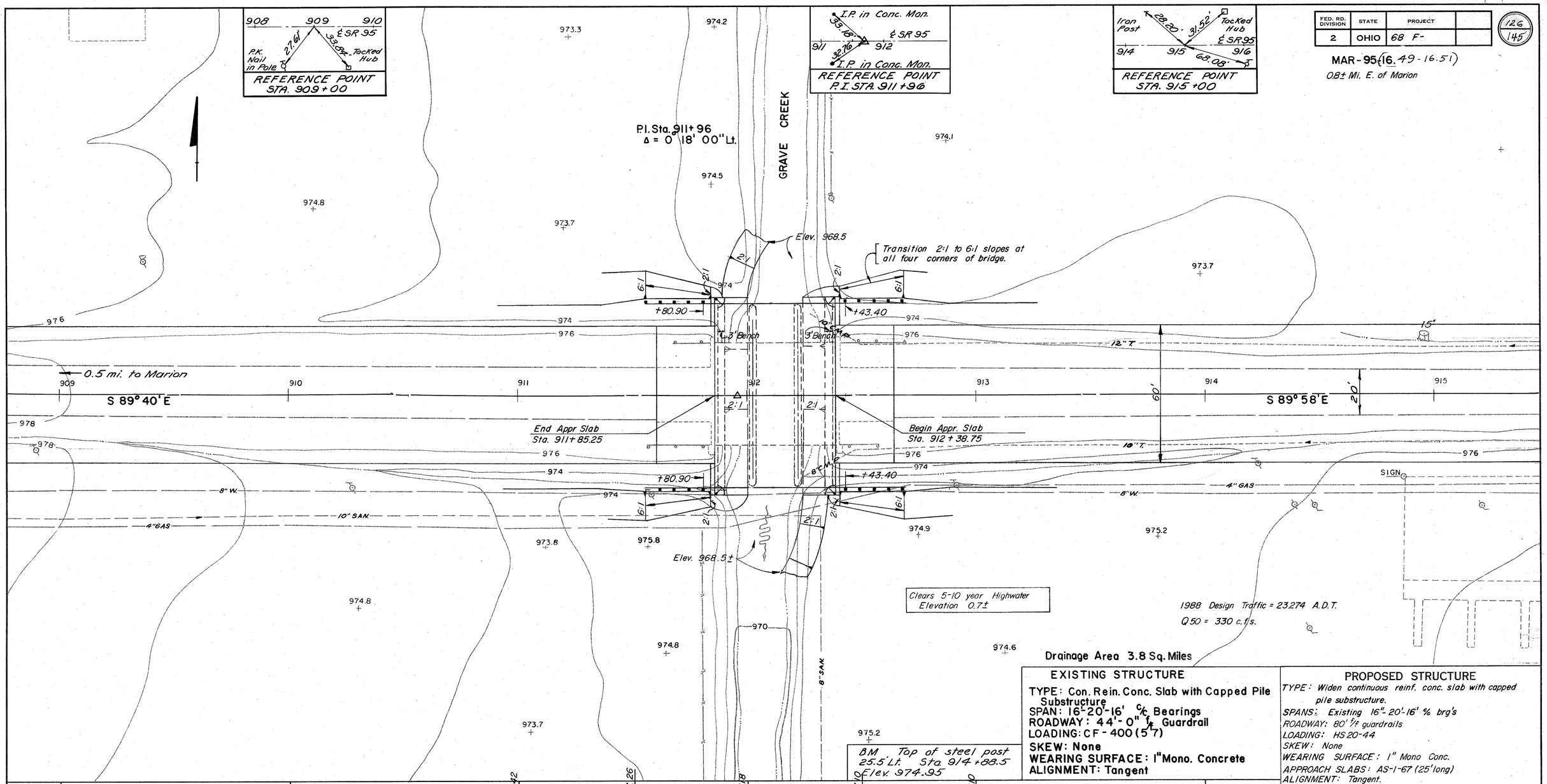
MAR-95-(16.49-16.51)

0.8± Mi. E. of Marion



EXISTING STRUCTURE

TYPE: Con. Rein. Conc. Slab with Capped Pile Substructure
SPAN: 16'-20'-16' ℄ Bearings
ROADWAY: 44'-0" f/f Guardrail
LOADING: CF-400 (5-7)
SKEW: None
WEARING SURFACE: 1" Mono. Concrete
ALIGNMENT: Tangent

