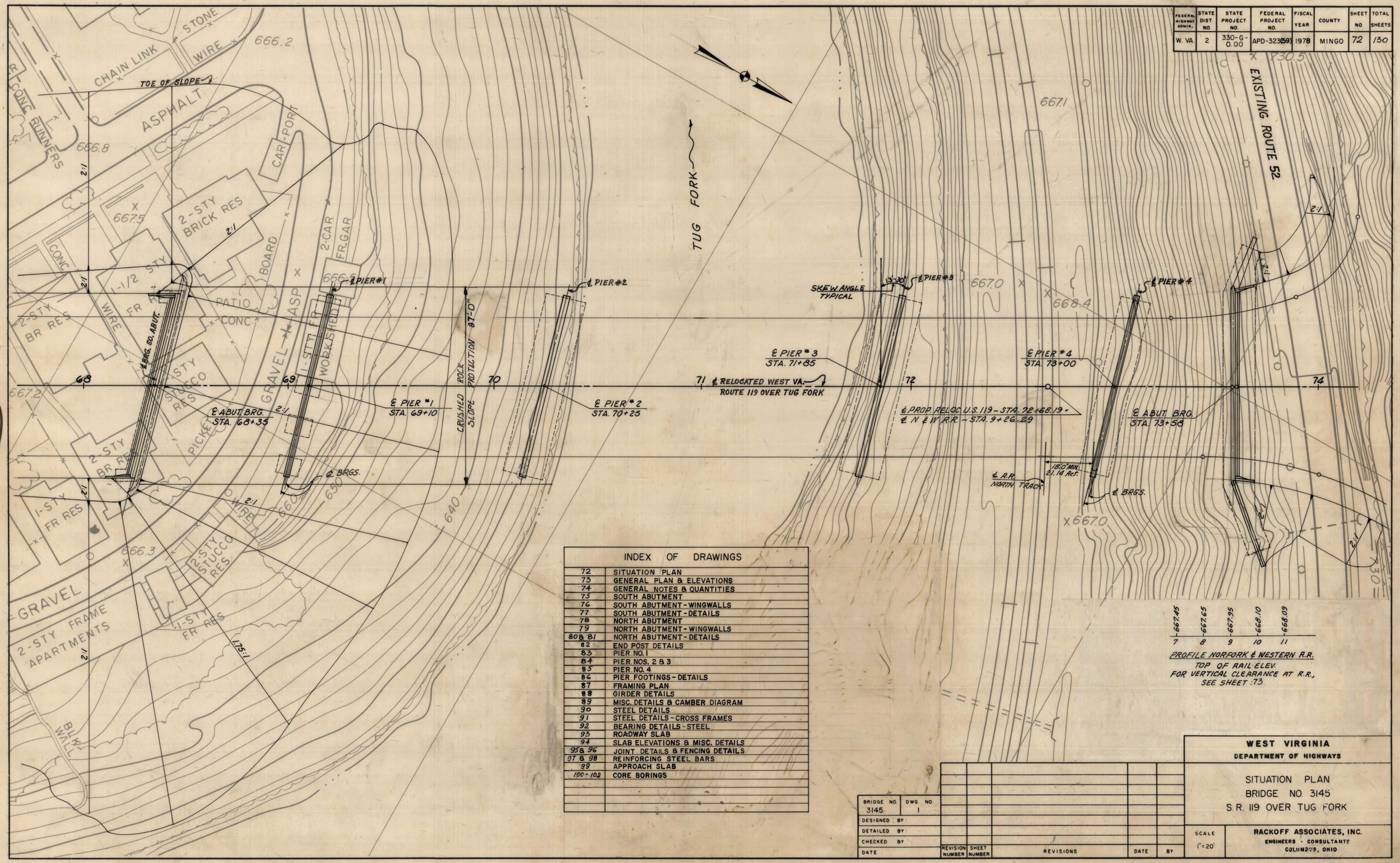
FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	72	130



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82	END POST DETAILS
83	PIER NO. 1
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85	PIER NO. 4
86	PIER FOOTINGS - DETAILS
87	FRAMING PLAN
88	GIRDER DETAILS
89	MISC. DETAILS & CAMBER DIAGRAM
90	STEEL DETAILS
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99	APPROACH SLAB
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BRIDGE NO.	DWG. NO.
3145	1
DESIGNED BY:	
DETAILED BY:	
CHECKED BY:	
DATE	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

SITUATION PLAN
BRIDGE NO. 3145
S.R. 119 OVER TUG FORK

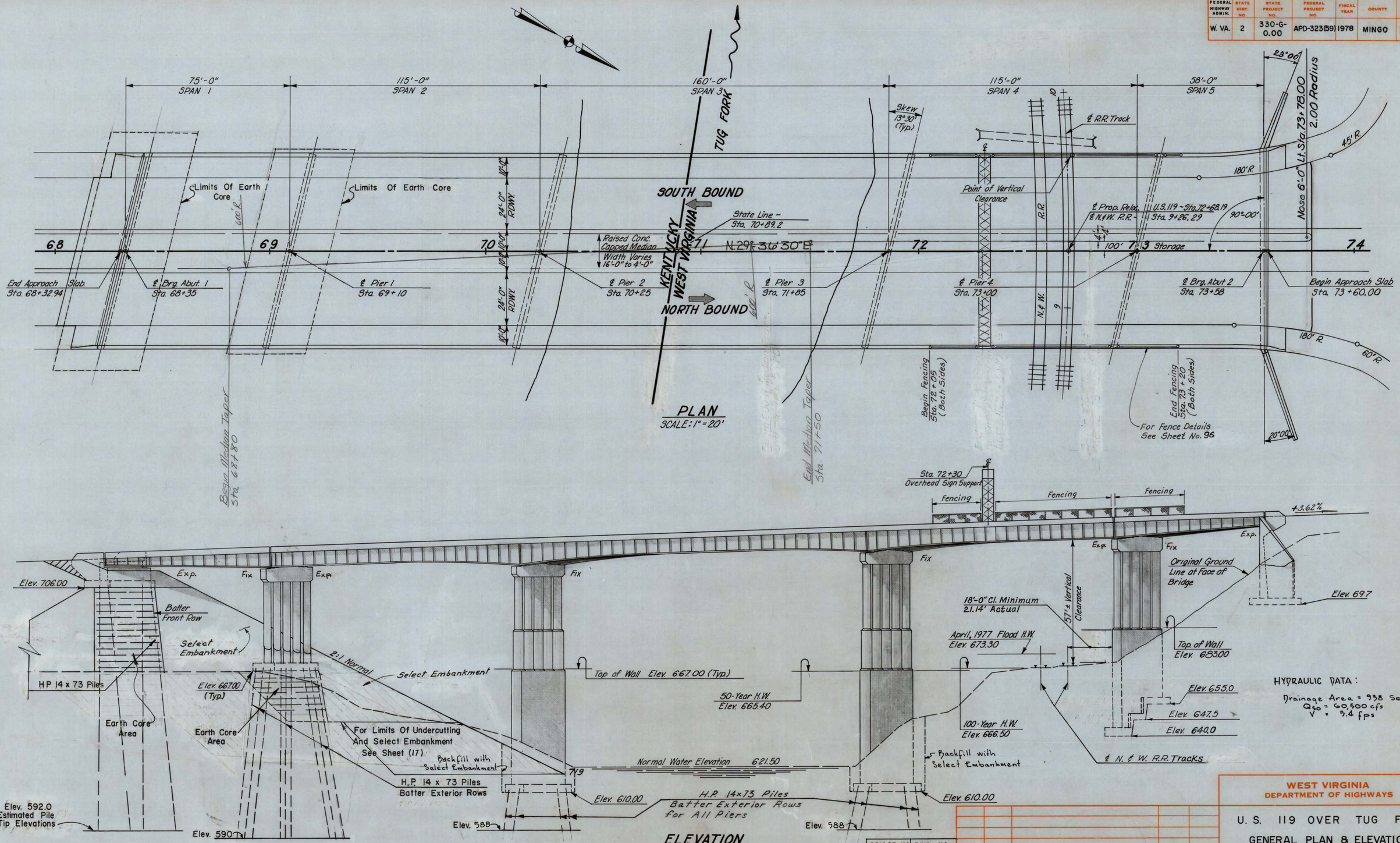
SCALE 1"=20'

