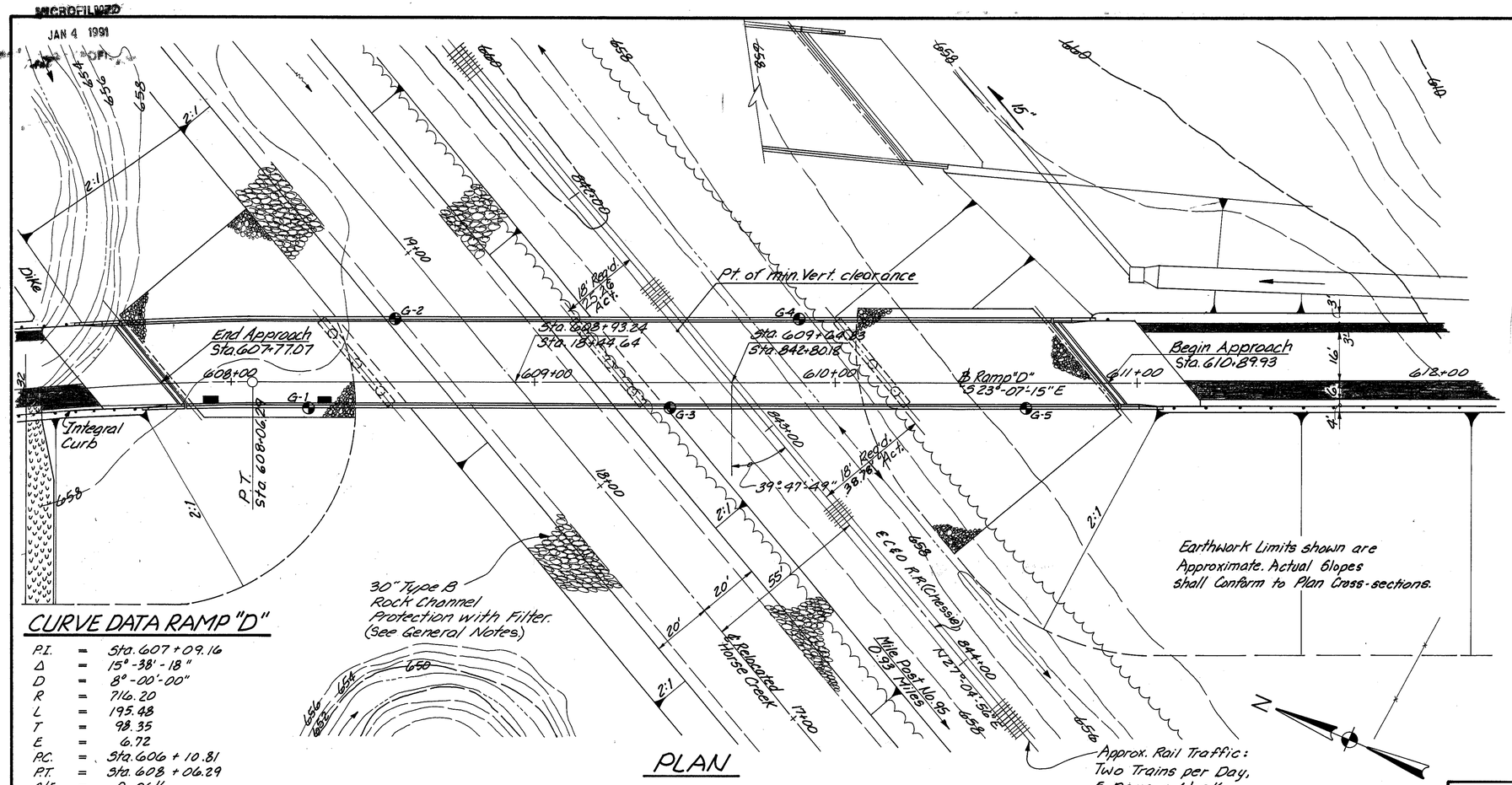
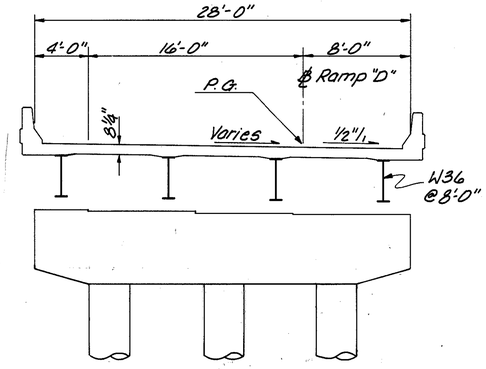


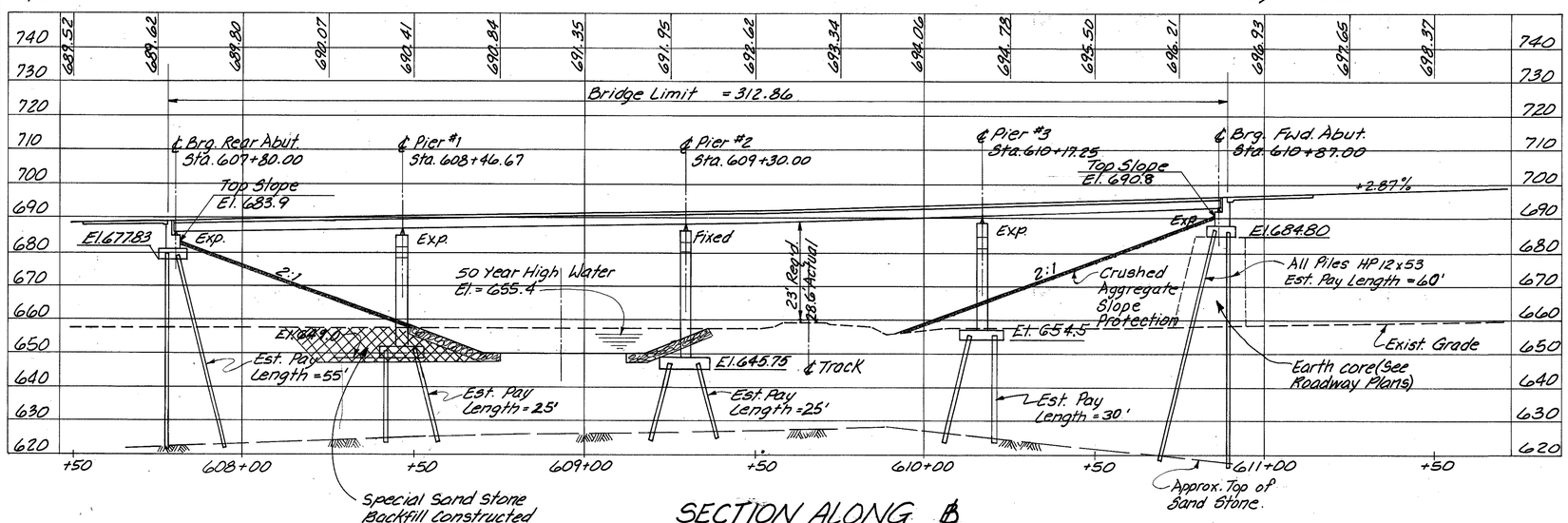
PLAN



TYPICAL SECTION

CURVE DATA RAMP "D"

P.I.	=	Sta. 607+09.16
Δ	=	15°-38'-18"
D	=	8°-00'-00"
R	=	716.20
L	=	195.48
T	=	98.35
E	=	6.72
P.C.	=	Sta. 606+10.81
P.T.	=	Sta. 608+06.29
S/E	=	0.06'/'



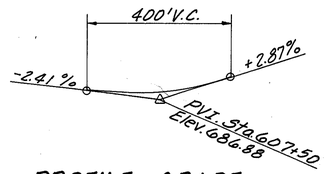
SECTION ALONG ℄

TRAFFIC DATA

Average Daily Traffic
Year 2006 = 830
11% Trucks = 90

DRAINAGE DATA

Drainage Area	=	5.39 Sq. Mi.
Q50	=	1,591 CFS
Velocity (Avg.)	=	5.8 FPS
Depth of Flow	=	5.4 Ft.
Q25	=	1,282 CFS
Q100	=	1,940 CFS



PROFILE GRADE

NOTE:

Channel Work including Rock Protection & Embankment west of Channel to be Constructed under Project Jac.-35-8.49 Prior to this Project.

PROPOSED STRUCTURE

TYPE: Continuous Steel Beam with Composite Concrete Deck.

SPANS: 66'-8, 83'-4", 87'-3" & 69'-9"

ROADWAY: 28'-0" F/F Concrete Parapets.

LOADING: HS20-44 (Case II) and Alternate Military Loading.

SKEW: 39°-47'-49" Right Forward.

ALIGNMENT: Tangent.

WEARING SURFACE: Monolithic Concrete.

APPROACH SLAB: AS-1-81 (25' Long)

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SITE PLAN

BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WBS	JEB	—	JET	WBS	5/6/86	

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUT'S	PIERS	SUPER	GENERAL		
503	943	Cu. Yds.	Unclassified Excavation	278	665				
503	L.S.	Lump Sum	Cofferdams, Cribs, & Sheeting.		L.S.				
505	L.S.	Lump Sum	Pile driving equipment mobilization.				L.S.		
507	3015	Lin. Ft.	Steel Piles, HP 12x53	1,725	1,290				
507	78	Each	Steel Points.	30	48				
509	61,855	Lbs.	Reinforcing Steel, Grade 60	9,150	52,705				
511	307	Cu. Yds.	Class S Concrete, Superstructure, See Proposal Note.			307			
511	120	Cu. Yds.	Class C Concrete, Pier above Footings.		120				
511	101	Cu. Yds.	Class C Concrete, Abutments above Footings.	101					
511	230	Cu. Yds.	Class C Concrete Footings.	74	156				
513	208,840	Lbs.	Structural Steel A588 (AISC Category I)			208,840			
513	2,364	Each	Welded Stud Shear Connectors.			2,364			
516	75	Lin. Ft.	Structural Expansion Joint, including 3" Strip Seal			75			
518	63	Cu. Yds.	Porous Backfill.	63					
518	58	Lin. Ft.	6" Perforated Helical Corrugated Steel Pipe, 707.01.	58					
518	60	Lin. Ft.	6" Non-Perforated Helical Corrugated Steel Pipe, including Specials 707.01.	60					
518	2	Each	Scupper, including Supports, as per plan.			2			
601	62	Cu. Yds.	Remove & Replace Rock Channel Protection, Type B w/ Filter, as per plan.				62		
601	1,242	Sq. Yds.	Crushed Aggregate Slope Protection.				1,242		
625			See Sheet 292 for Lighting Summary.						
824	75,417	Lbs.	Epoxy Coated Reinforcing Steel, Grade 60	5,151		70,266			
Special	1,207	Sq. Yds.	Sealing of Concrete Surfaces (Epoxy), See Proposal Note.	100	387	720			

CONSTRUCTION SEQUENCE: SEE PROJECT GENERAL NOTES FOR SEQUENCE OF CONSTRUCTION.

EMBANKMENT: SEE PROJECT GENERAL NOTES FOR EMBANKMENT CONSTRUCTION AND INSTRUMENTATION.

CONSTRUCTION CLEARANCE: OF 15'0 HORIZONTALLY IN EACH DIRECTION FROM THE CENTER OF THE C & O TRACK AND 23'0 VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE RAIL SHALL BE MAINTAINED AT ALL TIMES.

UTILITY LINES: ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

STRIP SEALS AND EXTRUSIONS: FOR EXPANSION JOINT SHALL BE WATSON/BOWMAN/ACME, D.S. BROWN, OR APPROVED EQUIVALENT. DRAWINGS OF THE SEALS SHOWING DIMENSIONS, DIMENSIONAL TOLERANCES AND WEIGHT PER FOOT SHALL BE SUBMITTED WITH THE REQUEST FOR DESIGN APPROVAL. SEALS FOR BRIDGE DECK JOINTS SHALL BE FURNISHED IN ONE CONTINUOUS PIECE. SHOP SPLICES SHALL BE MADE BY A VULCANIZED PROCESS.

PILE POINTS: STEEL PILE POINTS SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED PILING. THE STEEL POINTS SHALL BE FURNISHED BY THE ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BOULEVARD, CLIFTON, NEW JERSEY 07014; INTERNATIONAL CONSTRUCTION EQUIPMENT, INC. 301 WAREHOUSE DRIVE, MATTHEWS, NORTH CAROLINA 28015; DOUGHERTY FOUNDATION PRODUCTS INC., P.O. BOX 688, FRANKLIN LAKE, NEW JERSEY 07417; VERSA STEEL INC., 3601 N.W. YEON AVENUE, P.O. BOX 10559, PORTLAND, OREGON 97210 OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR.

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 PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

PILE DESIGN LOADS: THE DESIGN LOAD FOR THE ABUTMENT PILES IS 70 TONS PER PILE WHICH INCLUDES AN ALLOWANCE OF 40 TONS PER PILE FOR DOWNDRAG AND THE DESIGN LOAD FOR THE PIER NO. 1 AND NO. 3 PILES IS 44 TONS PER PILE AND PIER NO. 2 IS 48 TONS PER PILE.

GENERAL NOTES

REFERENCE: SHALL BE MADE TO STANDARD DRAWINGS:
AS-1-81 DATED 11/27/81 SHEETS 1, 2, & 3
BR-1 DATED 5/29/79
FB-1-82 DATED 5/10/82
RB-1-55 REVISED 2/2/59
SD-1-69 DATED 6/12/69 SHEETS 1, 3 & 4
EXJ-2-81 REVISED 4/2/84 SHEETS 1 & 2
GR-1 DATED 1/11/85
GR-3 DATED 1/21/85
MC-7 DATED 10/15/76
HL-5 DATED 9/6/73
AND TO SUPPLEMENTAL SPECIFICATION:
836 DATED 11/12/85
824 DATED 10/8/82

DESIGN SPECIFICATIONS: THIS STRUCTURE COMFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICALS, 1983, INCLUDING THE 1984 INTERIM SPECIFICATIONS AND THE OHIO SUPPLEMENT TO THESE SPECIFICATIONS.

DESIGN LOADING: HS20-44 CASE II AND THE ALTERNATE MILITARY LOADING.

CONCRETE: CLASS S - COMPRESSIVE STRENGTH 4500 PSI
CLASS C - COMPRESSIVE STRENGTH 4000 PSI

REINFORCING STEEL: ASTM A615, A616 or A617--GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615.

STRUCTURAL STEEL: ASTM A588 - YIELD STRENGTH 50,000 P.S.I.

DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL, TOP AND BOTTOM MAT.

MONOLITHIC WEARING SURFACE: IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

ROCK CHANNEL PROTECTION: UNDER THIS ITEM THE EXISTING ROCK CHANNEL PROTECTION AND FILTER SHALL BE CAREFULLY REMOVED AND REPLACED. WORK SHALL BE DONE PER 601.08. THE FILTER MATERIAL SHALL BE REPLACED IN KIND. IF A FABRIC FILTER WAS USED IT SHALL BE NEATLY CUT FOR REMOVAL. NEW FILTER FABRIC SHALL BE USED TO REPLACE THE OLD AND SHALL OVERLAP THE EXISTING PER 601.08.

PILE DRIVING CONSTRAINTS: PRIOR TO DRIVING PILES AT THIS STRUCTURE, THE SPILL-THRU SLOPE EMBANKMENT AT THE FORWARD ABUTMENT SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BEHIND THE ABUTMENT. THE EXCAVATION FOR THE FOOTINGS AND THE INSTALLLATION OF THE PILES SHALL NOT BEGIN UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT AND THE EMBANKMENT AT THE REAR ABUTMENT IS COMPLETED AND THE EMBANKMENT HAS EXPERIENCED A WAITING PERIOD OF 60 DAYS. THE DIRECTOR MAY SHORTEN THE WAITING PERIOD IF THE CONTRACTOR'S FIELD MEASUREMENTS INDICATE THAT 90 PERCENT CONSOLIDATION HAS BEEN ATTAINED. THIS NOTE DOES NOT APPLY TO THE CENTER PIER (PIER NO. 2) OF THIS STRUCTURE.