PROPOSED STRUCTURE

TYPE: Widen continuous reinf. conc. slab with capped pile substructure.
SPANS: Existing 16'-20'-16' ℄ brg's
ROADWAY: 80' f/f guardrails
LOADING: HS20-44
SKEW: None
WEARING SURFACE: 1" Mono Conc.
APPROACH SLABS: AS-1-67 (25' long)
ALIGNMENT: Tangent.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

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SITE PLAN

BRIDGE NO. MAR-95-1727
OVER GRAVE CREEK
MARION CO SR 95

SEC.
SCALE 1" = 20'
STA. 911+85.25
912+38.75

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
AERIAL SURVEY	AERIAL SURVEY	B.D.H.	B.D.H.	D.H.S.	P.E.S.

C.D.B. 10-13-69

APPR. PIVT. 404' 60' wide with 10'±12' berms.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAR-95 (16.49-16.51)

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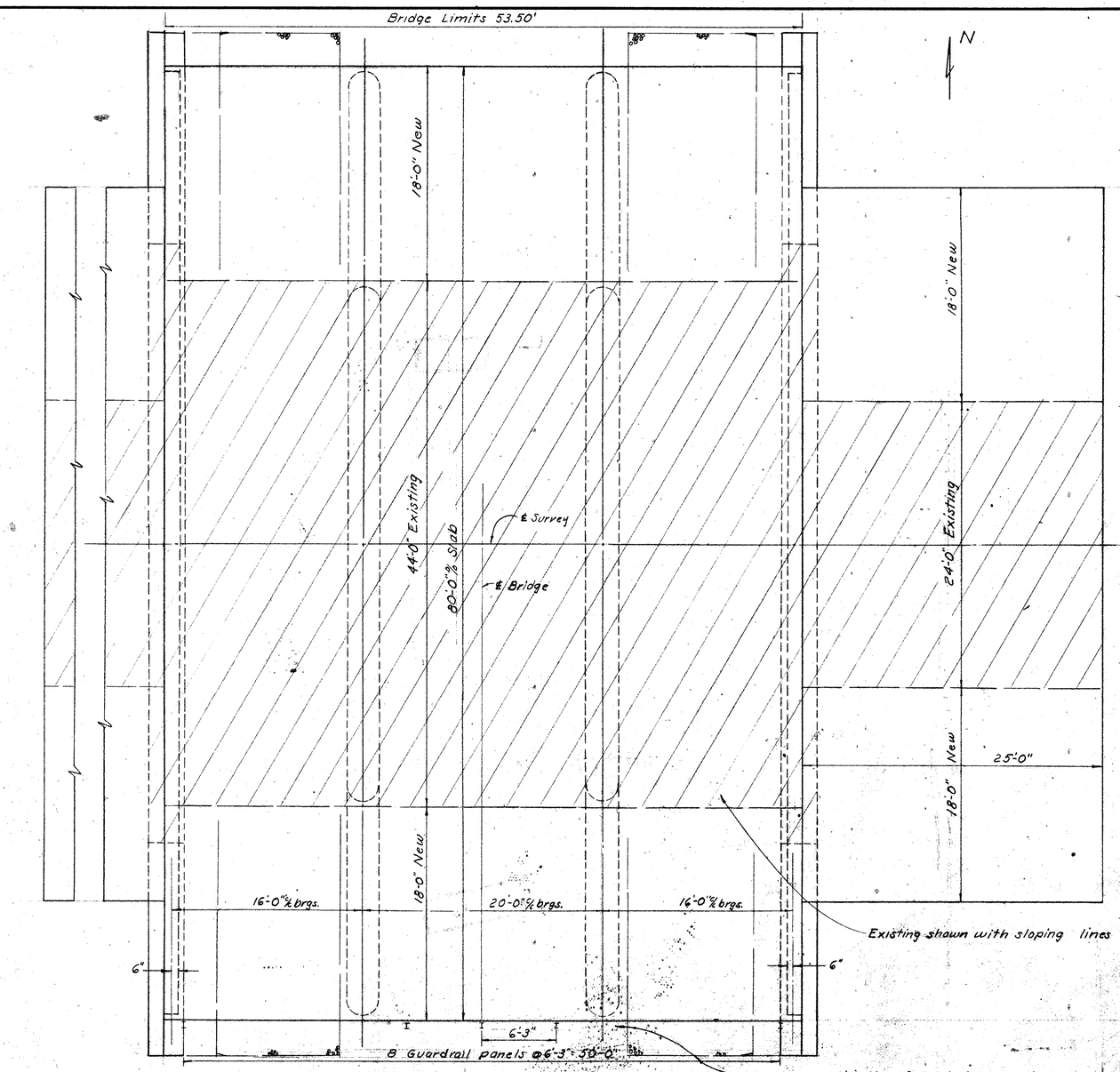
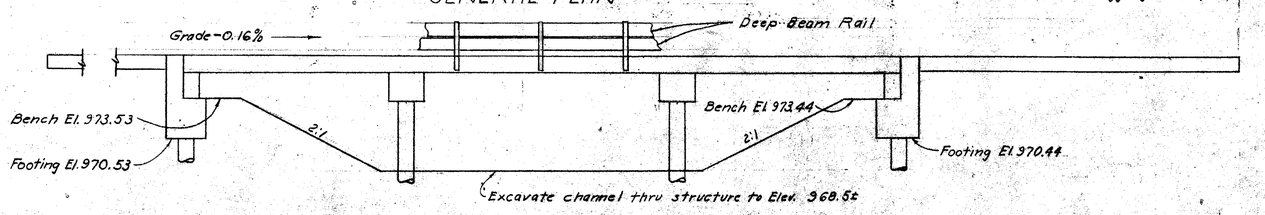
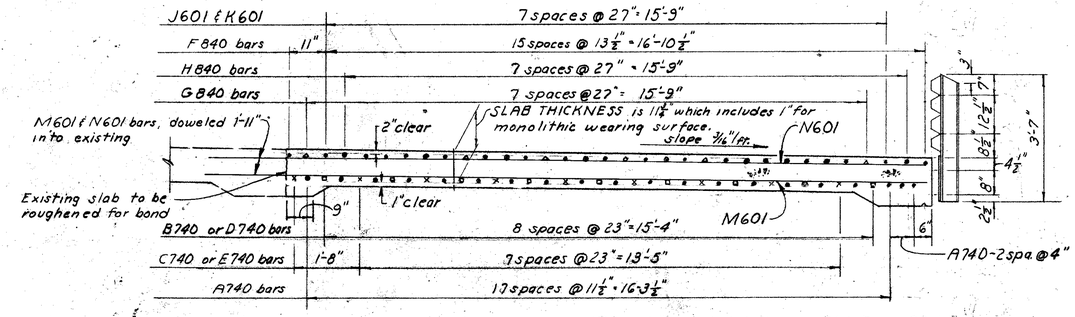