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

34

283

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	73	130



HYDRAULIC DATA:

Drainage Area = 938 Sq. Mi.
Q_{50} = 60,500 cfs
V = 9.4 fps

For Utility Locations See Sheets 16 & 130.

BRIDGE NO.	DWG. NO.
3145	2

DESIGNED BY T.S.
DETAILED BY
CHECKED BY YAP

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

U. S. 119 OVER TUG FORK
GENERAL PLAN & ELEVATION
BRIDGE NO. 3145

SCALE AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	74	130

GOVERNING SPECIFICATIONS

THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS ROADS AND BRIDGES, ADPOTED 1978 AND PROVISIONS OF THE WEST VIRGINIA DEPARTMENT OF HIGHWAYS, THE CONTRACT SPECIAL PROVISIONS, THE CONTRACT DOCUMENTS, AND THE CONTRACT PLANS.

DESIGN

THE DESIGN OF SUPERSTRUCTURE IS IN ACCORDANCE WITH THE 1973 AASHTO SPECIFICATIONS OF HICHWAY BRIDGES INCLUDING THE 1974, 1975 1976, & 1977 INTEPIM SPECIFICATIONS, AND THE CURRENT A.W.S. SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES.

THE STRUCTURE IS DESIGNED FOR HS20-44 LIVE LOADING OR THE ALTERNATE INTERSTATE LIVE LOADING, WHICHEVER PRODUCES THE GREATER STRESS.

DESIGN UNIT STRESSES

CLASS K CONCRETE (IN DECKS)	F'C= 3,600 psi	FC= 1,200 psi
CLASS B CONCRETE (OTHER)	F'C= 3,000 psi	FC= 1,200 psi

A.S.T.M. A-615 GRADE 60 or A.S.T.M. A-616 GRADE 50 MAY BE USED IN BRIDGE SUBSTRUCTURE ONLY. IF A-616 GRADE 50 IS USED IT SHOULD MEET THE BEND TEST REQUIREMENTS OF A-615 GRADE 60. SHOP BENDING ONLY WILL BE PERMITTED. MINIMUM LAP AND EMBEDMENT SHALL BE 30D UNLESS OTHERWISE NOTED.

ALL REINFORCING STEEL BARS SHALL BE INTERMEDIATE GRADE BILLET STEEL IN ACCORDANCE A.S.T.M. A-615 GRADE 40.

THE CLEAR DISTANCE BETWEEN REINFORCING STEEL AND THE FACE OF CONCRETE SHALL BE AS FOLLOWS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

TOP OF SLABS	2 1/2"
BOTTOM OF SLABS	1"
FOOTINGS	3"
ALL OTHER LOCATIONS	2"

CHAMFER ALL EXPOSED EDGES OF CONCRETE ON SUPERSTRUCTURE 3/4" and 1" ON SUBSTRUCTURE, UNLESS OTHERWISE NOTED.

REINFORCING UNDER SHOES SHALL BE SO PLACED AS TO AVOID INTERFERENCE WITH DRILLING OF ANCHOR BOLT HOLES.

EPOXY COATED REINFORCING STEEL BARS.

THE TOP MAT OF REINFORCING STEEL BARS IN THE SUPERSTRUCTURE SHALL BE COATED WITH EPOXY IN ACCORDANCE WITH THE SPECIAL PROVISIONS. PAYMENT SHALL BE INCLUDED IN ITEM 602-2 (E). EPOXY COATED REINFORCING STEEL BARS.

THE BOTTOM MAT OF REINFORCING STEEL BARS IN THE DECK AND THE PARAPET REINFORCING STEEL BARS SHALL BE UNCOATED BARS AND SHALL BE PAID FOR UNDER ITEM 602-1, REINFORCING STEEL BARS.

JOINT FILLER

PREFORMED JOINT FILLER FOR VERTICAL JOINTS IN SUPERSTRUCTURE SHALL BE SPONGE RUBBER. COMFORMING TO SECTION 708.1.1 OF THE SPECIFICATIONS. COST OF THE FILLER SHALL BE INCLUDED IN ITEM 601-3 CLASS "K" CONCRETE.

ALL JOINT FILLER FOR VERTICAL JOINTS IN SUBSTRUCTURE SHALL CONFORM TO SECTION 708.1.1 OF THE SPECIFICATIONS. THE COST SHALL BE INCLUDED IN ITEM 601-2 CLASS B CONCRETE.

STRUCTURAL STEEL

GRIDERS, AND SPLICE PLATES INTENSION AREAS REQUIRE CHARPY V- NOTCH TEST IN ACCORDANCE WITH THE SPECIFICATIONS.

STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M. A36.

THE LUMPS SUMBID FOR ITEM 615-1 STEEL SUPERSTRUCTURE SHALL INCLUDE ALL STRUCTURAL STEEL COMPLETE IN PLACE, INCLUDING ANCHOR BOLTS, ROADWAY DRAINS, 6" DIAMETER PIPE AND PAINTING.

THE DOWNSPOUTS SHALL BE BLACK STEEL PIPE IN ACCORDANCE WITH SECTION 709-17. THE INSIDE OF PIPE SHALL BE PAINTED WITH TWO SHOP COATS OF PAINT. OUTSIDE OF PIPE SHALL BE PAINTED THE SAME STRUCTURAL STEEL.

PAINTING

PAINTING SHALL BE IN ACCORDANCE WITH SECTION 615. OF THE SPECIFICATIONS.

EXCAVATION

ALL EMBANKMENTS SHALL BE IN PLACE BEFORE STRUCTURE EXCAVATION BEGINS.

STRUCTURE EXCAVATION FOR SOUTH ABUTMENT SHALL BE MEASURED FROM THE BOTTOM OF FOOTINGS TO THE FINISHED ELEVATIONS OF THE 3'-0" BERMS 18" INCHES OUTSIDE THE NEAT LINES OF FOOTINGS.