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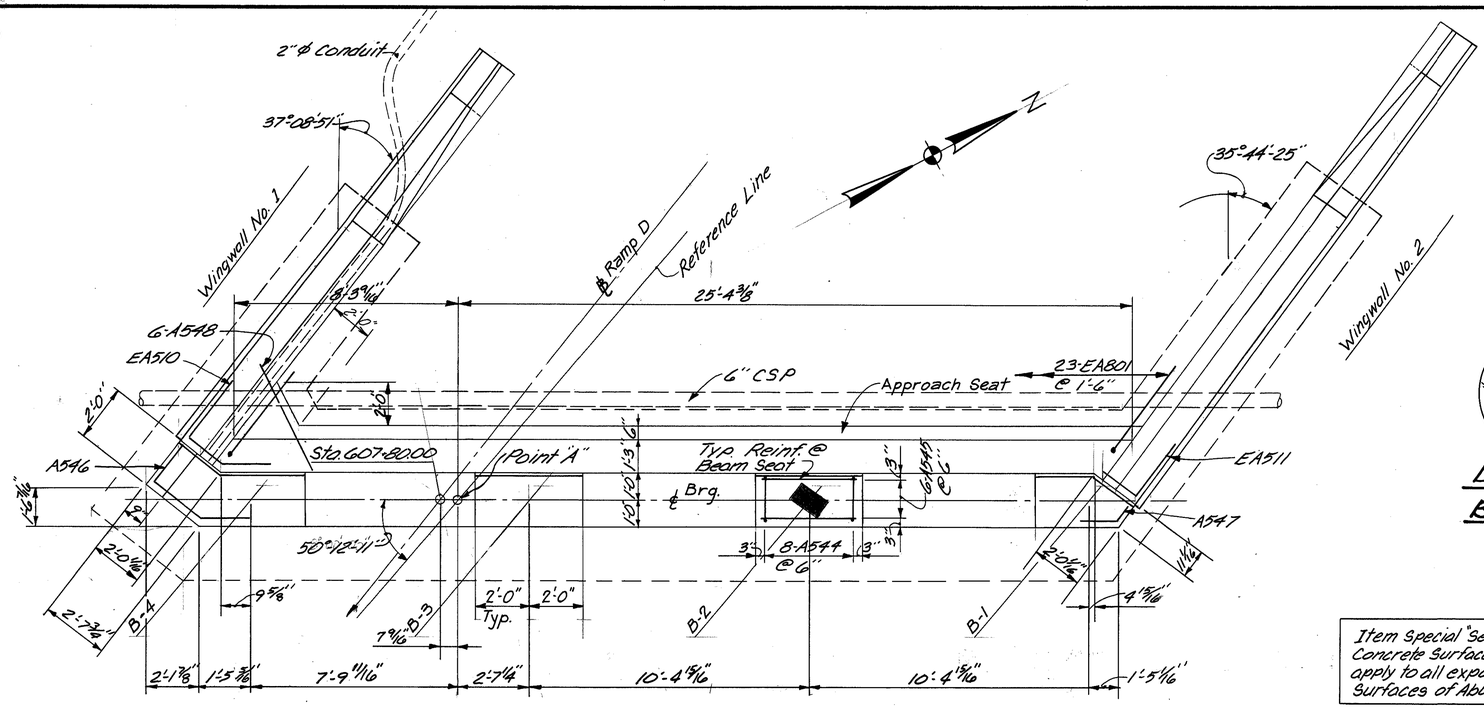
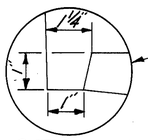
ESTIMATED QUANTITIES & GENERAL NOTES

BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	KJO	—	MP	WBS	5/6/86	

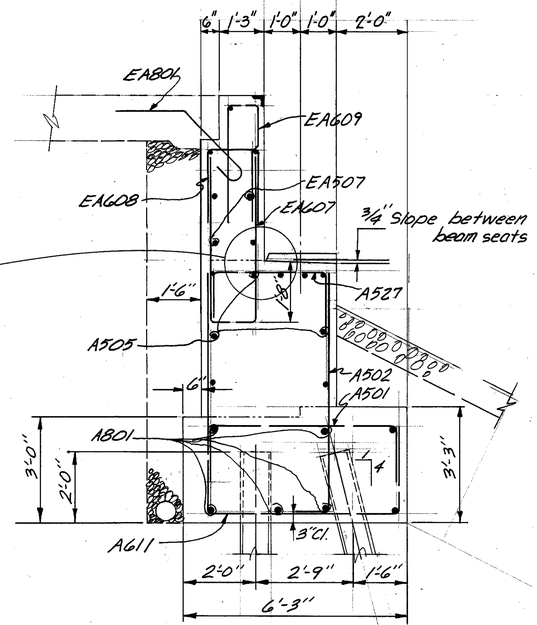


PLAN

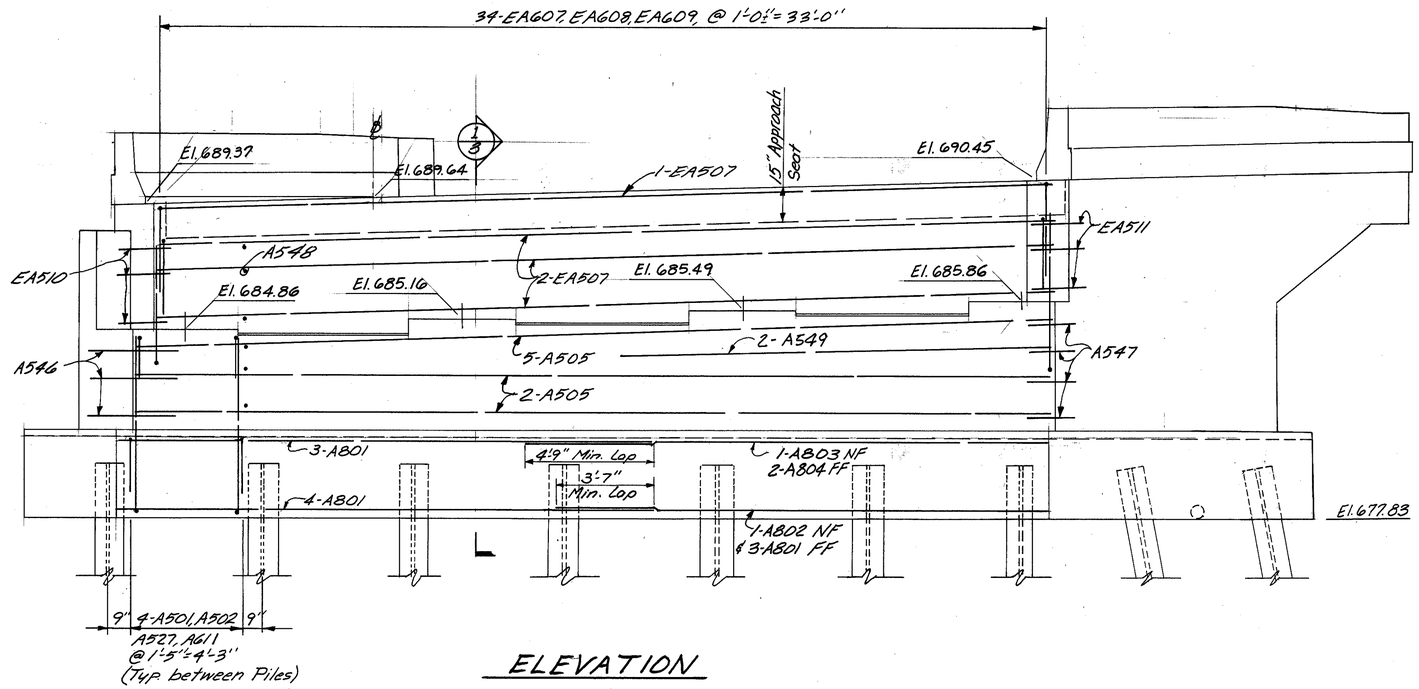


DETAIL AT BEAM SEAT

Item Special "Sealing of Concrete Surfaces" shall apply to all exposed surfaces of Abutments



SECTION 1/3



ELEVATION

NOTES:

1. See Sheet 2/15 for Estimated Quantities & General Notes.
2. See Sheets 14/15 & 15/15 for Reinforcing Steel Details.
3. Porous Backfill, 1.5ft thick, shall extend up to the plane of the Subgrade & laterally to the end's of the Wing Walls.
4. In addition to the provisions of 511.08, backwall conc. above the optional construction joint of the approach slab seat shall not be placed until after the deck conc. in the span adjacement to the abutment has been placed.

3/15

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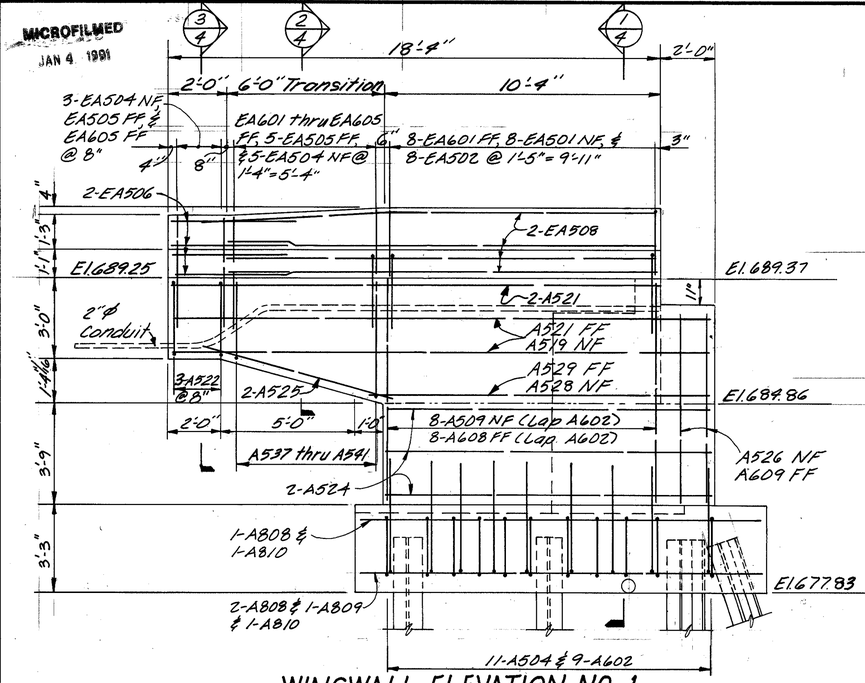
REAR ABUTMENT

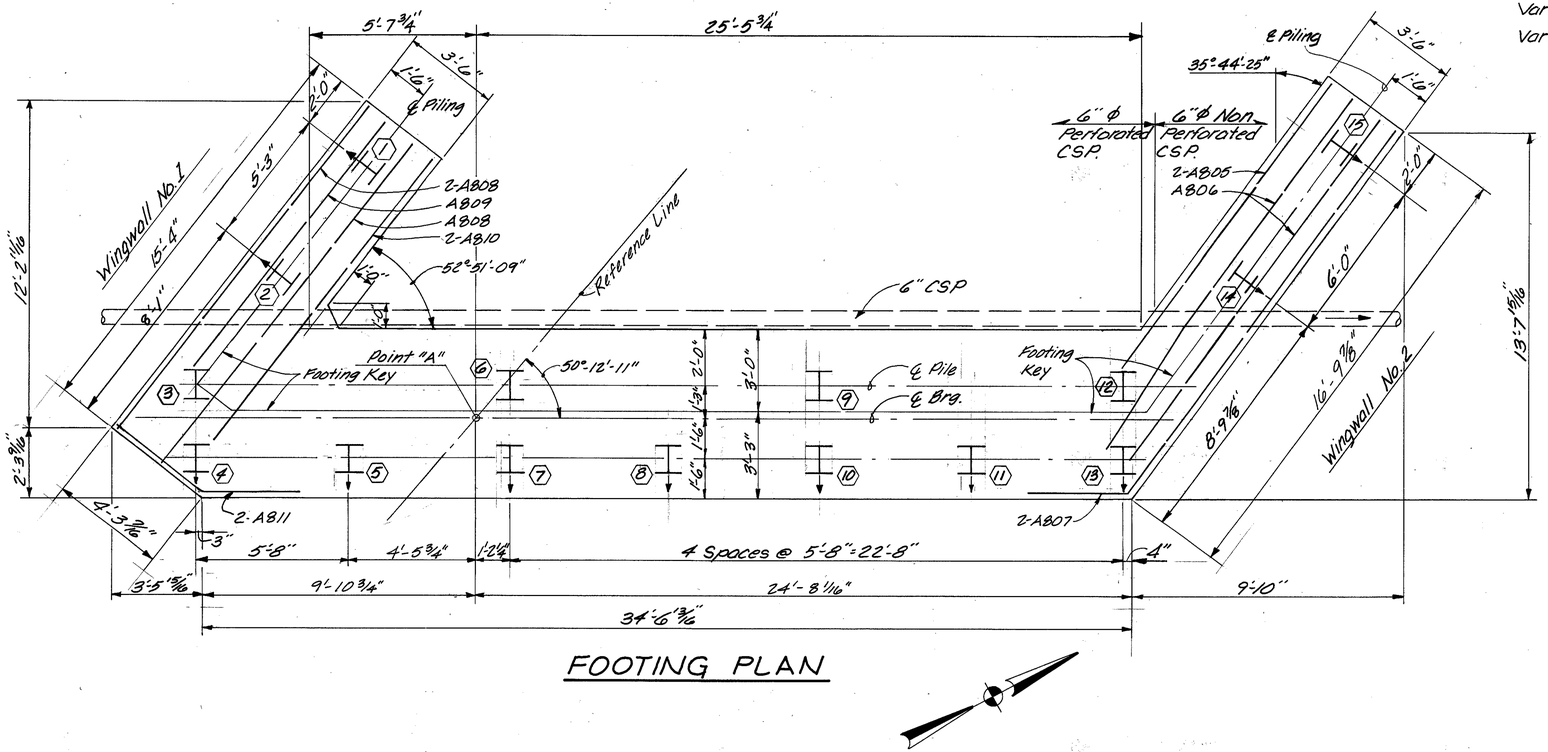
BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	KJO	–	GTN	WBS	5/6/86	

Z6681

JAC-35-11.46 | OHIO | FHWA REGION 5 | 342 / 442





FOOTING PLAN

NOTES:

1. See Std. Drwg. GR-3 for Conc. Insert Anchor Assembly Req'd. to Attach Guardrail to Ends of Bridge Railing.
2. See Std. Drwg. HL-5 for additional Lighting Conduit Details.