GENERAL PLAN

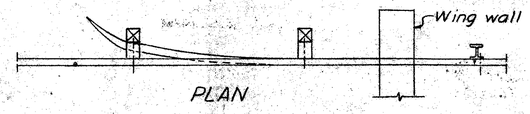


ELEVATION

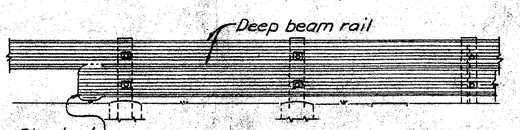


For additional details see Std. Dwg. CS-1-65 sheet 1 and 2, data under CF 400, for details not shown.

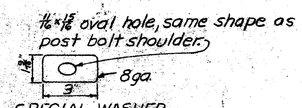
PART SECTION THRU DECK



PLAN



ELEVATION
TERMINATION OF LOWER RAIL
STANDARD BRIDGE RAILING
DEEP BEAM TYPE



SPECIAL WASHER
Use under head of all post bolts

Revised 7-1-70

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

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GENERAL PLAN & ELEVATION
& SUPERSTRUCTURE DETAILS

BRIDGE NO. MAR-95-1727
OVER GRAVE CREEK

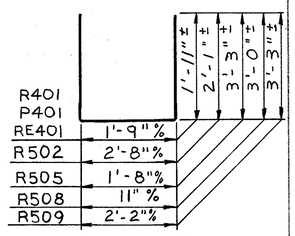
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPK	FPK		INNES	CDB	10-13-69	