STRUCTURE EXCAVATION FOR THE PIERS SHALL BE MEASURED FROM THE BOTTOM OF FOOTINGS TO THE FINISHED GROUND LINE, 18" INCHES OUTSIDE THE NEAT LINE OF FOOTINGS.

NO EXCAVATION SHALL BE CLASSIFIED AS ROCK EXCAVATION. ALL EXCAVATION SHALL BE PAID FOR AS STRUCTURE EXCAVATION, ITEM 212-1. ROCK AND SHALE SHALL BE EXCAVATED AND PAID FOR UNDER THE ABOVE CLASSIFICATION TO THE NEAT LINES OF THE FOOTING ONLY.

BACKFILL

THE CONTRACTORS SHALL SELECT MATERIAL FOR BACKFILLING AROUND THE SUBSTRUCTURE AS SOON AS POSSIBLE AFTER REMOVAL OF FORMS AND FALSEWORK.

ITEM 212-5. SELECT MATERIAL FOR BACKFILLING, SHALL BE PLACED TO THE DIMENSIONS SHOWN ON THE DRAWINGS. NO PAYMENT WILL BE MADE FOR MATERIAL IN EXCESS OF CONTRACT QUANTITLES PLACES TO ADJUST IRREGULARITIES IN THE SLOPE.

COMPACTION TEST ARE NOT REQUIRED BEHIND ABUTMENTS AND WING--WALLS.

PILING

ALL PILING SHALL HAVE A MAXIMUM DESIGN LOAD AS INDICATED ON DESICN DRAWINGS AND SHALL BE DRIVEN TO REFUSAL INTO THE FOUNDATION STRATA AS INDICATED BY THE ESTIMATED PILE LENGTHS (OR PILE TIP ELEVATIONS) REFUSAL IS DEFINED AS THE EQUIVALENT OF 20 BLOWS FOR 1-INCH OR LESS OR PENETRATION WITH A POWER HAMMER DELIVERING A MINIMUM ENERCY OF 15,000 FOOT POUNDS PER BLOW. IF A LARGER HAMMER IS USED THE NUMBER OF BLOWS IN THE LAST INCH OR PENETRATION MAY BE REDUCED IN DIRECT PROPORTION TO THE ENERCY RATING OF THE HAMMER, BUT TO NO LESS THAN 12.

BEFORE PILE DRIVING IS STARTED, THE CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION TO THE ENGINEER THAT THE PILE HAMMER, AIR COMPRESSOR AND AIR VALVES HAVE BEEN INSPECTED AND FOUND TO BE IN GOOD WORKING CONDITION.

NEW STOCK MATERIAL MAY BE USED FOR STEEL BEARING PILES PROVIDED THAT EACH PIECE CAN BE INDENTIFIED BY HEAT NUMBER AND PROVIDED THAT CERTIFIED MILL REPORTS ARE FURNISHED TO THE STATE'S SHOP INSPECTOR FOR EACH HEAT REPRESENTED, INDICATING THAT THE MATERIAL CONFORMS TO THE SPECIFICATIONS.
USE PILE TIP REINFORCING ON ALL PILING. NO SEPERATE PAYMENT WILL BE MADE, THE COST THEREOF SHOULD BE INCLUDED IN THE PRICE BID FOR STEEL BEARING PILES ITEM 616-4.

FIELD WELDING

NO FIELD WELDING WILL BE PERMITTED UNLESS SHOWN ON THE PLANS OR APPROVED BY THE ENGINEER.

ELECTROSLAG OR ELECTROGAS WELDING WILL NOT BE PERMITTED.

Apply an epoxy resin coating to the abutment bridge seats and the caps of piers 1 and 4. See special provisions.

The design dead load also includes an additional 25 pounds per square foot for any future wearing surface.

ITEM 616-4 STEEL BEARING PILES DRIVEN

LOCATION	TYPE	NO.	LENGTH	KY.	W.VA.	TOTAL L.F.
S.Abut.	HP 14x73	28	115	3220	—	3220
Pier 1	HP 14x73	45	78	3510	—	3510
Pier 2	HP 14x73	115	23	2645		2645
Pier 3	HP 14x73	115	23		2645	2645
Total		303	239			

ITEM 602-2 EPOXY COATED REINF. STEEL BARS

LOCATION	#4 BARS	#5 BARS	#6 BARS	KY.	W.VA.	TOTAL
Deck		177705	9372	91094	95983	187077
R.E. Bars		87	49		136	136
Total		177792	9421	91094	96119	187213

ITEM 602-1 REINFORCING STEEL BARS

LOCATION	#4 BARS	#5 BARS	#6 BARS	#7 BARS	#8 BARS	#9 BARS	#10 BARS	#11 BARS	KY.	W.VA.	TOTAL
S.Abut.	21	6230	6145						12396	—	12396
Pier 1	4286	5734	2148			25761	—	9685	47614	—	47614
Pier 2	5509	16487	6850			88577	43212	9685	170320		170320
Pier 3	6140	16487	6850			90073	43212	9685		172447	172447
Pier 4	4519	11671	4437			71399		9685		101711	101711
N.Abut.	5	5684	32046	10730	45157		15185	26414		135221	135221
Total Substr.	20480	62293	58476	10730	45157	275810	101609	65154	230330	409379	639709
Deck	5679	184688							92575	97792	190367
R.E. Bars	10	195	63		256	317	173	239		1253	1253
Total	26169	247176	58539	10730	45413	276127	101782	65393	322905	508424	831329

ITEM 615-1 STEEL SUPERSTRUCTURE

DESCRIPTION	KY.	W.VA.	TOTAL
Structural Steel (A-36)	944,596	997,818	1,942,414
Cast Steel Drain (A-27)	8280	3550	11830
Total	952,876	1,001,368	1,954,244

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY KY.	QUANTITY W.VA.	QUANTITY TOTAL
201-1	Mobilization				
212-1	Structure Excavation	C.Y.	1197	5902	7099
212-2	Wet Excavation	C.Y.	1103	1103	2206
212-4	Cofferdams	Ea.	1	1	1
212-5	Select Material For Backfilling	C.Y.	198	236	434
218-4(2)	Crushed Rock Slope Protection	S.Y.	2263	—	2263
601-1	Class A Concrete				
601-2	Class B Concrete	C.Y.	1885	3224	5109
601-3	Class K Concrete	C.Y.	792	837	1629
602-1	Reinforcing Steel Bars	Lbs.	322905	508424	831329
602-2	Epoxy Coated Reinforcing Steel Bars	Lbs.	91094	96119	187213
608-1(4")	Right Of Way Fence, Chain Link Type	L.F.	—	216	216
615-1	Steel Superstructure △1	L.S.	L.S.	L.S.	L.S.
616-4	Steel Bearing Piles, Driven (HP 14x73)	L.F.	9375	2645	12020
662-14	Incidental Electrical Work	L.S.		L.S.	L.S.
639-1	Construction Layout Stakes	L.S.	L.S.	L.S.	L.S.
624-1 (1 3/4")	Preformed Elastometric Joint Sealer	L.F.	—	86	86
624-1 (2 1/4")	" " " "	L.F.	92	—	92
624-1 (3")	" " " "	L.F.	93	93	186
660-2(199)	TRAFFIC DETECTORS	EA.		3	3