Legend:

NF = Near Face
FF = For Face
El. = Elevation
⑦ = Pile Number
↓ = Battered Pile

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4/15

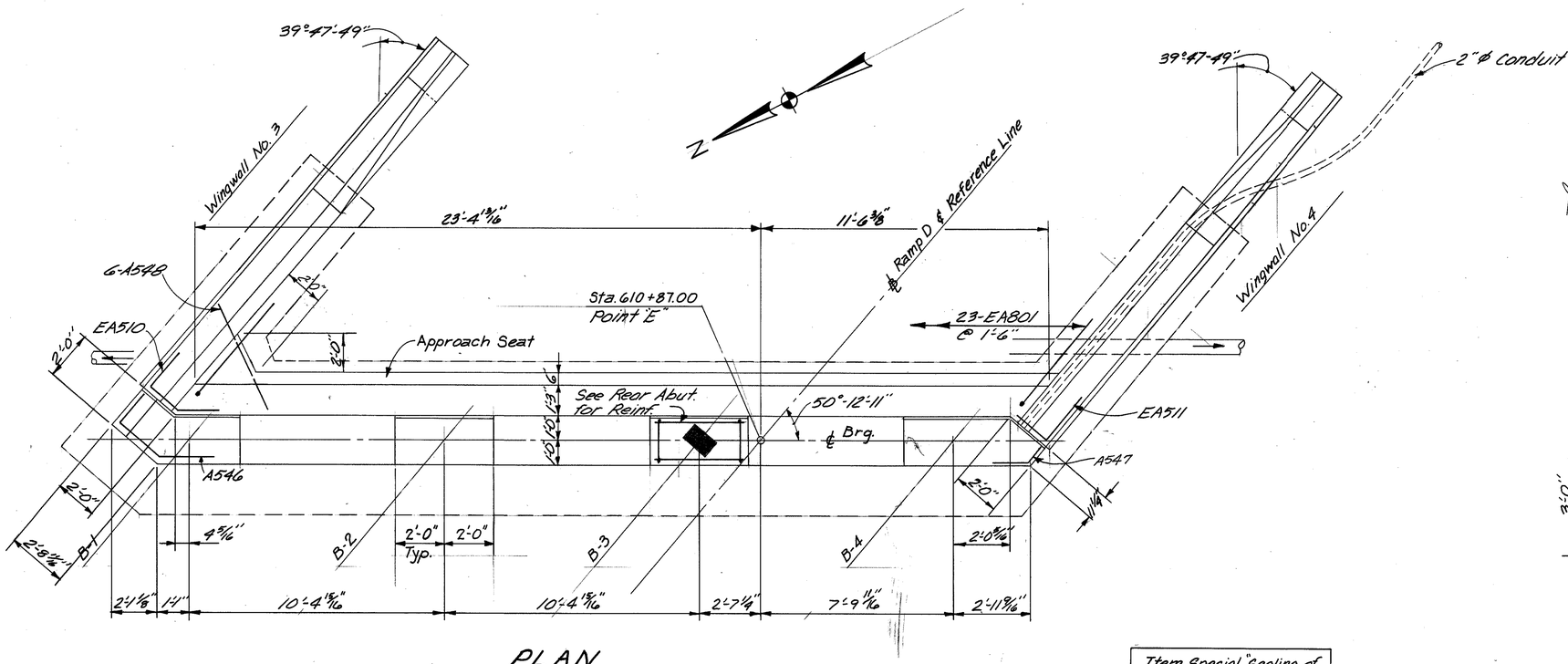
REAR ABUTMENT FOOTING & WING WALLS

BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

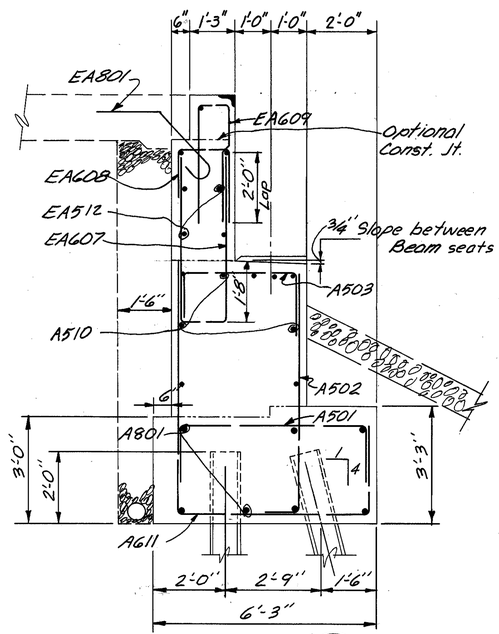
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	RJO	–	GTW	WBS	5/6/86	

Z6581

JAC-35-11.46 | OHIO | FHWA REGION 5 | 343/442

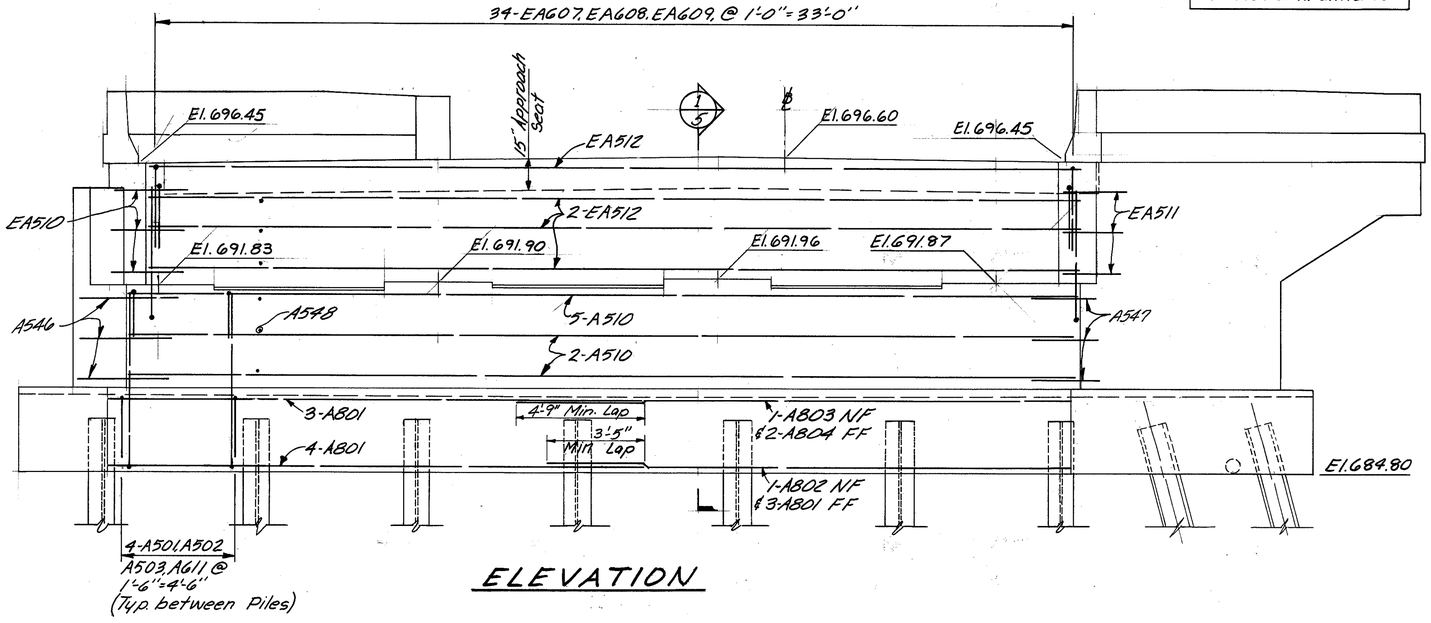


PLAN



SECTION 1/5

Item Special "Sealing of Concrete Surfaces" shall apply to all exposed Surfaces of Abutments



ELEVATION

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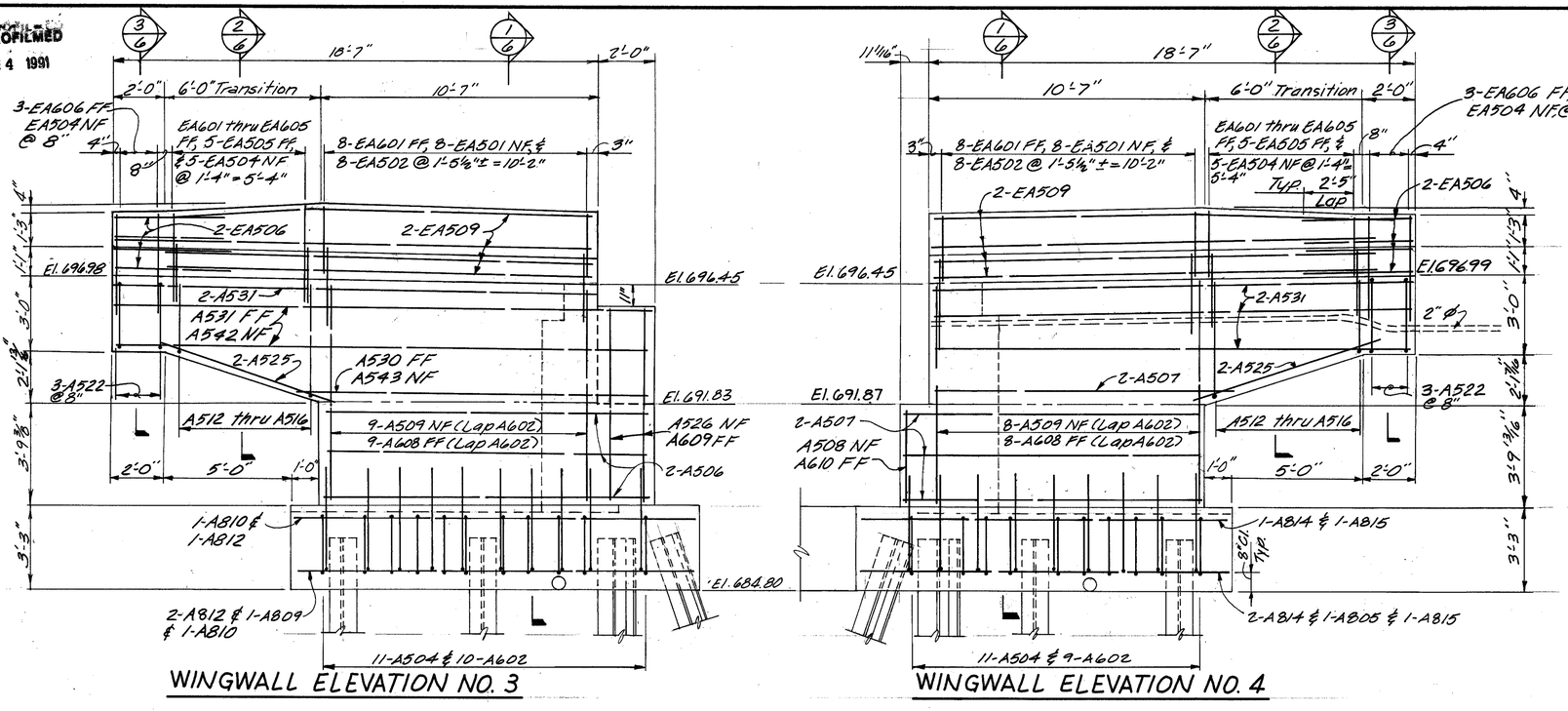
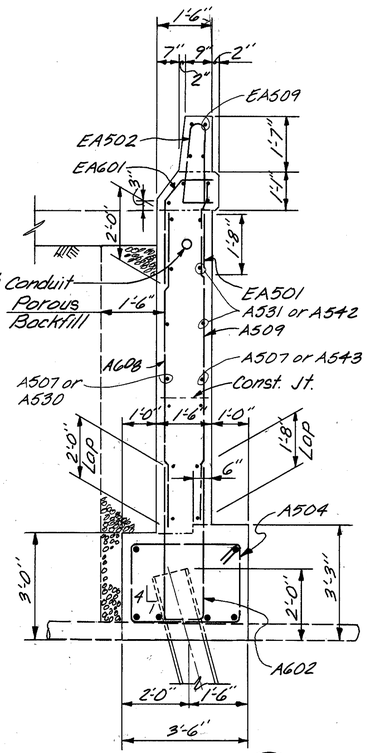
FORWARD ABUTMENT

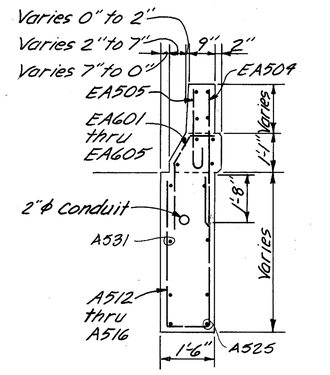
BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

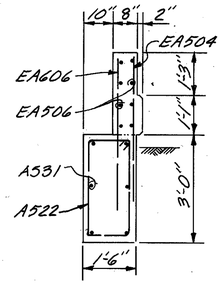
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	MHN	–	GTN	WBS	5/6/86	

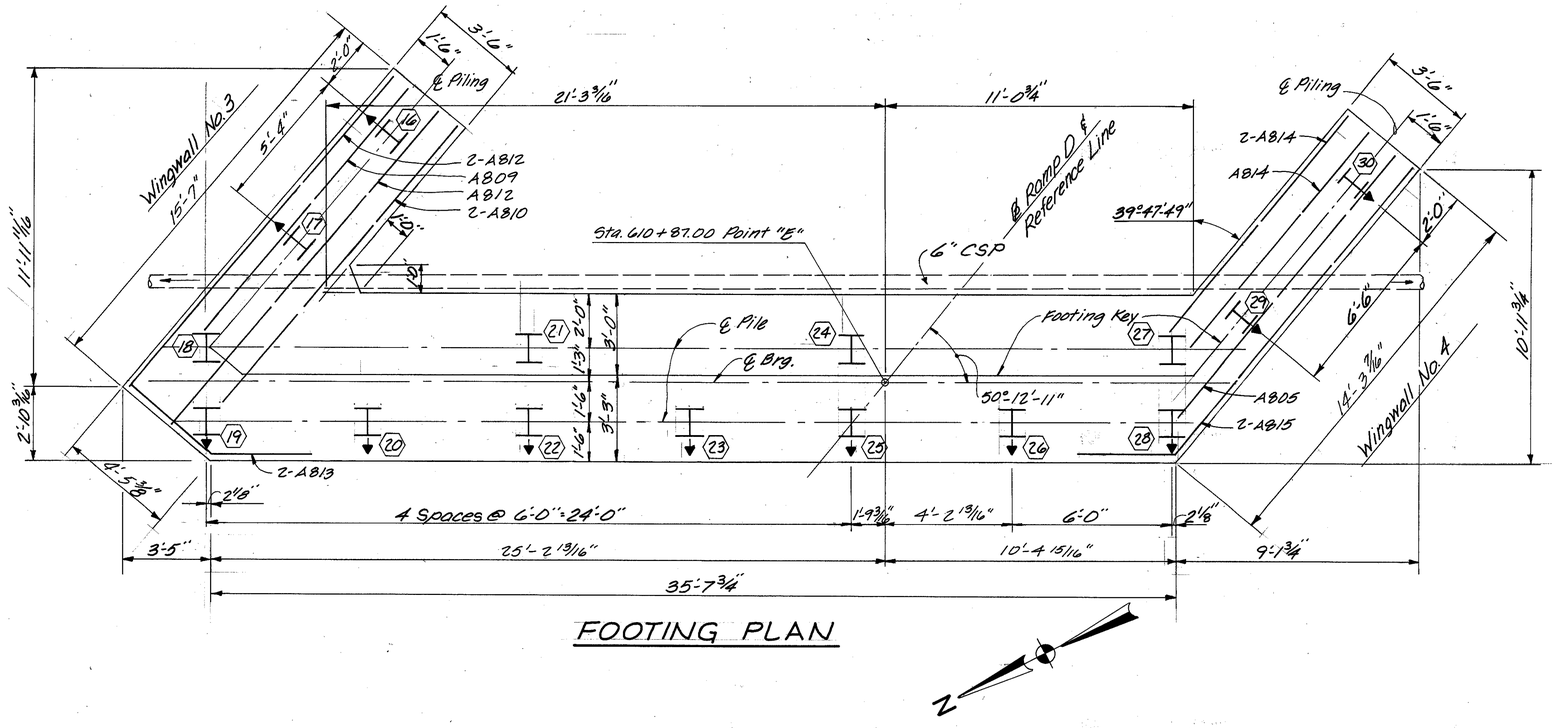
JAC-35-11.46 | OHIO | FHWA REGION 5 | 344 / 442