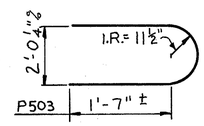
GENERAL NOTES

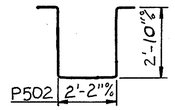
REINFORCING STEEL LIST

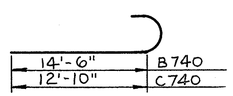
Mark	No.	Length	Weight	Shp
Abutments				
R1001	16	21'-0"	1446	S
R801	16	20'-4"	869	S
R501	24	19'-5"	486	S
R502	120	6'-7"	824	B
R504	24	5'-4"	134	S
R505	28	7'-11"	231	B
R506	8	12'-8"	106	S
R507	16	4'-11"	82	S
R508	28	6'-8"	195	B
R509	28	8'-5"	246	B
R401	48	5'-5"	174	B
Piers				
P1101	8	4'-0"	170	S
P1001	16	21'-0"	1446	S
P901	16	18'-0"	979	S
P701	72	4'-0"	589	S
P501	8	18'-0"	150	S
P502	48	9'-0"	451	B
P503	8	6'-4"	53	B
P401	48	5'-5"	174	B
Superstructure				
A740	114	19'-3"	4486	S
B740	36	15'-4"	1128	B
C740	40	13'-8"	1117	B
D740	18	15'-10"	582	S
E740	20	11'-0"	450	S
F840	68	16'-2"	2935	S
G840	32	8'-6"	726	S
H840	32	7'-6"	641	S
J601	32	10'-5"	501	S
K601	16	7'-8"	184	S
M601	122	19'-8"	3604	S
N601	82	19'-8"	2422	S
Replacement Bars				
RE1101	1	8'-6"	-	S
RE1001	1	8'-2"	-	S
RE901	1	7'-10"	-	S
RE801	1	7'-6"	-	S
RE701	1	7'-2"	-	S
RE601	1	6'-11"	-	S
RE501	1	6'-7"	-	S
RE401	1	5'-5"	-	B

Bending Diagrams









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 No. For example, A700 is a No. 7 size bar and A1014 is a No. 10 size

REFERENCE shall be made to Standard Drawings CS-1-65 dated 6-1-65 sheets 1 and 2, A-1-54 revised 11-8-65 and P-1-54 revised 11-8-65 and to Supplemental Specifications 808 dated 11-14-69 836 dated 6-17-69.

DESIGN SPECIFICATIONS: This structure widening conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio dated 9-1-57 together with revisions dated 2-21-58, 5-1-62 and 12-20-63, and is in general conformance with "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officals, 1965, including the Ohio Supplement to these specifications.

DESIGN DATA:

Design Loading - HS20-44

Concrete Class C - unit stress 1200 p.s.i. for superstructure
unit stress 1333 p.s.i. for substructure

Reinforcing Steel - ASTM A615, A616, A617. Unit stress 20,000 p.s.i.

PILES shall be driven to a minimum bearing capacity of 19 tons per pile for the abutments and 24 tons per pile for the piers.

PIER PILE ENCASEMENT as shown on Std. Dwg. No. P-1-54 may be omitted provided that the tapered portion, if any, of all pier piles does not extend above the stream bed or the proposed surface of the ground. If the tapered portion of any pile extends above these limitations, the encasement will be required for all the pier piles. If the encasement is omitted the pile casings shall have a thickness of metal not less than No. 7 gauge, and the painting of the piles shall extend to low water elevation or, if the proposed surface of the ground is above low water, the painting shall extend to at least one foot below the proposed surface of the ground.

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 would be held to a minimum.

MAINTENANCE OF TRAFFIC: One lane of traffic in each direction with a minimum horizontal width of 30'-0" shall be maintained on S.R. 95 at all times Traffic to be kept as far as possible away from new concrete work.

RAILING: The existing deep beam rail shall be carefully removed for reuse on this structure. ~~The railing posts shall be carefully removed and stored along the right-of-way for future use by State~~
The unit price bid for Railing shall include the removal of the existing deep beam rail and posts, the furnishing of new bottom deep beam rail, new posts, new anchor bolts, including their installation and the installation of the existing deep beam rail and all other materials, labor and incidentals necessary to complete the item.