BRIDGE NO.	DWG. NO.
3145	3

DESIGNED BY:
DETAILED BY:
CHECKED BY:
DATE:

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY
△1	74	ADD PILE SIZE IN EST. QUANT. BLOCK	11/28/78	JCD

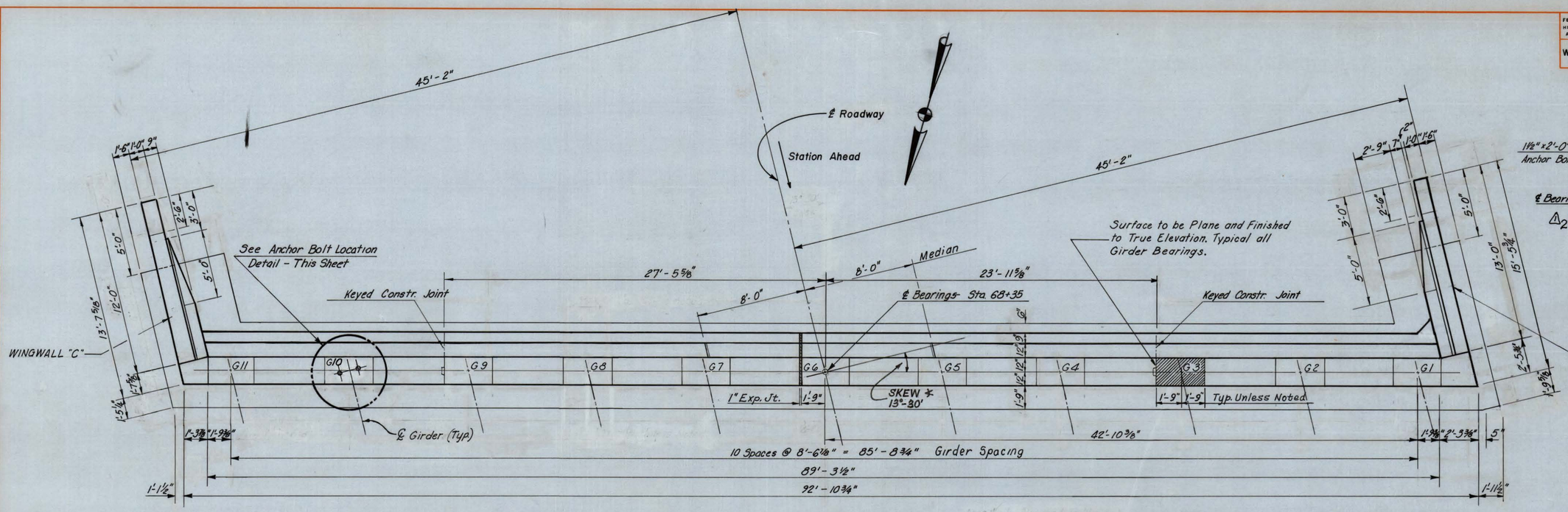
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

GENERAL NOTES
QUANTITIES
BRIDGE NO. 3145

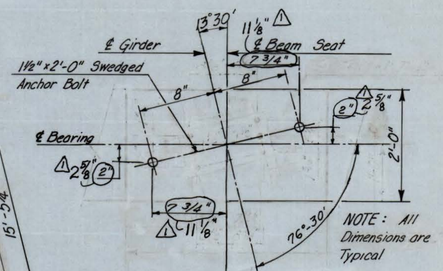
SCALE

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

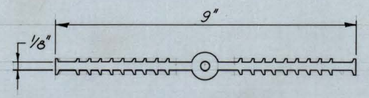
FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	75	130



PLAN
Scale: ¼" = 1'-0"



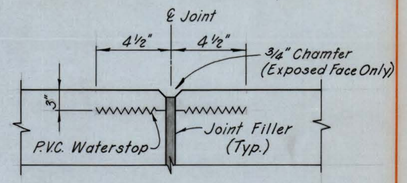
ANCHOR BOLT LAYOUT
SCALE: ¾" = 1'-0"



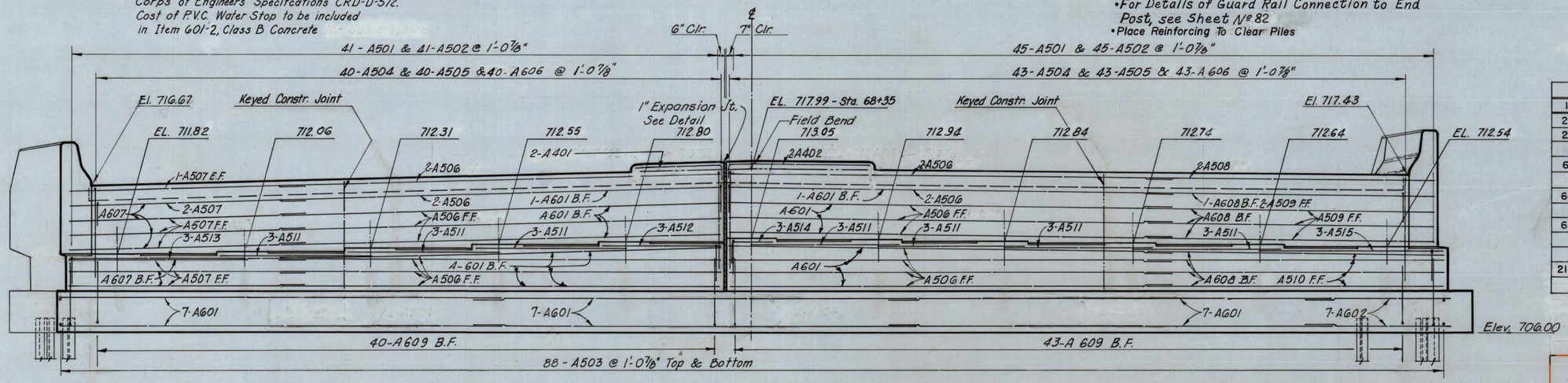
P.V.C. WATER STOP DETAIL
No Scale

NOTE: P.V.C. Water Stop shall conform to the Corps of Engineers Specifcations CRD-D-572. Cost of P.V.C. Water Stop to be included in Item 601-2, Class B Concrete

NOTES:
- For Wingwall C & D see Sheet Nº 76
- F.F. Denotes Front Face, B.F. Denotes Back Face, & E.F. Denotes Each Face.
- For Bar List See Sheet Nº 98
- For Situation Plan See Sheet Nº 72
- For Piling layout See Sheet Nº 77
- For Typical Section See Sheet Nº 77
- For Details of Guard Rail Connection to End Post, see Sheet Nº 82
- Place Reinforcing To Clear Piles



EXPANSION JOINT DETAIL
No Scale



ELEVATION
Scale: ¼" = 1'-0"

ESTIMATE OF QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANT.
212-1	STRUCTURE EXCAVATION	C.Y.	177
212-5	SELECT MATERIAL FOR	C.Y.	198
	BACKFILLING		
601-2	CLASS B CONCRETE	C.Y.	192
602-1	REINFORCING STEEL	LBS.	12396
	BARS		
616-4	STEEL BEARING PILES-	L.F.	3220
	DRIVEN		
	H.P. 14 X 73		
218-4(12)	CRUSHED ROCK SLOPE	S.Y.	2263
	PROTECTION		

BRIDGE NO.	DWG. NO.
3145	4
DESIGNED BY: T.T.	
DETAILED BY: D.M.	
CHECKED BY: T.S.	
DATE :	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY
1	75	Anchor Bolt Layout	5-7-79	C.E.S.