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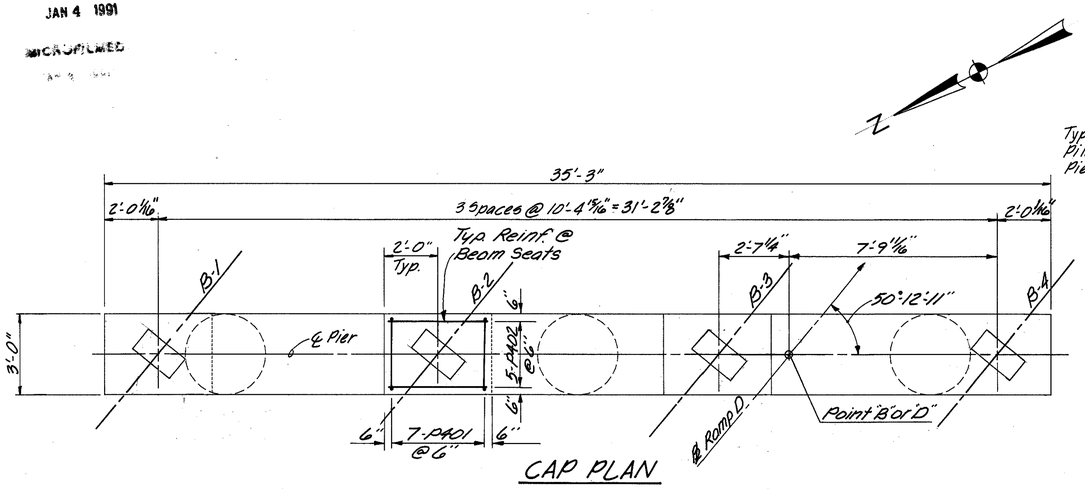
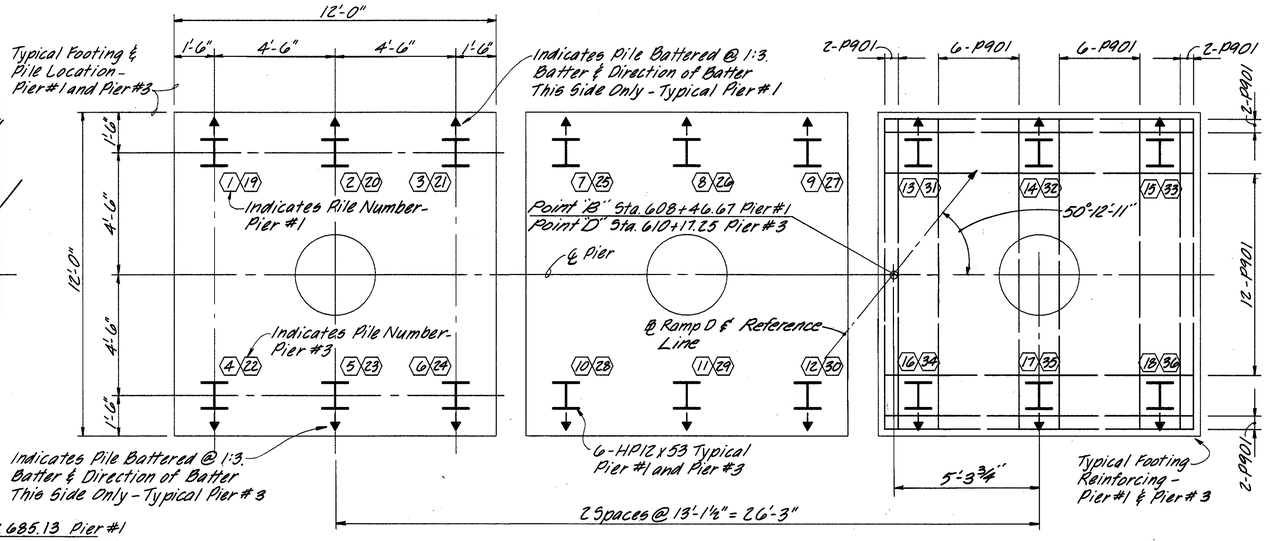
FORWARD ABUTMENT FOOTING & WING WALLS

BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

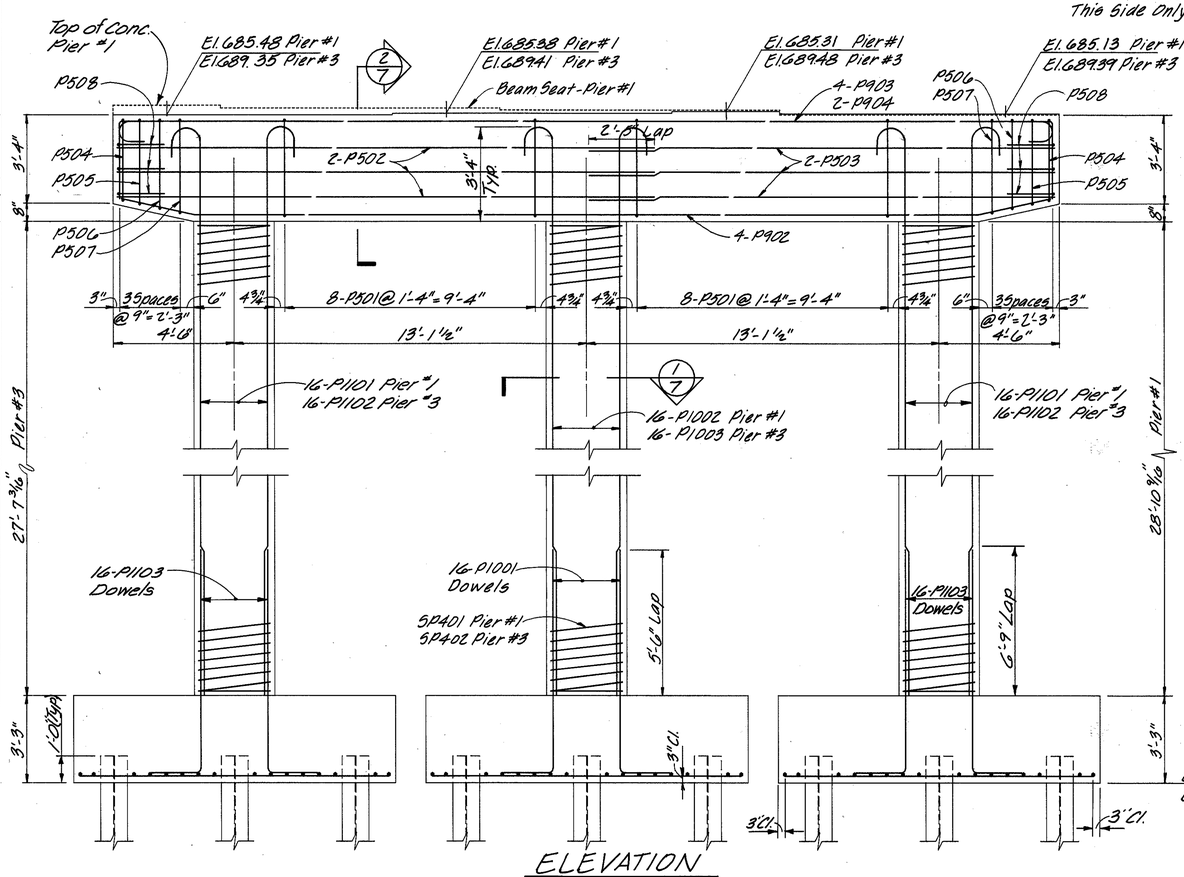
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	KJO	—	GTW	WBS	5/6/86	



CAP PLAN

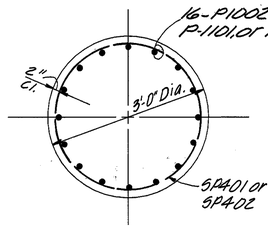


FOOTING PLAN

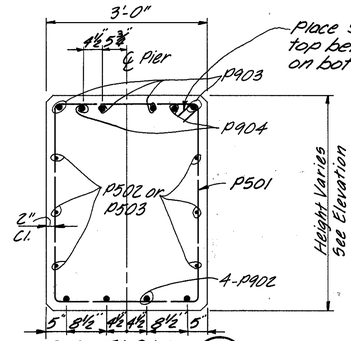


ELEVATION

Item Special "Sealing of Concrete Surfaces" Shall apply to all exposed Surfaces of Piers



SECTION 1/7



SECTION 2/7

NOTES:

1. See Sheet 2/15 for General Notes & Quantities.
2. See Sheets 14/15 & 15/15 for Reinf. Steel Details.
3. See Sheet 12/15 for Layout Diagram.

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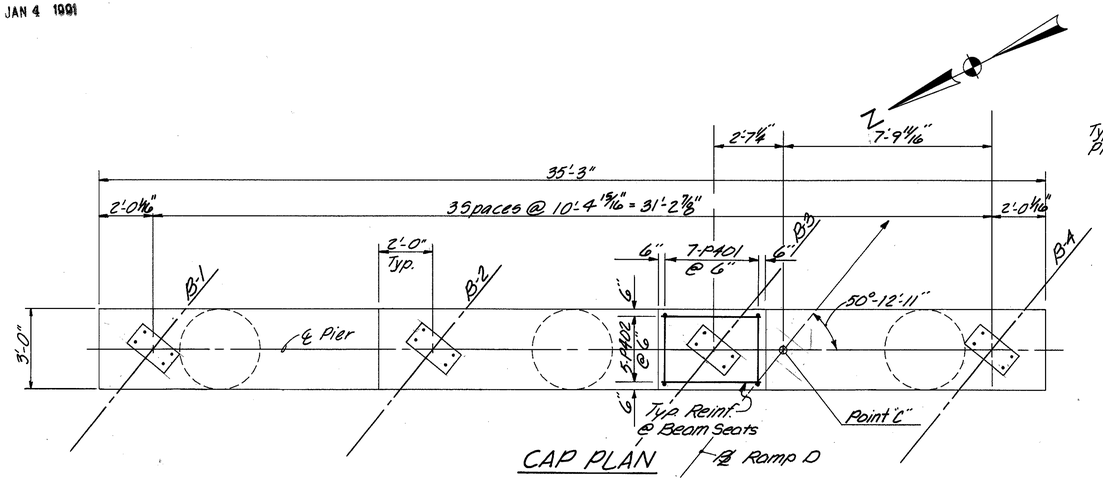
PIER #1 & #3

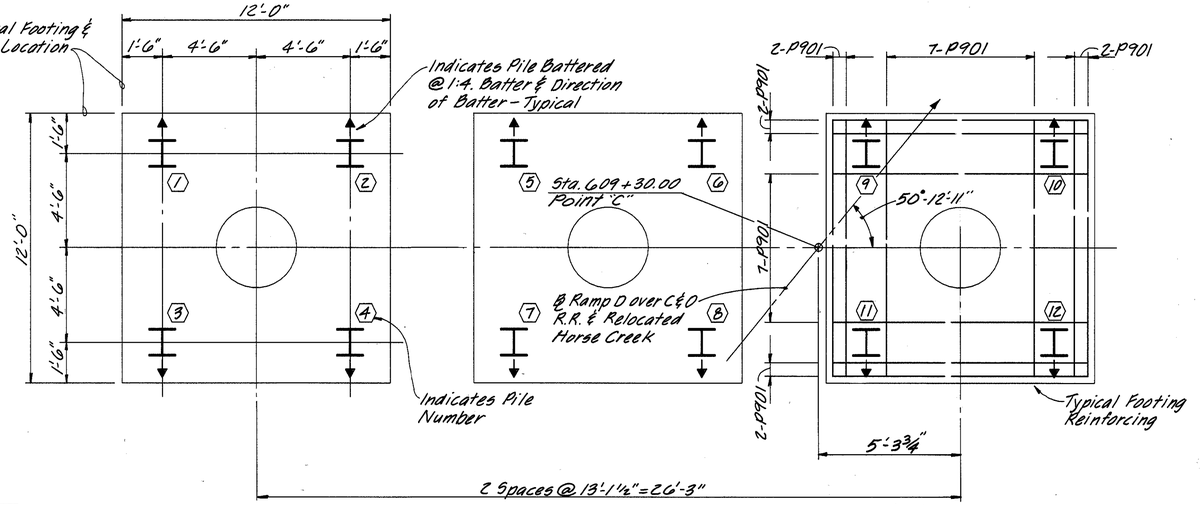
BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MP	LEP	—	GTW	WBS	5/6/86	

76581



CAP PLAN



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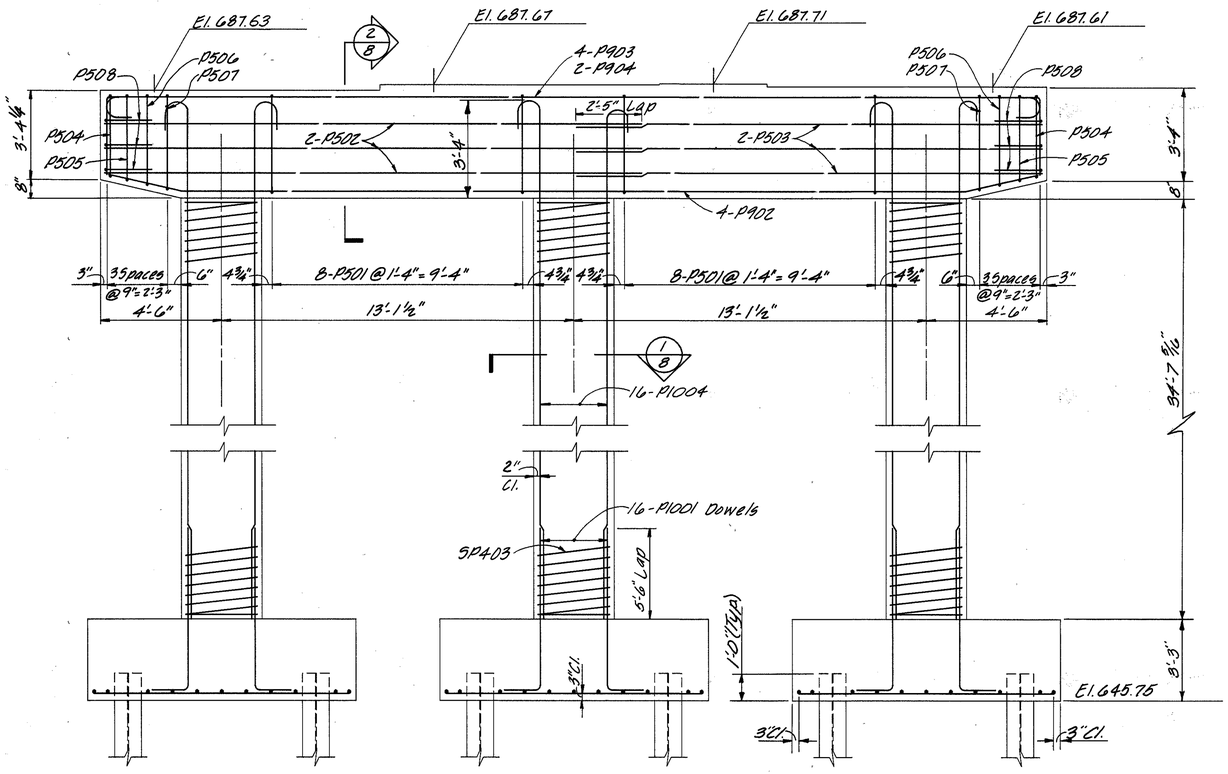
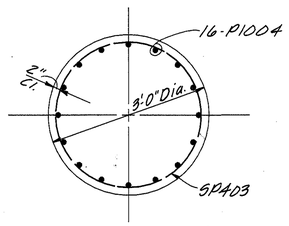
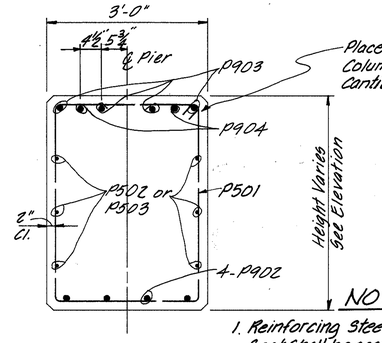


ELEVATION

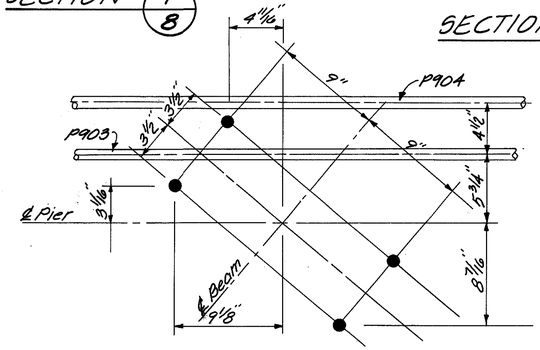
Item Special "Sealing of Concrete Surfaces" Shall apply to all exposed surfaces of Piers



SECTION 1/8



SECTION 2/8



ANCHOR BOLT LAYOUT

NOTES

1. Reinforcing Steel in the Vicinity of the Bridge Seat shall be accurately placed to avoid interference with the drilling of Bearing Anchor Holes or the presetting of Bearing Anchors.
2. At the option of the contractor, bearing anchors (or formed holes) located & supported by templates may be cast in place.