PROPOSED WORK & PROCEDURE

1. Excavate channel, match existing abutment slopes excavate for abutments and drive all piles.

2. Remove guard rail from right side, remove sections of slab, pier and abutment walls as shown on plans. Traffic to use left hand lanes while right side is completed

3. Dowel new abutment reinforcing steel into existing abutment as shown on plans, place remaining reinforcing steel, and pour abutment concrete.

4. Dowel new reinforcing steel as shown on plans into existing piers and superstructure, place longitudinal reinforcing steel and pour pier and superstructure concrete.

5. Place guard rail and complete right side.

6. Repeat item 2 to 5 on left side.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Abuts	Piers	Super	Gen'l	As Built	
202	Lump	Sum	Portions of existing structure removed				Lump		
503	42	Cu.yds	Unclassified excavation	42					
505	Lump	Sum	First test pile				Lump		
507	600	Lin.ft.	14" Cast in-place reinforced concrete piles	280	320				
509	27,581	Lbs.	Reinforcing steel	4,793	4,012	18,776			
510	276	each	Dowel holes	56	16	204			
511	87	Cu.yds	Class C concrete, superstructure and piers		14	73			
511	37	Cu.yds	Class C concrete, Abutments	37					
517	107.0	Lin.ft.	Railing (two deep beam rails with steel posts & bolts)			107.0			
518	13	Cu.yds	Porous backfill	13					
601	113	Sq.yds	Crushed aggregate slope protection				113		
808	87	Unit	Chemical Admixture for Concrete, Type A, B or D.		14	73			

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

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REINFORCING STEEL LIST, ESTIMATED QUANTITIES & GENERAL NOTES
BRIDGE NO. MAR-95-1727
OVER GRAVE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPR	GFJ		Innes 10-6-69	CDB	10-13-69	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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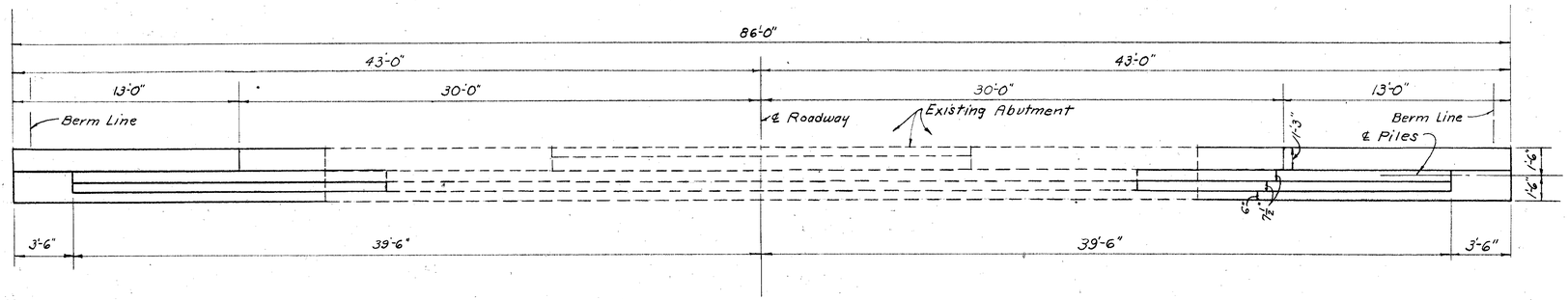
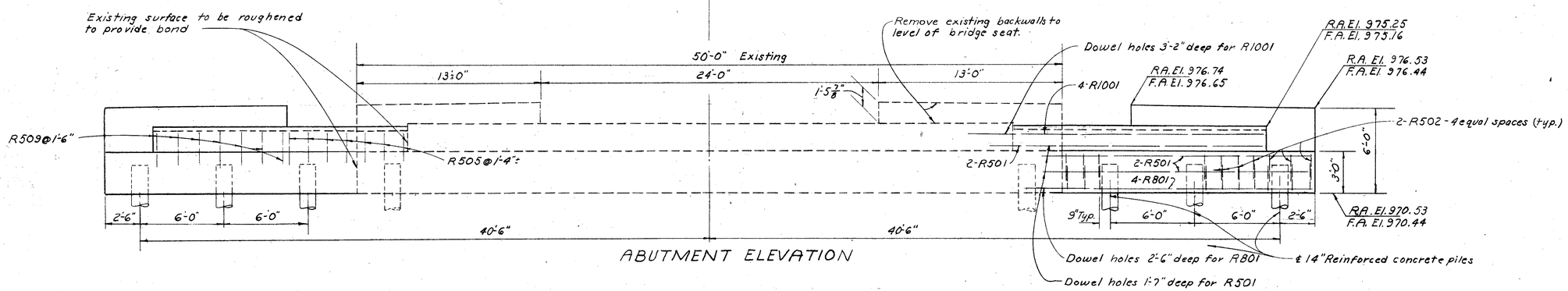
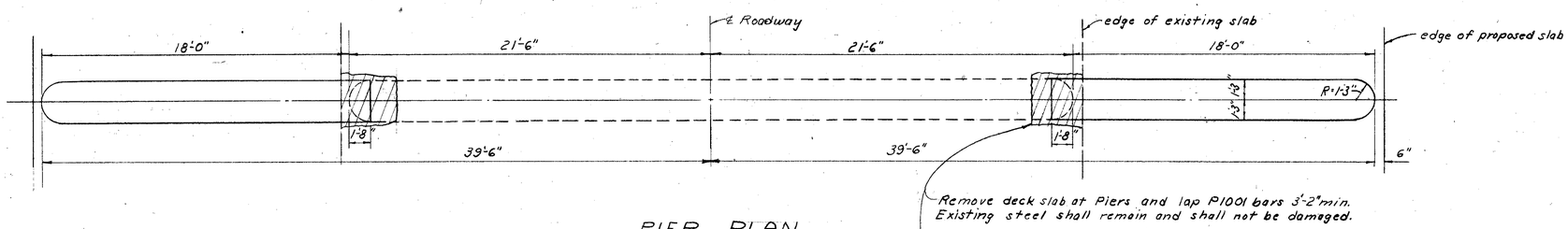
MAR-95 (16.49-16.51)