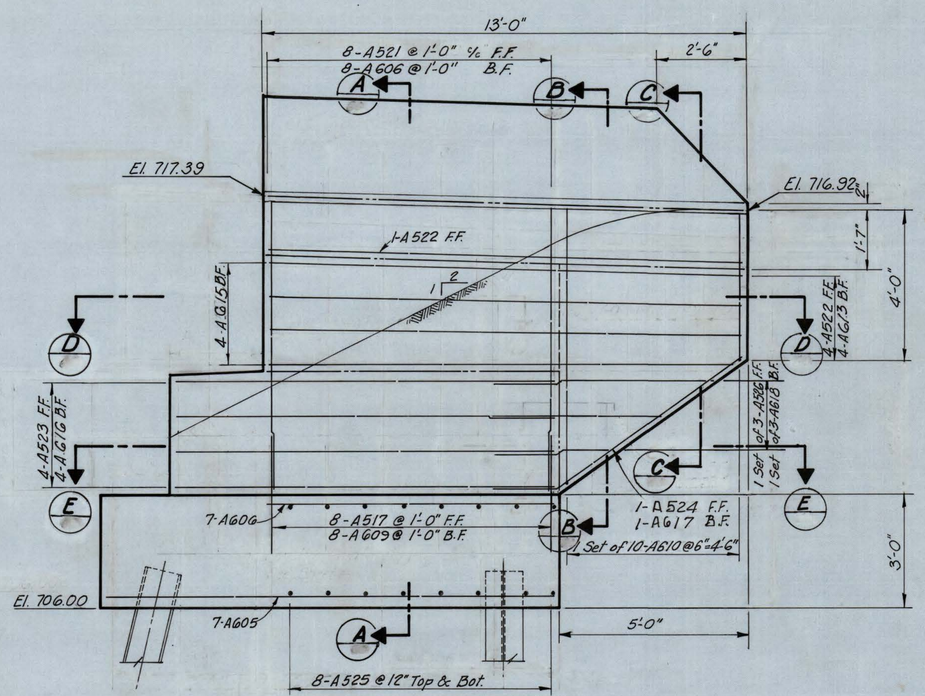
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

SOUTH ABUTMENT PLAN & ELEVATION
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

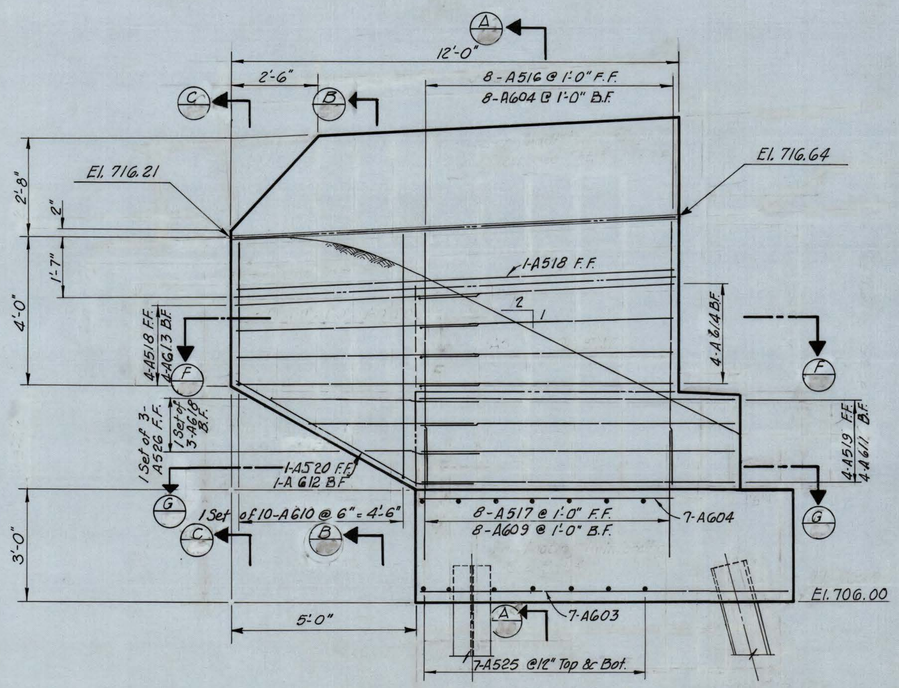
SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS - CONSULTANTS
COLUMBUS, OHIO

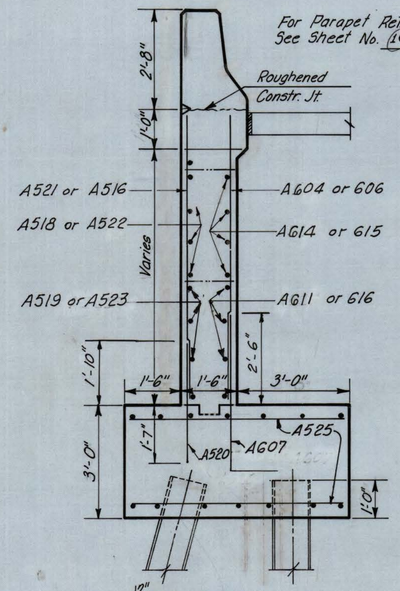
FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	76	130



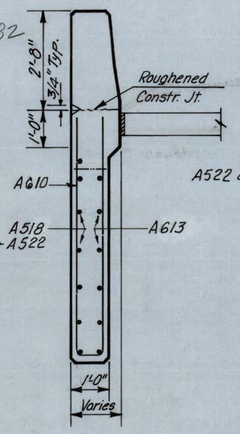
ELEVATION - WEST WINGWALL "D"
SCALE: ½" = 1'-0"



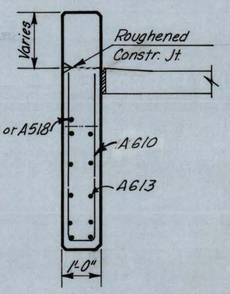
ELEVATION - EAST WINGWALL "C"
SCALE: ½" = 1'-0"



SECTION A-A
SCALE: ½" = 1'-0"



SECTION B-B
SCALE: ½" = 1'-0"