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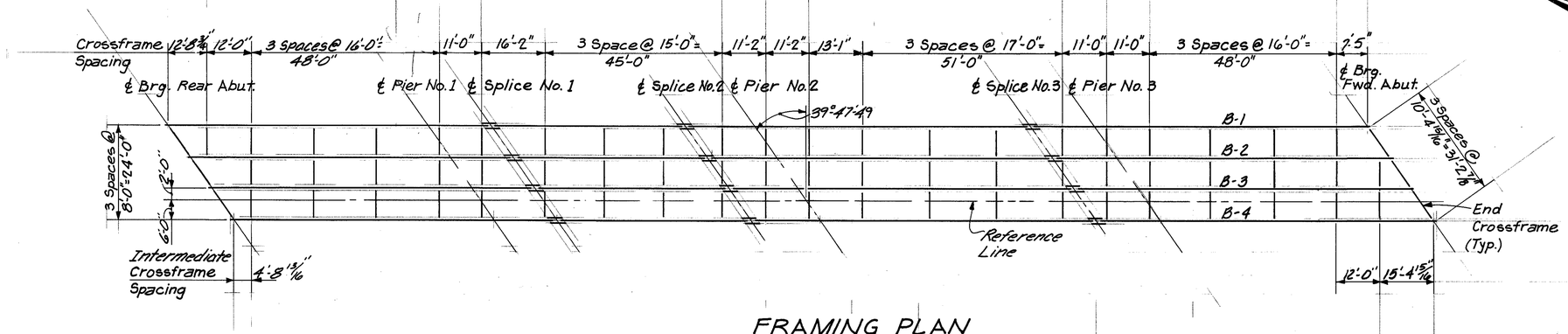
PIER #2

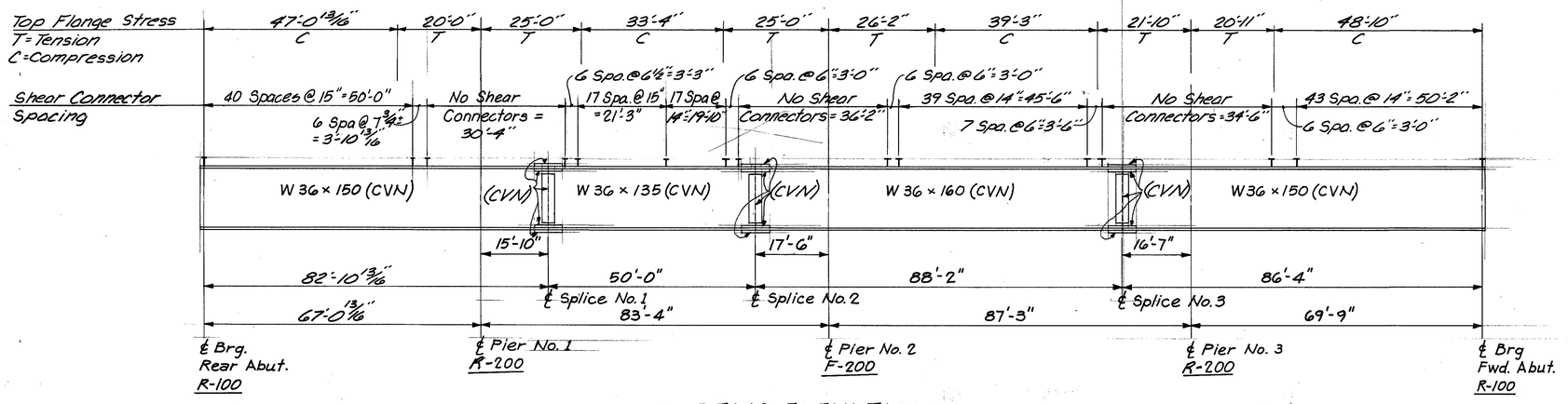
BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
MP	LEP	—	GTW	WBS	5/6/86	

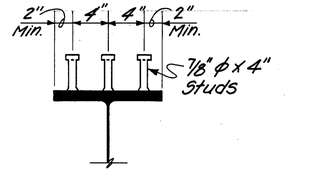
JAC-35-11.46 | OHIO | FHWA REGION 5 | 347/442



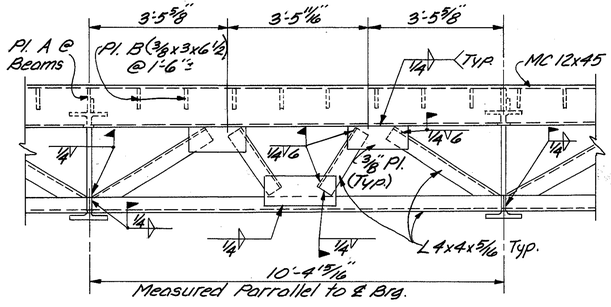
FRAMING PLAN



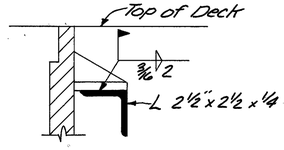
BEAM ELEVATION



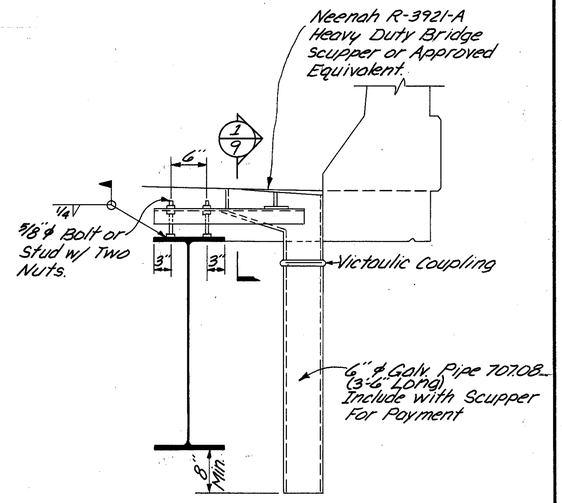
SHEAR CONNECTOR DETAIL



END CROSSFRAME



SECTION 1/9



SCUPPER DETAIL

NOTES:

1. See Sheet 2/15 for General Notes & Quantities.
2. See Next Sheet for Additional Details.
3. See Sheet 11/15 for Intermediate Crossframes.
4. See Std. Drwg. SD-1-69 for Additional Beam Splice & Scupper Details.
5. See Std. Drwg. EXJ-2-81 for Additional End Crossframe Detail.
6. See Sheet 13/15 for Expansion Joint Details.
7. See Std. Drwgs. FB-1-82 & RB-1-55 for Bearing Details.
8. When a Shape or Plate is Designated (CVN) the Material Shall Meet Specified Minimum Notch Toughness Requirement as Specified in 711.01 of CMS.
9. In Lieu of A588 Steel A36 Steel, Galvanized, May Be Furnished for Bearings, except for Upper Plate Element of Bearing. This A36 steel shall be included with the A588 steel Quantity for Payment.
10. High Strength Bolts Shall Be 1" Diameter A325
11. A588 Steel is to be left Unpainted. See CMS 513.221 for Cleaning Requirements.
12. All Splice Material to be A588 Steel.

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FRAMING PLAN

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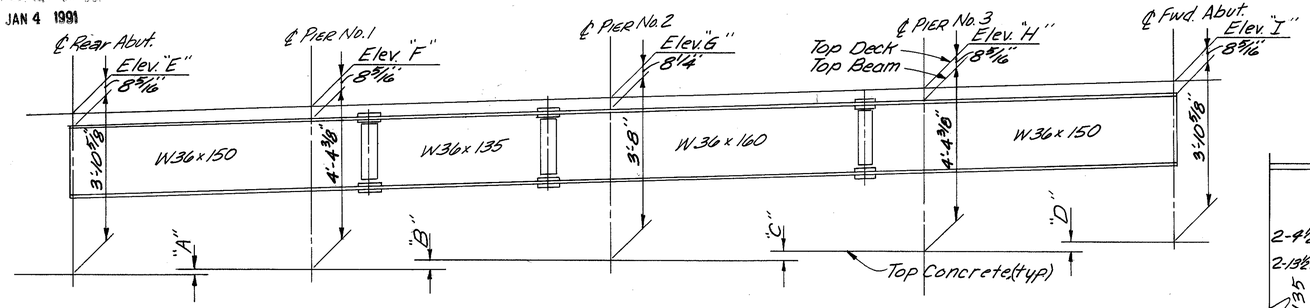
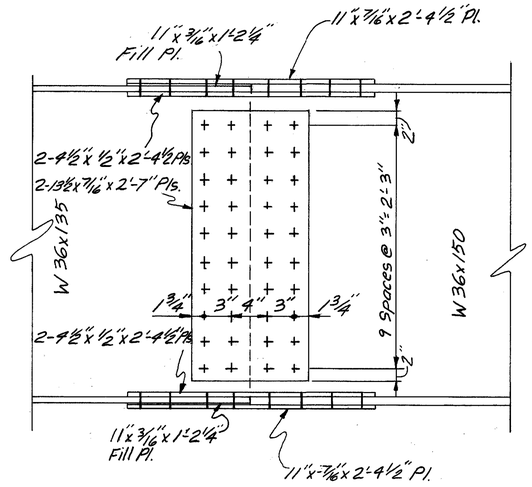
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WBS	KJO	—	GTW	WBS	5/16/86	

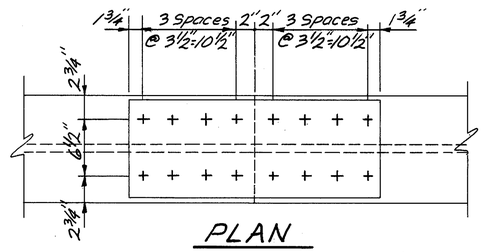


ELEVATION LAYOUT

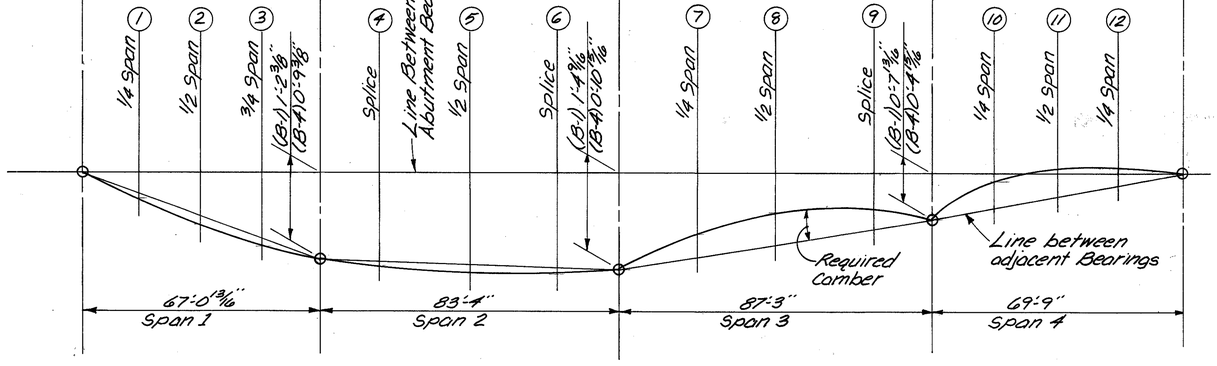
BEAM	DIM "A"	DIM "B"	DIM "C"	DIM "D"	El. "E"	El. "F"	El. "G"	El. "H"	El. "I"
B-1	-0'-4 3/16"	2'-1 3/4"	1'-8 11/16"	2'-5 3/8"	690.49	690.59	691.98	694.41	696.41
B-2	-0'-1 5/16"	2'-3 11/16"	1'-8 11/8"	2'-5 1/8"	690.07	690.49	692.02	694.47	696.48
B-3	0'-1 13/16"	2'-4 3/4"	1'-9 1/4"	2'-5 3/4"	689.74	690.37	692.06	694.54	696.54
B-4	0'-3 1/4"	2'-5 3/4"	1'-9 3/8"	2'-5 3/4"	689.49	690.19	691.96	694.45	696.45



ELEVATION
SPLICE DETAIL NO. 1

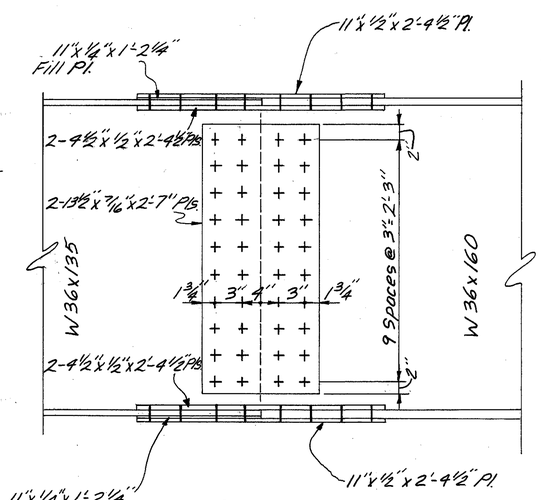


PLAN
Typical for Splice Detail

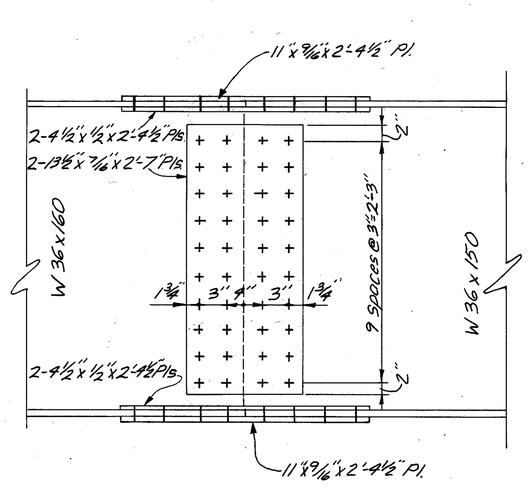


DEFLECTION & CAMBER TABLE

Beam / Thru #	DESCRIPTION		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	D.L. Steel Beam		3/32	3/32	11/16	11/32	1/8	11/32	3/32	5/32	3/32	1/16	1/8	3/32
	Remaining D.L.		5/8	3/4	11/32	13/16	1	13/32	11/16	1 1/32	19/32	13/32	7/8	23/32
	Superelevation Correction	B-1	11/32	-7/16	-9/32	0	0	0	0	0	0	0	0	0
		B-2	-9/32	-5/16	-5/32	0	0	0	0	0	0	0	0	0
		B-3	-5/32	-3/16	-3/32	0	0	0	0	0	0	0	0	0
		B-4	-5/32	-1/16	-1/32	0	0	0	0	0	0	0	0	0
	Vertical Curve Correction	B-1	-21/32	-7/8	-21/32	-1 3/16	-1 3/8	-1	-1 9/32	-1 1/2	-3/16	0	0	0
		B-2	-21/32	-7/8	-21/32	-1 3/16	-1 3/8	-1	-7/16	-9/16	-1/8	0	0	0
		B-3	-21/32	-7/8	-21/32	-1 3/16	-1 3/8	-1	-9/32	-3/16	-1/16	0	0	0
		B-4	-21/32	-7/8	-21/32	-1 3/16	-1 3/8	-1	-1/8	-3/32	-1/32	0	0	0
	Total Camber	B-1	-5/16	-1/2	-9/16	3/8	-1/4	-9/16	3/16	3/4	3/8	1 1/2	1	13/16
		B-2	-1/4	-3/8	-7/16	-3/8	-1/4	-9/16	3/8	1 1/16	7/16	1/2	1	13/16
		B-3	-1/8	-1/4	3/8	-3/8	-1/4	-9/16	1/2	1 3/16	1/2	1 1/2	1	13/16
		B-4	-1/8	-1/8	-5/16	-3/8	-1/4	-9/16	11/16	1 9/32	9/16	1 1/2	1	13/16