ABUTMENT PLAN



ABUTMENT ELEVATION

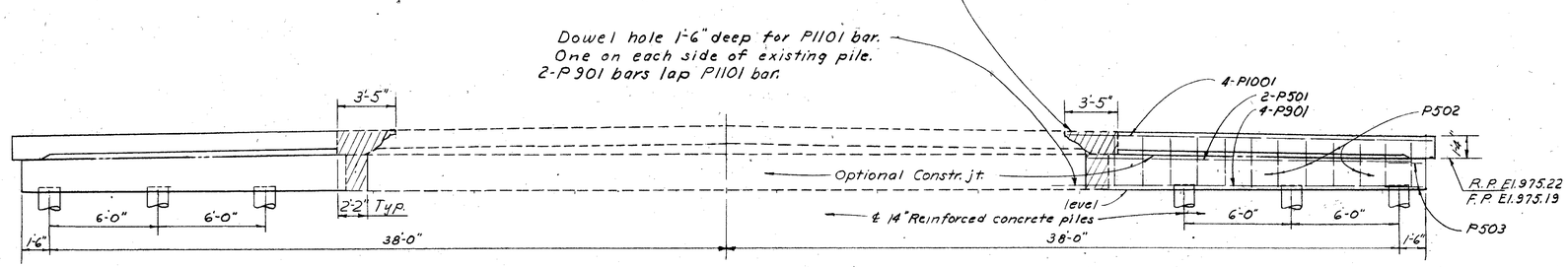


PIER PLAN

R.A. = Rear Abutment
F.A. = Forward Abutment
R.P. = Rear Pier
F.P. = Forward Pier

Note: Elevations are based on existing plan elevations. If actual field elevations differ, proposed elevations shall be adjusted by the difference.

FOR ADDITIONAL DETAILS see Std. Dwg. A-1-54 and P-1-54.



PIER ELEVATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

4 | 4

ABUTMENT and PIER DETAILS
BRIDGE NO. MAR-95-1727
OVER GRAVE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPK	FPK		INNES	CDB	10-13-69	