SECTION C-C
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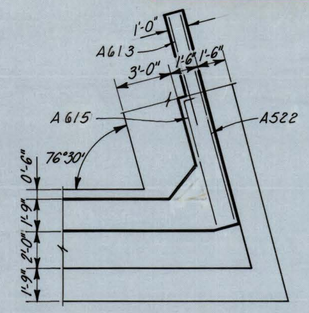
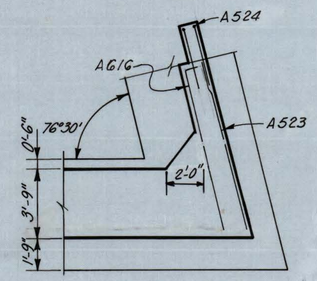
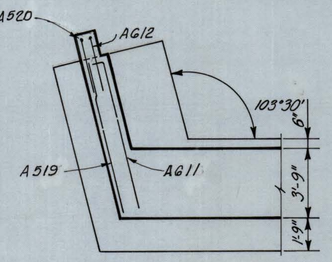


SECTION D-D
SCALE: ¼" = 1'-0"



SECTION E-E
SCALE: ¼" = 1'-0"



SECTION F-F
SCALE: ¼" = 1'-0"

SECTION G-G
SCALE: ¼" = 1'-0"

NOTES:
- For Situation Plan See Sheet No. 72
- For Abutment Plan See Sheet No. 75
- For Wingwall Parapets See Sheet No. 82
- F.F. Denotes Front Face, B.F. Denotes Back Face, E.F. Denotes Each Face.

LEGEND:
NOTE: (P) — Section

BRIDGE NO.	DWG. NO.
3145	5
DESIGNED BY: TL	
DETAILED BY: DM	
CHECKED BY: T.S.	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

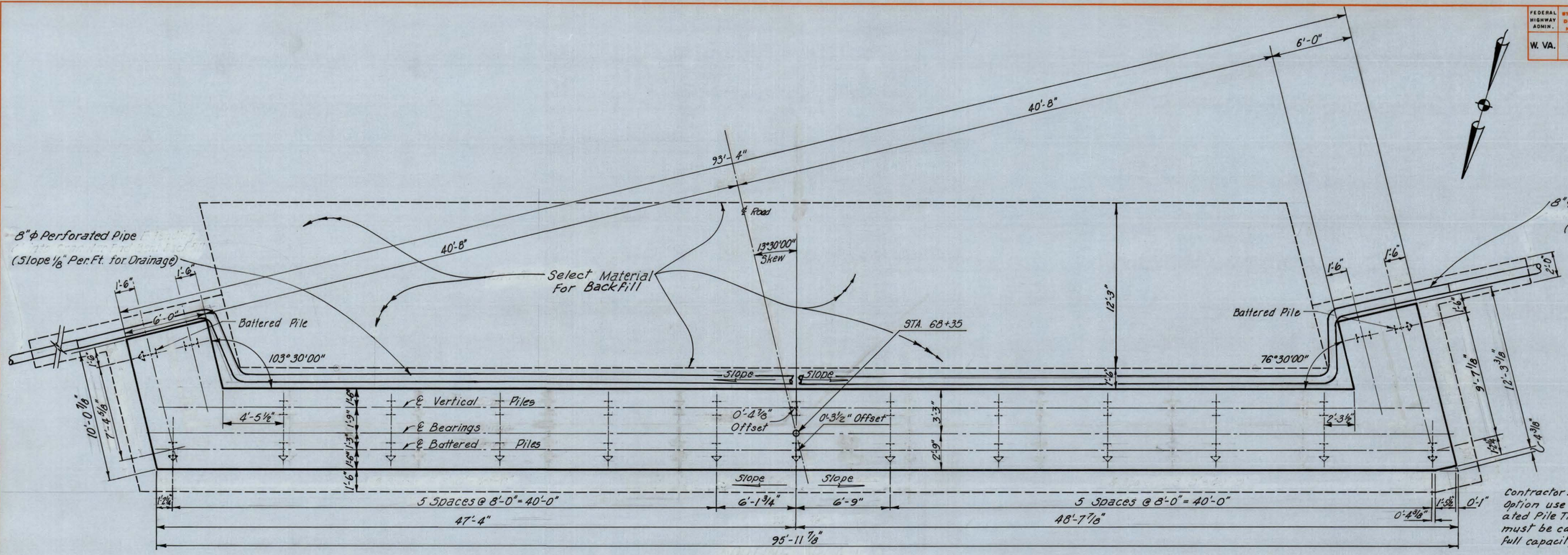
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

SOUTH ABUTMENT WINGWALLS
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

SCALE: AS SHOWN

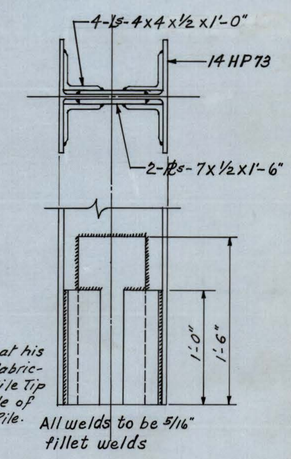
RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	77	130



FOOTING PLAN

SCALE – 1/4" = 1'-0"

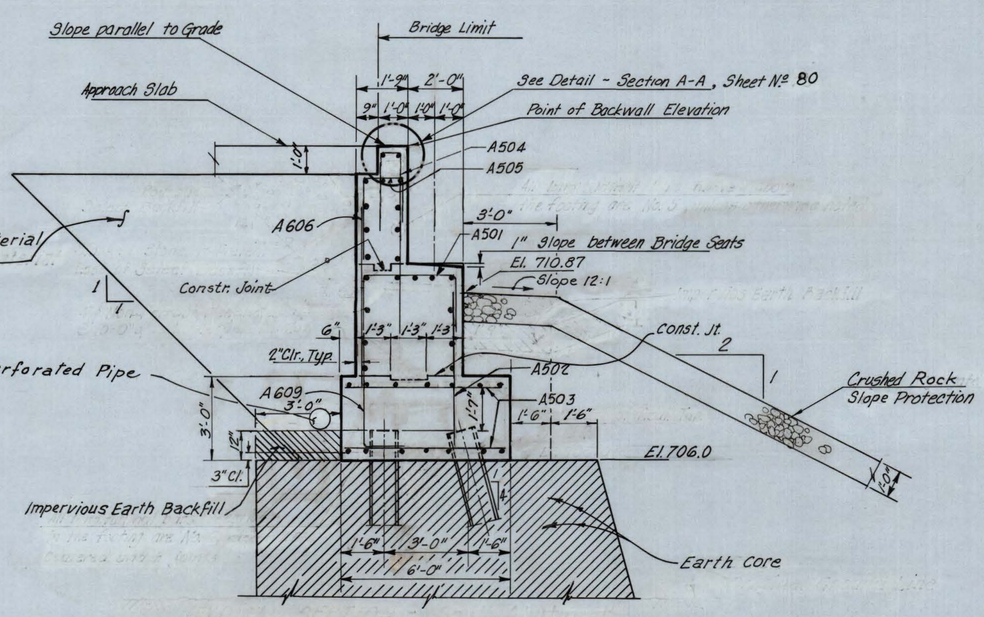


Contractor May at his Option use Prefabricated Pile Tip. Pile Tip must be capable of full capacity of Pile.