ELEVATION
SPLICE DETAIL NO. 2



ELEVATION
SPLICE DETAIL NO. 3

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FRAMING DETAILS

BRIDGE NO. JAC-35-11.52
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	KJO	—	GTW	WBS	5/16/96	

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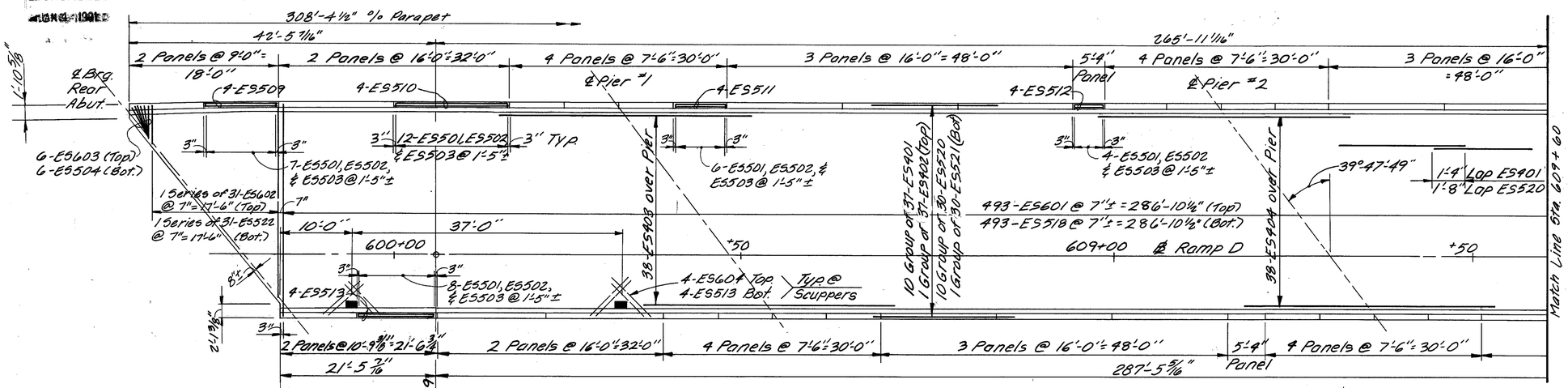
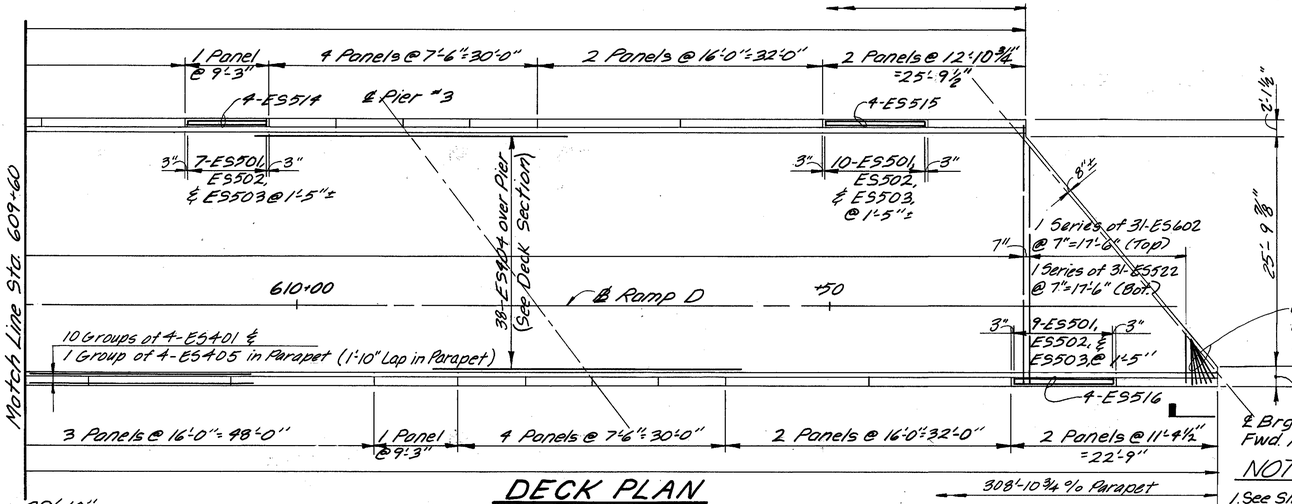
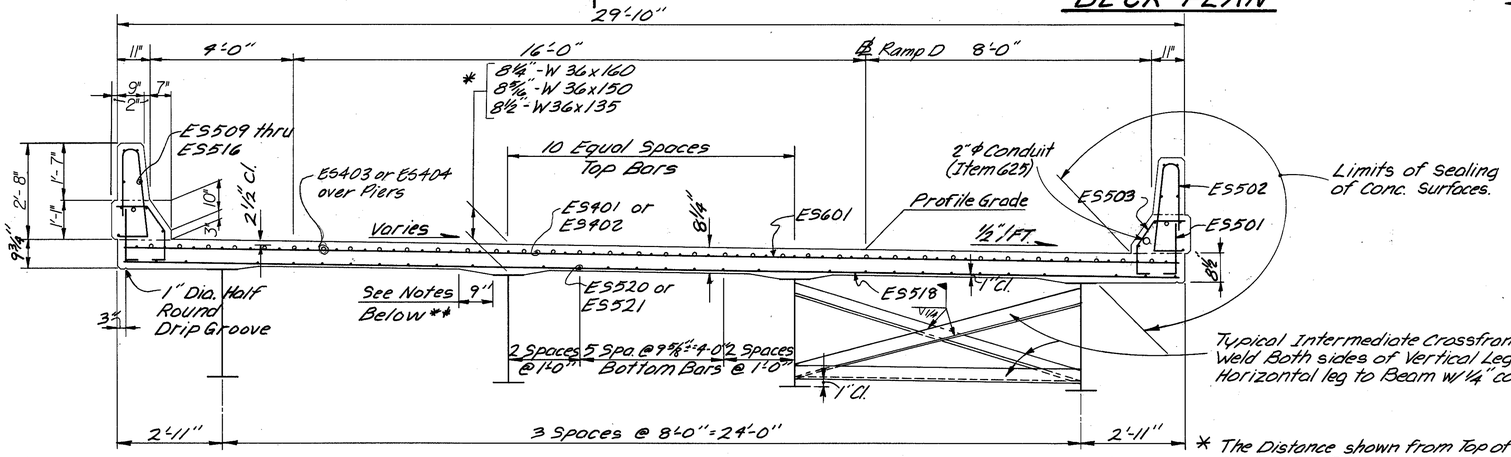


STAGGER OF ES402 & ES403 BARS OVER PIERS



DECK PLAN



TRANSVERSE DECK SECTION

Typical Intermediate Crossframe Angles - 3x3x5/16. Weld Both sides of Vertical Legs & Top side of Horizontal leg to Beam w/ ¼" continuous Fillet Weld.

* The Distance shown from Top of Deck Slab to Top of Steel Beam is the Design Dim. The quantity of Deck Conc. to be paid for shall be Based on this Dim., even though Deviation from it may be necessary, Because the Top Flange of the Beam may not have the exact Camber or Conformation Req'd. to Place it Parallel to the Finish Grade.

* * A Haunch Width of 9" Shall be used for Computing Quantity of Conc. However the Haunch Width may Vary Between 6" & 12".

NOTES:

1. See Sheet 2/15 for General Notes & Quantities.
2. See Sheets 14/15 & 15/15 for Reinf. Steel Details.
3. See Std. Drwg. BR-1 for Additional Bridge Railing Details.
4. See Sheet 12/15 for Additional Deck Details.
5. See Sheet 13/15 for Expansion Joint Details.
6. Welded Attachment of Supports for Conc. Deck Finishing Machine may be made to Areas of the Fascia Stringer Flanges Designated "Compression". Attachment shall not be made to Areas Designated "Tension." Fillet Welds to Compression Flanges shall not be closer than 1" from edge of Flange, be not more than 2" long & be not smaller than the min. size Req'd. by AASHTO.

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DECK PLAN
BRIDGE NO. JAC-35-11.52
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DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	KJO	—	WBS	GTW	5/8/86	

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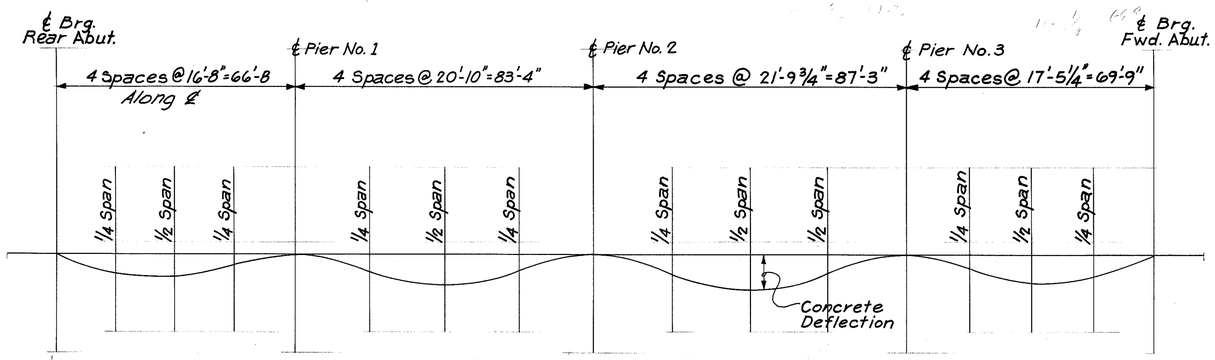
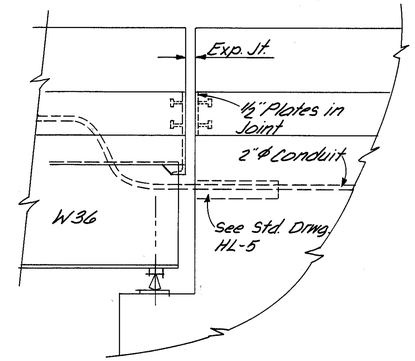
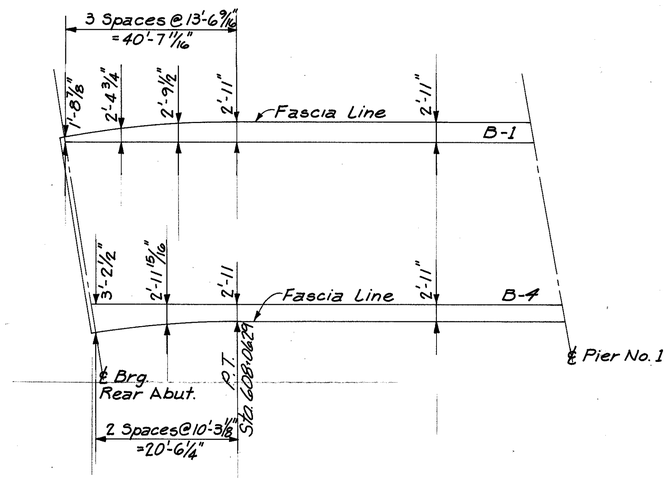


SCREED DIAGRAM AND TABLE

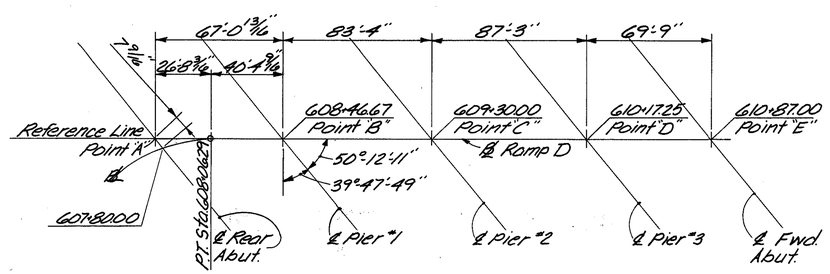
	Location	℄ Brg.	1/4	1/2	1/4	℄ Pier	1/4	1/2	1/4	℄ Pier	1/4	1/2	1/4	℄ Pier	1/4	1/2	1/4	℄ Brg.
Lt. Gutter	Station	607+65.50	607+85.86	608+01.47	608+17.57	608+30.49	608+51.33	608+72.16	608+92.99	609+13.82	609+35.64	609+57.45	609+79.26	610+01.07	610+18.51	610+35.95	610+53.39	610+70.82
	Profile Grade	689.574	689.690	689.816	689.979	690.563	690.433	690.789	691.202	691.672	692.225	692.838	693.465	694.091	694.592	695.093	695.593	696.094
	Gutter Elevation (19'-5" Lt.)	690.448	690.418	690.433	690.490	690.563	690.737	691.092	691.505	691.975	692.529	693.142	693.768	694.394	694.394	695.396	695.897	696.398
	Cast-in-Place Conc. Def.	0	.051	.061	.029	0	.048	.082	.044	0	.056	.097	.056	0	.034	.073	.060	0
	Screed Elevation	690.45	690.47	690.49	690.52	690.56	690.79	690.17	691.55	691.98	692.58	693.24	693.82	694.39	694.93	695.47	695.96	696.40
Rt. Gutter	Station	607+85.81	608+07.42	608+23.68	608+39.93	608+52.85	608+73.68	608+94.51	609+15.35	609+36.18	609+57.99	609+79.80	610+01.62	610+23.43	610+40.87	610+58.31	610+75.74	610+93.18
	Profile Grade	689.689	689.872	690.050	690.263	690.457	690.817	691.234	691.708	692.240	692.854	693.480	694.107	694.733	695.234	695.735	696.236	696.736
	Gutter Elevation (7'-5" Rt.)	689.380	689.563	689.741	689.954	690.148	690.508	690.925	691.399	691.931	692.545	693.171	693.798	694.424	694.925	695.426	695.927	696.427
	Cast-in-Place Conc. Def.	0	.051	.061	.029	0	.048	.082	.044	0	.056	.097	.056	0	.034	.073	.060	0
	Screed Elevation	689.38	689.61	689.80	689.98	690.15	690.56	691.01	691.44	691.93	692.60	693.27	693.85	694.42	694.96	695.50	695.99	696.43



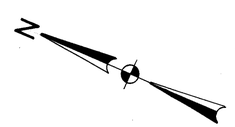
SECTION 1/11



FASCIA OFFSETS



LAYOUT DIAGRAM



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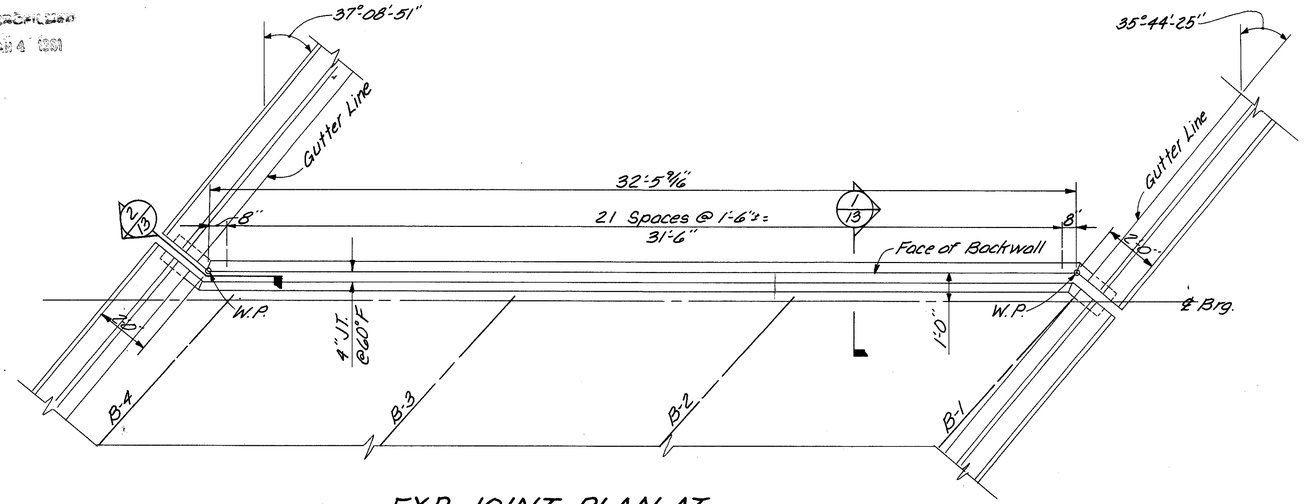
DECK DETAILS & LAYOUT DIAGRAM

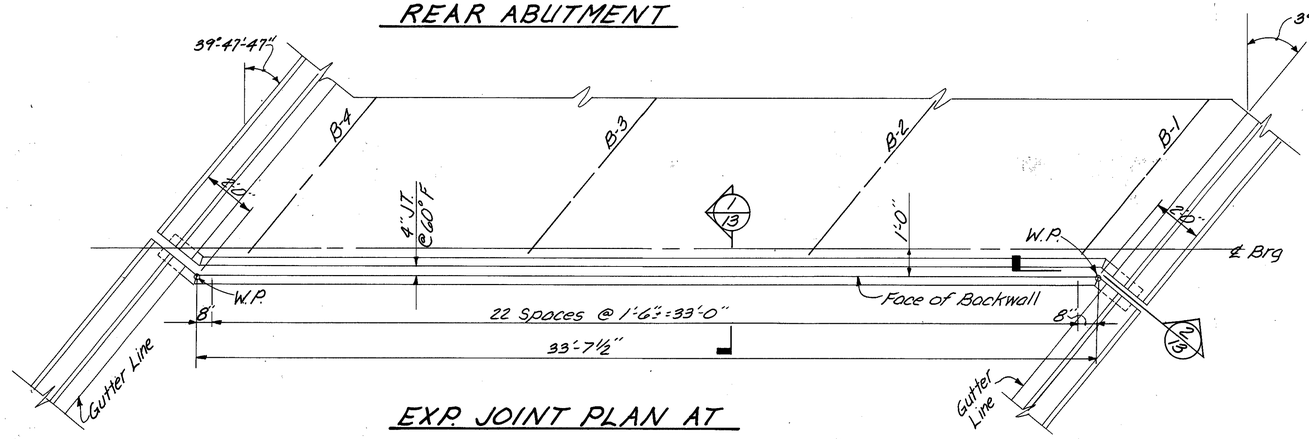
BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	MHW	—	WBS	GTW	5/16/86	

25581



EXP. JOINT PLAN AT REAR ABUTMENT



EXP. JOINT PLAN AT FORWARD ABUTMENT

TABLE C (PHYSICAL PROPERTIES OF SEAL ELEMENT)		
PROPERTY	REQUIREMENT	ASTM METHOD
TENSILE STRENGTH, MIN. P.S.I.	2000	D412
ELONGATION AT BREAK, MIN. PERCENT	250	D412
HARDNESS, TYPE A DUROMETER	50 MIN. 65 MAX.	D2240 (MODIFIED)
OVEN AGING, 70 HR. AT 212° F TENSILE STRENGTH, LOSS, MAX. ELONGATION, LOSS, MAX. HARDNESS, TYPE A DUROMETER (POINTS CHANGE)	20 PERCENT 20 PERCENT 0 TO +10	D573
OZONE RESISTANCE 20 PERCENT STRAIN, 300 PPHM, IN AIR AT 104°F (WIPED WITH TOLUENE TO REMOVE SURFACE CONTAMINATION)	NO CRACKS	D1149

CONSTRUCTION PROCEDURE

1. ABUTMENT BACKWALL CONCRETE SHALL NOT BE PLACED UNTIL AFTER SUPERSTRUCTURE CONCRETE IN THE SPAN ADJACENT TO THE ABUTMENT HAS BEEN PLACED.
2. PLACE BACKWALL CONCRETE DURING STABLE OR RISING AMBIENT TEMPERATURES AND CONCLUDE PLACEMENT AT OR IMMEDIATELY BEFORE THE DAY'S PEAK AMBIENT TEMPERATURE.
3. NOT MORE THAN FOUR HOURS PRIOR TO THE DAY'S PEAK AMBIENT TEMPERATURE, SET ABUTMENT EXPANSION JOINT WIDTH TO DIMENSION "A" WHICH SHALL BE DETERMINED FROM TABLE.
4. LOOSEN TEMPORARY JOINT ARMOR BOLTS AFTER INITIAL SET OF CONCRETE, PREFERABLY NOT LATER THAN TWO HOURS AFTER CONCLUSION OF CONCRETE PLACEMENT.

DIMENSION "A"							
Temperature	30°F	40°F	50°F	60°F	70°F	80°F	90°F
Abutments	2 1/8"	2"	1 7/8"	1 3/4"	1 5/8"	1 1/2"	1 3/8"

Do not install seal when Temperature is above 80° F.

STRIP SEAL NOTES

REFERENCE: REFERENCE SHALL BE MADE TO STANDARD DRAWINGS EXJ-2-81 FOR ADDITIONAL DETAILS INCLUDING WELDING REQUIREMENTS AND TEMPORARY SUPPORT BARS.

MATERIALS: STRUCTURAL STEEL FOR THE STRIP SEAL EXPANSION-CONTRACTION JOINT SHALL CONFORM TO ASTM A588 OR A36 WITH SYSTEM B FIELD PAINT ON EXPOSED STEEL SURFACES. FIELD PAINT SHALL CONSIST OF TWO PRIME COATS AND ONE FINISH COAT.

THE PREFORMED STRIP SEAL SHALL BE EXTRUDED POLYCHOROPRENE MATERIAL MEETING THE REQUIREMENTS OF ASTM D2628. DUE TO THE CONFIGURATIONS OF THE STRIP SEAL, THE RECOVERY TESTS ARE NOT APPLICABLE. PHYSICAL PROPERTIES SHALL MEET THE REQUIREMENTS SPECIFIED IN TABLE "C" THIS SHEET.

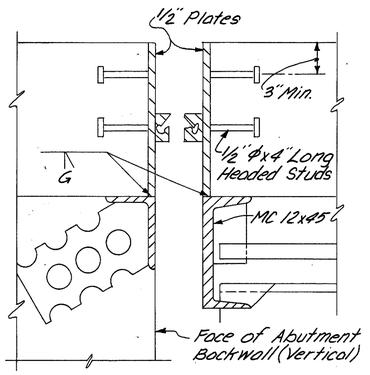
LUBRICANT-ADHESIVE USED TO INSTALL THE PREFORMED STRIP SEALS SHALL BE A POLYURETHANE AND HYDROCARBON SOLVENT MIXTURE AS SPECIFIED BY THE SEAL MANUFACTURER (UNLESS OTHERWISE APPROVED BY THE DIRECTOR). IT SHALL HAVE SUITABLE CONSISTENCY AT THE TEMPERATURE AT WHICH THE SEALS ARE INSTALLED AND SHALL BE COMPATIBLE WITH THE SEALS AND THE STEEL EXTRUSIONS.

PREPARATIONS FOR INSTALLATION: TO AVOID THE SUBSEQUENT CONTAMINATION OF PREPARED SURFACES, ALL SURFACES OF ELASTOMERIC STRIP SEALS SHALL BE CLEANED WITH METHYL ETHYL KETONE (MEK), TOLUENE (T) OR OTHER APPROVED SOLVENT USING CLEAN DISPOSBLE CLOTHS.

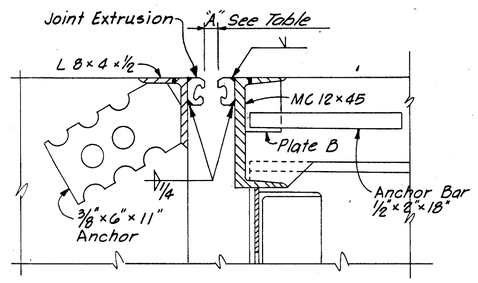
THE BONDING SURFACES OF THE STEEL EXTRUSIONS (THE INTERIOR OF THE ANCHOR GROOVES) SHALL BE PREPARED TO GRADE SA 3, ASTM D2200. PREPARATION SHALL BE ACCOMPLISHED NOT MORE THAN 24 HOURS PRIOR TO ADHESIVE BONDING.

INSTALLATION: IMMEDIATELY PRIOR TO APPLICATION OF LUBRICANT-ADHESIVE, BONDING SURFACES SHALL BE CLEAN, DRY AND WARMER THAN 45°F AND THEY SHALL BE MAINTAINED AT OR ABOVE THIS TEMPERATURE UNTIL THE ADHESIVE HAS CURED. LUBRICANT-ADHESIVE SHALL BE APPLIED LIBERALLY TO BOTH STEEL AND ELASTOMERIC BONDING SURFACES USING A STIFF BRUSH IF NECESSARY TO ACHIEVE A COMPLETE AND RELATIVELY UNIFORM COATING. THEN THE BULBED EDGES OF THE ELASTOMERIC SEAL SHALL BE INSERTED INTO THE ANCHOR GROOVES. AFTER INSTALLTION, EXCESS LUBRICANT-ADHESIVE SHALL BE REMOVED FROM THE EXPOSED SEAL SURFACES.

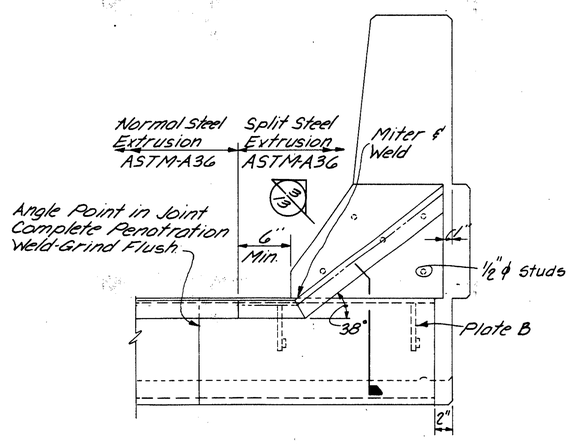
MEASUREMENT FOR PAY PURPOSES SHALL BE BASED ON THE LINEAR FOOT OF SEALED JOINT SYSTEM, MEASURED HORIZONTALLY ALONG THE JOINT CENTERLINES AND BETWEEN THE OUTER LIMITS OF THE FABRICATED JOINT, FURNISHED AND PLACED, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT IN PLACE, WHICH INCLUDES THE JOINT ARMOR, ANCHORING DEVICES, TEMPORARY SUPPORTS AND END CROSSFRAME GUSSET PLATES. PAYMENT SHALL BE MADE PER LINEAR FEET FOR ITEM 516 "STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS."



SECTION 3/13



SECTION 1/13



SECTION 2/13

KZF INCORPORATED
ARCHITECTS ENGINEERS PLANNERS
111 Merchant Street, Cincinnati, Ohio 45246 513/772-1117

13/15

EXPANSION JOINTS

BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	KJO	—	GTW	WBS	5/6/86	

Mark	Number	Length	Weight	Shape	Rear	Forward
Abutments						
EA801	46	5'-1"	624	Bt.	23	23
EA601	38	3'-9"	214	Bt.	20	18
EA602	4	3'-8"	22	Bt.	2	2
EA603	4	3'-8"	22	Bt.	2	2
EA604	4	3'-7"	22	Bt.	2	2
EA605	7	3'-7"	38	Bt.	5	2
EA606	9	4'-3"	57	Str.	3	6
EA607	68	10'-11"	1115	Bt.	34	34
EA608	68	5'-1"	519	Bt.	34	34
EA609	68	7'-1"	723	Bt.	34	34
EA501	34	3'-0"	106	Str.	18	16
EA502	34	5'-3"	186	Bt.	18	16
EA503	8	19'-0"	159	Str.	8	
EA504	32	4'-7"	153	Str.	16	16
EA505	23	2'-8"	64	Bt.	13	10
EA506	32	4'-4"	145	Str.	16	16
EA507	7	34'-8"	253	Str.	7	
EA508	8	16'-1"	134	Str.	8	
EA509	16	16'-5"	274	Str.		16
EA510	6	5'-8"	35	Bt.	3	3
EA511	6	3'-10"	24	Bt.	3	3
EA512	7	35'-11"	262	Str.		7
A801	20	22'-2"	1184	Str.	10	10
A802	2	16'-11"	90	Str.	1	1
A803	2	18'-3"	97	Str.	1	1
A804	4	23'-6"	251	Str.	2	2
A805	3	13'-0"	104	Str.	2	1
A806	2	16'-0"	85	Str	2	
A807	2	19'-6"	104	Bt.	2	
A808	3	14'-10"	119	Str.	3	
A809	2	11'-6"	61	Str.	1	1
A810	4	13'-3"	142	Str.	2	2
A811	2	7'-3"	39	Bt.	2	
A812	3	15'-1"	121	Str.		3
A813	2	7'-4"	39	Bt.		2
A814	3	10'-6"	84	Str.		3
A815	2	17'-0"	91	Bt.		2
A602	39	9'-10"	576	Bt.	20	19
A606	10	9'-3"	139	Str.	10	
A607	1	4'-10"	7	Str.	1	
A608	25	8'-5"	316	Str.	8	17
A609	4	7'-5"	45	Str.	2	2
A610	1	3'-5"	5	Str.		1
A611	48	13'-7"	979	Bt.	24	24
A501	48	9'-1"	455	Bt.	24	24
A502	48	7'-2"	359	Bt.	24	24
A503	24	6'-6"	163	Bt.		24
A504	46	10'-8"	512	Bt.	24	22
A505	9	34'-2"	321	Str.	9	
A506	6	12'-8"	77	Str.		6
A507	8	11'-2"	93	Str.		8
A508	1	3'-5"	4	Str.		1
A509	25	8'-2"	213	Str.	8	17
A510	9	35'-3"	331	Str.		9
A511	10	9'-0"	94	Str.	10	
A512	2	9'-11"	21	Bt.		2
A513	2	9'-1"	19	Bt.		2
A514	2	8'-3"	17	Bt.		2
A515	2	7'-5"	15	Bt.		2
A516	2	6'-5"	13	Bt.		2