All welds to be 5/16" fillet welds

DRIVING POINT DETAIL

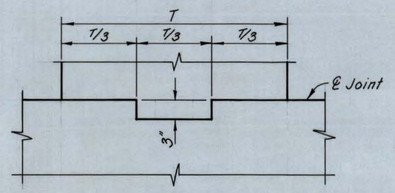
Scale: 1 1/2" = 1'-0"



TYPICAL SECTION - SOUTH ABUTMENT

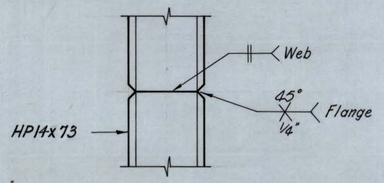
SCALE – 3/8" = 1'-0"

See Special Provisions for Earth Core Construction Requirements



KEYED CONSTRUCTION JOINT

NO SCALE



PILE SPLICE DETAIL

NO SCALE

NOTES:

- All Piles are Steel Bearing Piles (HP 14 x 73).
- ⊥ Denotes Vertical Piles.
- ⊥ Denotes Piles Battered 4:1 in direction of arrowhead.
- Maximum Computed Pile Load 67.2 Tons/Pile.
- Backwall above Bridge Seat shall not be poured until Steel Superstructure and Roadway Slab have been placed.
- For Abutment Plan See Sheet No. 75
- For Wingwalls See Sheet No. 76
- For Situation Plan See Sheet No. 72
- For Pavement Joint Detail See Sheet No. 96
- For Bar List See Sheet No. 98
- No Separate Payment will be Made for the imprevious Earth Backfill or the 8" Perforated Pipe. The Cost thereof shall be included for the Price Bid for Item 601-2 Class B Concrete and Item 212-5 Select Material for Backfilling.

BRIDGE NO.	DWG. NO.
3145	6
DESIGNED BY: T.S.	
DETAILED BY: T.S.	
CHECKED BY: V.A.P.	
DATE :	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

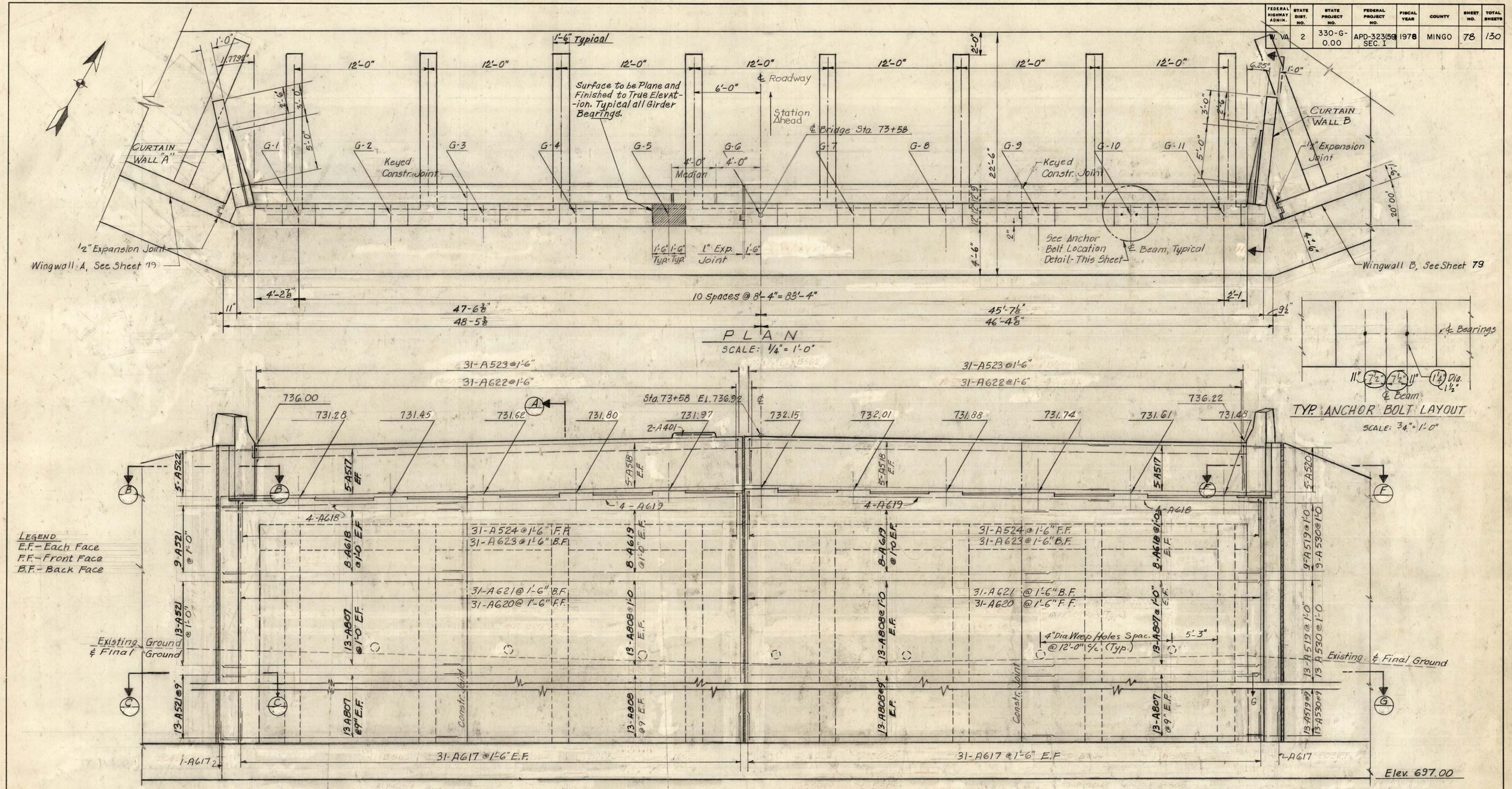
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

SOUTH ABUT. FOOTING PLAN & SECTION
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59) SEC. I	1978	MINGO	78	130



LEGEND
E.F. - Each Face
F.F. - Front Face
B.F. - Back Face

ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANT.
212-1	STRUCTURE EXCAVATION	C.Y.	2731
212-5	SELECT MATERIAL FOR BACKFILLING	C.Y.	236
601-2	CLASS B CONCRETE	C.Y.	922
602-1	REINFORCING STEEL BARS	LBS.	135221

1. FOR WINGWALLS A & B SEE SHEET NO. 79
2. FOR TYPICAL SECTION AA SEE SHEET NO. 80
3. FOR SECTIONS BB, CC, FF, GG, & HH SEE SHEET NO. 81
4. FOR DEATILS OF GUARD RAIL CONNECTION TO END POST ON CURTAIN WALLS A & B SEE SHEET NO. 82
5. BACKWALLS ABOVE BRIDGE SEAT SHALL NOT BE POURED UNTIL STEEL SUPERSTRUCTURE AND ROADWAY SLAB HAVE BEEN PLACED
6. FOR FOOTING PLAN SEE SHEET NO. 81
7. FOR BAR LIST SEE SHEET NO. 97
8. FOR DETAILS OF CURTAIN WALL A & B SEE SHEET NO. 81
9. MAXIMUM BEARING PRESSURE IS 45 TSF.