Mark	Number	Length	Weight	Shape	Rear	Forward
Abutments						
A517	8	13'-9"	115	Str.	8	
A518	6	20'-10"	130	Str.	6	
A519	2	20'-0"	42	Str.	2	
A520	2	13'-6"	28	Str.	2	
A521	4	18'-0"	75	Str.	4	
A522	12	8'-2"	102	Bt.	6	6
A523	1	4'-7"	5	Str.	1	
A524	6	12'-0"	75	Str.	6	
A525	8	7'-0	58	Str.	4	4
A526	4	7'-2"	30	Str.	2	2
A527	4	7'-10"	196	Bt.	24	2
A528	1	12'-6"	13	Str.	1	
A529	1	10'-6"	11	Str.	1	
A530	1	10'-9"	11	Str.		1
A531	9	18'-3"	171	Str.		9
A532	1	9'-3"	10	Bt.	1	
A533	1	8'-6"	9	Bt.	1	
A534	1	7'-7"	8	Bt.	1	
A535	1	6'-11"	7	Bt.	1	
A536	1	6'-4"	7	Bt.	1	
A537	1	6'-6"	7	Bt.	1	
A538	1	7'-1"	7	Bt.	1	
A539	1	7'-8"	8	Bt.	1	
A540	1	8'-4"	9	Bt.	1	
A541	1	8'-11"	9	Bt.	1	
A542	2	20'-3"	42	Str.		2
A543	1	12'-9"	13	Str.		1
A544	64	3'-5"	228	Bt.	32	32
A545	48	3'-8"	184	Str.	24	24
A546	6	6'-1"	38	Bt.	3	3
A547	7	3'-10"	28	Bt.	4	3
A548	12	4'-6"	56	Str.	6	6
A549	2	16'-0"	33	Str.	2	

Mark	Number	Length	Weight	Shape	No. 1	No. 2	No. 3
Piers							
P1001	80	9'-11"	3,414	Bt.	16	48	16
P1002	16	33'-7"	2,312	Bt.	16		
P1003	16	32'-4"	2,226	Bt.			16
P1004	48	39'-4	8,147	Bt.		48	
P901	270	11'-6"	10,557	Str.	96	78	96
P902	12	34'-11"	1425	Bt.	4	4	4
P903	12	37'-5"	1527	Bt.	4	4	4
P904	6	40'-4"	823	Bt.	2	2	2
P501	48	13'-2"	659	Bt.	16	16	16
P502	18	20'-0"	375	Str.	6	6	6
P503	18	17'-4"	325	Str.	6	6	6
P504	6	12'-0"	75	Bt.	2	2	2
P505	6	12'-4"	77	Bt.	2	2	2
P506	6	12'-8"	79	Bt.	2	2	2
P507	6	13'-0"	81	Bt.	2	2	2
P508	18	5'-8"	106	Bt.	6	6	6
P401	84	3'-6"	196	Bt.	28	28	28
P402	60	3'-8"	147	Str.	20	20	20
SP401	3	28'-10"	1,598	Bt.	3		
SP402	3	27'-7"	1,531	Bt.			3
SP403	3	34'-7"	1,907	Bt.		3	
P1101	32	33'-9"	5,738	Bt.	32		
P1102	32	32'-6"	5526	Bt.			32
P1103	64	11'-4"	3854	Bt.	32		32

Mark	Number	Length	Weight	Shape
Superstructure				
ES601	493	29'-6"	21,844	Str.
ES602	2 Series of 31	Varies 6'-2 3/16" to 27'-4"	1,560	Str.
ES603	12	5'-6"	99	Str.
ES604	8	10'-0"	120	Str.
ES501	474	2'-5"	1196	Bt.
ES502	474	5'-3"	2596	Bt.
ES503	474	3'-0"	1483	Bt.
ES504	12	5'-6"	69	Str.
ES509	8	8'-6"	71	Str.
ES510	80	15'-6"	1293	Str.
ES511	96	7'-0"	701	Str.
ES512	8	4'-10"	40	Str.
ES513	16	10'-3"	171	Str.
ES514	8	8'-9"	73	Str.
ES515	8	12'-4"	103	Str.
ES516	8	10'-10"	90	Str.
ES518	493	29'-6"	15,169	Str.
ES520	300	30'-0"	9387	Str.
ES521	30	25'-3"	790	Str.
ES522	2 Series of 31	Varies 6'-2 3/16" to 27'-4"	1,084	Str.
ES401	450	30'-0"	9,018	Str.
ES402	37	21'-11"	542	Str.
ES403	38	33'-4"	846	Str.
ES404	76	35'-0"	1,777	Str.
ES405	8	26'-11"	144	Str.

NOTES:

1. For Bar Bending Details-See Sheet 15/15
2. Refer to CMS Sections 106.03, 700, 709.1, through 709.05 & 709.08. Sufficient additional Reinforcing Steel shall be Provided for Sampling. Random Samples Shall be Replaced in the Structures by the Additional Steel Spliced in Accordance with 509.08.
3. EA & ES Bars are Epoxy Coated.
4. SP Bars are Spiral Bars. The Weight of these Bars include 4-1x1x1/8 Spacer Angles.

14/15

KZF INCORPORATED
ARCHITECTS · ENGINEERS · PLANNERS
111 Merchant Street, Cincinnati, Ohio 45246 513/772-1117

REINFORCING STEEL LIST

BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	MHW	—	WBS	GTW	5/18/88	

RECEIVED
JAN 4 1988

JAC-35-11.46

OHIO
FHWA REGION 5

353
442

Dimensions For Bending

Mark	Type	A	B	C	D	E	F	G	H	J	K	R	O
EA601	3	1'-1"	2'-0"	2'-0"	0	0	0	0	1'-5"	0'-8"			3'-5"
EA601	14		0'-9"	0'-10½"	2'-5"	0	0		0'-6"		0'-8½"		3'-1½"
EA602	14		0'-8"	0'-9¾"	2'-5"	0	0		0'-5"		0'-8½"		3'-1½"
EA603	14		0'-8"	0'-9½"	2'-5"	0	0		0'-4"		0'-8½"		3'-1½"
EA604	14		0'-7"	0'-9"	2'-5"	0	0		0'-3"		0'-8½"		3'-1½"
EA605	14		0'-7"	0'-8¾"	2'-5"	0	0		0'-2"		0'-8½"		3'-1½"
EA607	2	4'-11"	1'-5"					4'-11"					
EA608	2	2'-0"	1'-5"					2'-0"					
EA609	2	3'-3"	0'-11"					3'-3"					
EA502	22												
EA505	1	0'-7"	2'-1"					0		0'-5"			
EA510	12	0	2'-0"	1'-10"	2'-0"				1'-6"	0	1'-3"		
EA511	2	2'-0"	2'-0"					0					
AB07	19		3'-5"	16'-5"	0				2'-9"		2'-0"		18'-5"
AB11	19		4'-0"	3'-5"	0				2'-4"		3'-3"		6'-8"
AB13	19		4'-1"	3'-5"	0				2'-7"		3'-1		6'-6"
AB15	19		3'-5"	13'-9"	0				2'-7½"		2'-2"		15'-11"
ES501	2	0'-10½"	1'-8"					0					
ES502	22												
ES503	23	0'-9"											
AG02	2	4'-6"	1'-2"					4'-6"					
AG12	2	6'-5"	5'-4"					2'-2"					
A501	2	2'-0"	5'-4"					2'-0"					
A502	2	0'-10"	6'-5"					0					
A503	2	1'-8"	3'-5"					1'-8"					
A504	T1	0'-5½"	3'-0"	2'-1"	3'-0"	2'-1"		0'-5½"					
A512	2	4'-6"	1'-2"					4'-6"					
A513	2	4'-1"	1'-2"					4'-1"					
A514	2	3'-8"	1'-2"					3'-8"					
A515	2	3'-3"	1'-2"					3'-3"					
A516	2	2'-9"	1'-2"					2'-9"					
A522	T1	0'-5½"	1'-2"	2'-8"	1'-2"	2'-8"		0'-5½"					
A532	2	4'-2"	1'-2"					4'-2"					
A533	2	3'-9½"	1'-2"					3'-9½"					
A534	2	3'-4"	1'-2"					3'-4"					
A535	2	3'-0"	1'-2"					3'-0"					
A536	2	2'-8½"	1'-2"					2'-8½"					
A537	2	2'-9½"	1'-2"					2'-9½"					
A538	2	3'-1"	1'-2"					3'-1"					
A539	2	3'-4½"	1'-2"					3'-4½"					
A540	2	3'-8½"	1'-2"					3'-8½"					
A541	2	4'-0"	1'-2"					4'-0"					
A546	12	0	2'-0"	2'-3"	2'-0"				1'-6"	0"	1'-3"		
A547	19		2'-0"	2'-0"	0				1'-6"		1'-3"		3'-3"
A544	2	1'-0"	1'-8"					1'-0"					
A550	2	2'-4"	3'-5"					2'-4"					
P1001	2	1'-10"	8'-5"					0"					
P902	14		0"	2'-10"	29'-3"	2'-10	0"		0'-8"		2'-10"		34'-11"
P903	1	1'-3"	34'-11"					1'-3"		0'-11⅛"			
P904	2	3'-0"	34'-11"					3'-0"					
P501	T1	0'-5½"	2'-8"	3'-8"	2'-8"	3'-8"		0'-5½"					
P504	T1	0'-5½"	2'-8"	3'-1"	2'-8"	3'-1"		0'-5½"					
P505	T1	0'-5½"	2'-8"	3'-3"	2'-8"	3'-3"		0'-5½"					
P506	T1	0'-5½"	2'-8"	3'-5"	2'-8"	3'-5"		0'-5½"					
P507	T1	0'-5½"	2'-8"	3'-7"	2'-8"	3'-7"		0'-5½"					
P508	S10		1'-8"	2'-7"	1'-8"								
SP401	SP1		0'-4½"	28'-10"	2'-8"						80		
SP402	SP1		0'-4½"	27'-7"	2'-8"						77		
SP403	SP1		0'-4½"	34'-7"	2'-8"						95		
P401	2	0'-6"	2'-8"					0'-6"					
P1004	1	1'-5"	37'-11"					0"					
P1002	1	1'-5"	32'-2"					0"		1'-0¾"			
P1003	1	1'-5"	30'-11"					0"		1'-0¾"			
P1101	1	1'-7"	32'-2"					0"		1'-2¼"			
P1102	1	1'-7"	30'-11"					0"		1'-2¼"			
P1103	2	2'-0"	9'-8"					0"					

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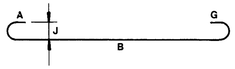

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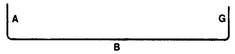

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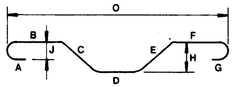

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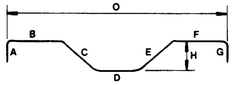

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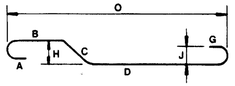

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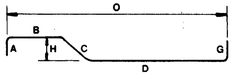

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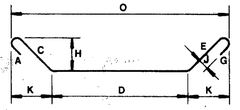

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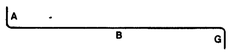

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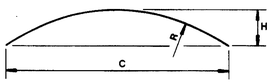

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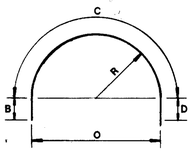

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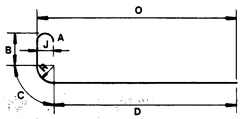

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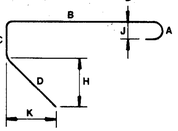

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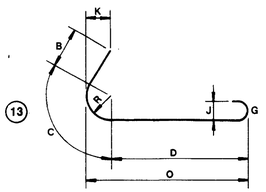

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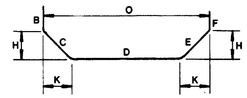

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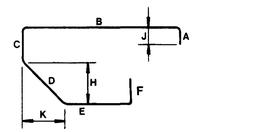

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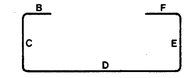

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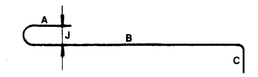

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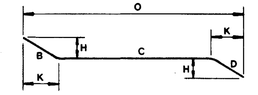

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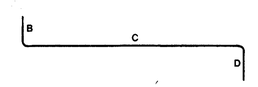

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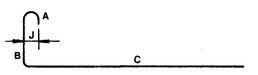

(15) NOT USED

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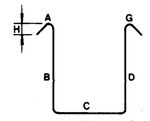

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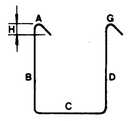

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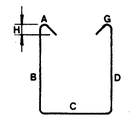

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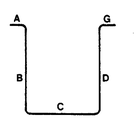

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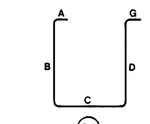

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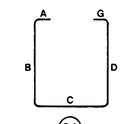

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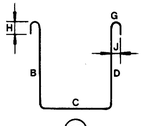

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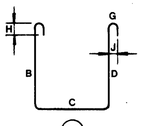

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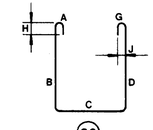

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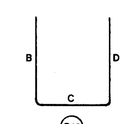

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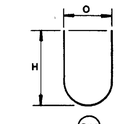

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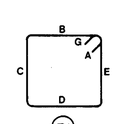

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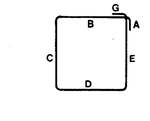

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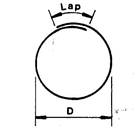

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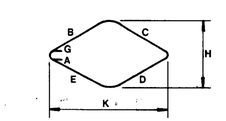

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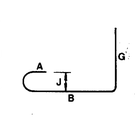

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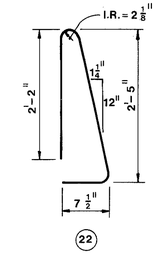

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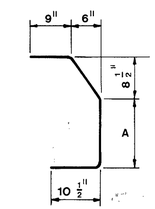

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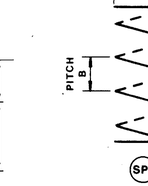

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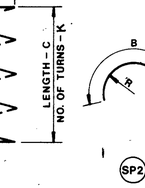

WHERE SLOPE IS 45° SHOW "H" ONLY
OTHERWISE SHOW "H" AND "K"

NOTES:

1. FIGURES IN CIRCLES SHOW BAR TYPES.
2. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT A & G ON STD. 180° & 135° HOOKS.
3. "J" DIMENSION ON HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
4.

WHERE "J" IS NOT SHOW "J" WILL BE KEPT EQUAL TO OR LESS THAN "H". WHERE "J" CAN EXCEED "H" IT SHOULD BE SHOWN.
5. "H" DIMENSION ON STIRRUPS TO BE SHOWN WHERE NECESSARY TO RESTRICT HOOKS.
6. ALL BENDS SHOWN ARE BENT AROUND A STANDARD MANDREL, EXCEPT STIRRUP S11, TIES T3, SPIRALS SP1 AND WHERE RADIUS "R" IS INDICATED.
7. RADIUS DIMENSION "R" IS TO OUTSIDE OF BAR.
8. THE LENGTH OF BENT BARS IS MEASURED ALONG THE CENTERLINE.
9. HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE LATEST ACI SPECIFICATIONS.
10. FOR BAR TYPE SP1, THE NO. OF TURNS "K" IS THE LENGTH "C" DIVIDED BY THE PITCH "B", PLUS 3 TURNS (TOTAL NUMBER OF CLOSED COILS), EXPRESSED AS THE NEAREST WHOLE NUMBER. 1½ CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT.

ENLARGED VIEW SHOWING BAR BENDING DETAILS

KZF INCORPORATED
ARCHITECTS • ENGINEERS • INTERIOR DESIGNERS
111 Merchant Street, Cincinnati, Ohio 45246 513/772-1117

15/15

BAR BENDING DETAILS

BRIDGE NO. JAC-35-1152
RAMP "D" OVER C&O R.R. & HORSE CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JET	MHW	—	WBS	GTW	5/18/88	