ELEVATION
SCALE: 1/4" = 1'-0"

BRIDGE NO.	DWG. NO.
3145	7

DESIGNED BY: T.S.
DETAILED BY: E.B.
CHECKED BY: V.A.P.
DATE:

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY
1	78	Anchor Bolt Layout	5-7-79	CES

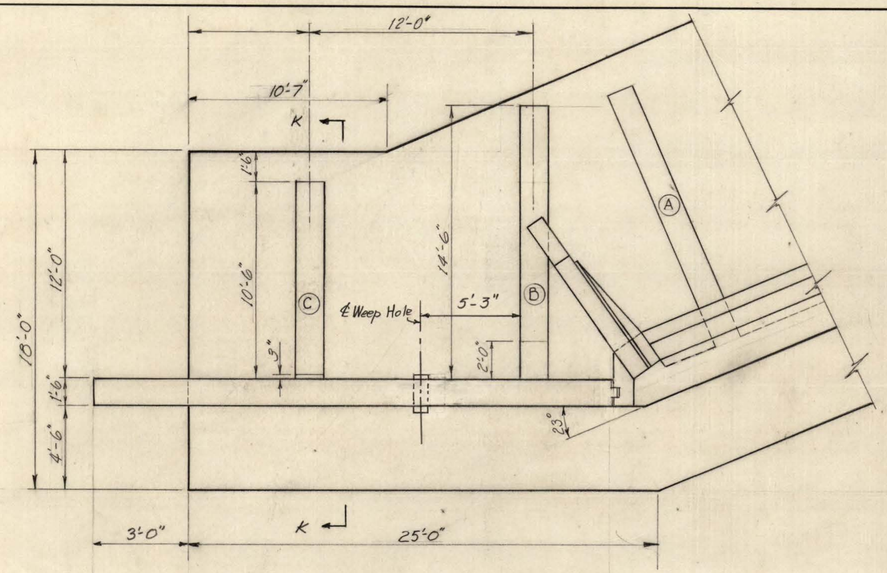
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

NORTH ABUTMENT PLAN & ELEVATION
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

SCALE AS SHOWN

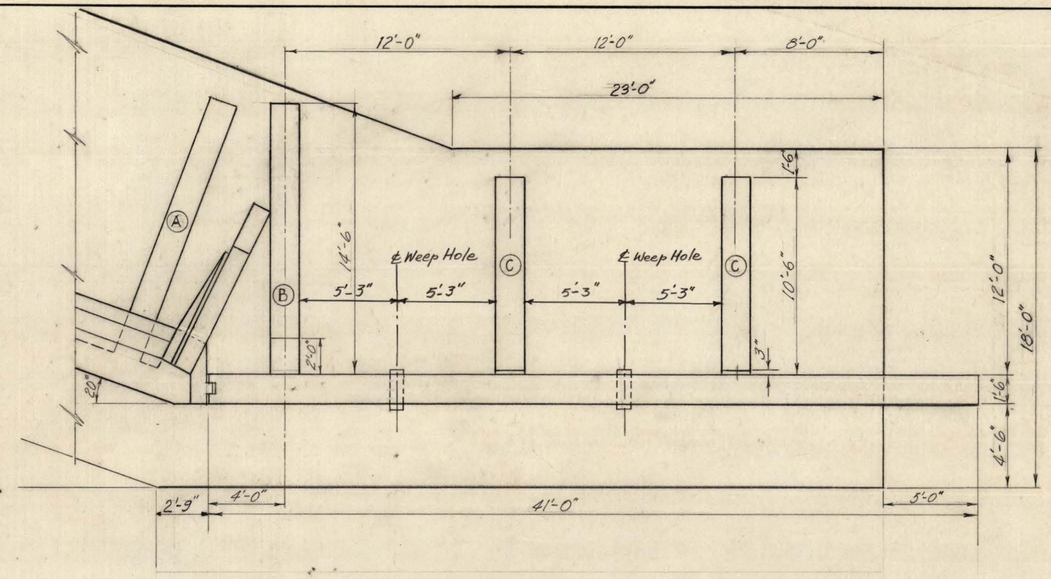
RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	79	130

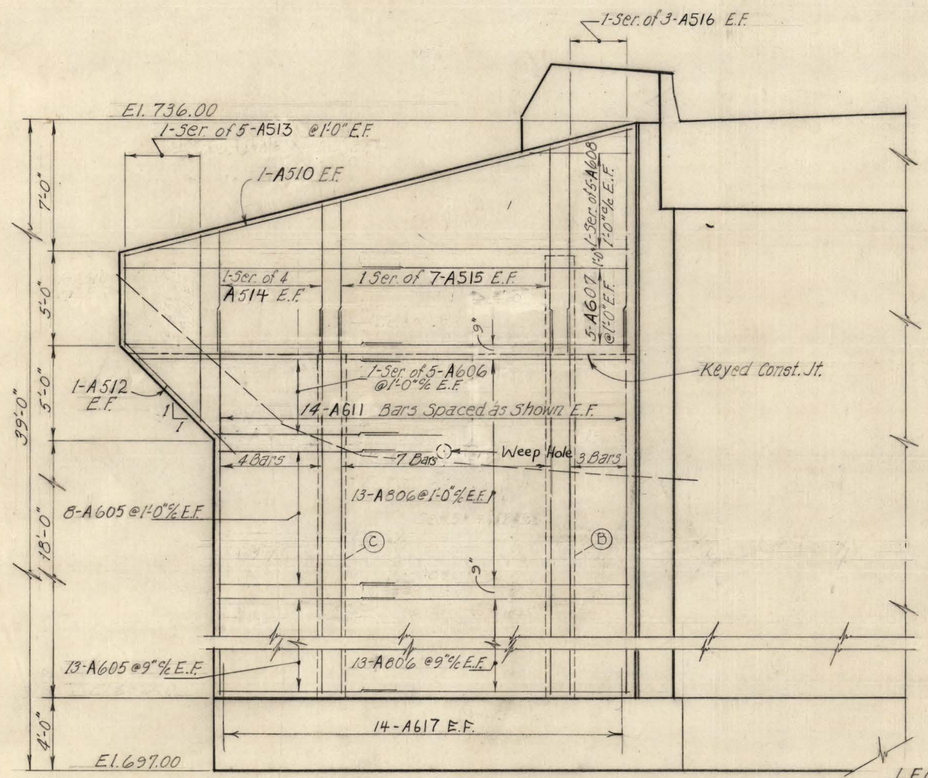


SEE SHEET 80 for Counterfort details.

WINGWALL "A" PLAN (NORTH ABUTMENT)
SCALE ~ 1/4" = 1'-0"

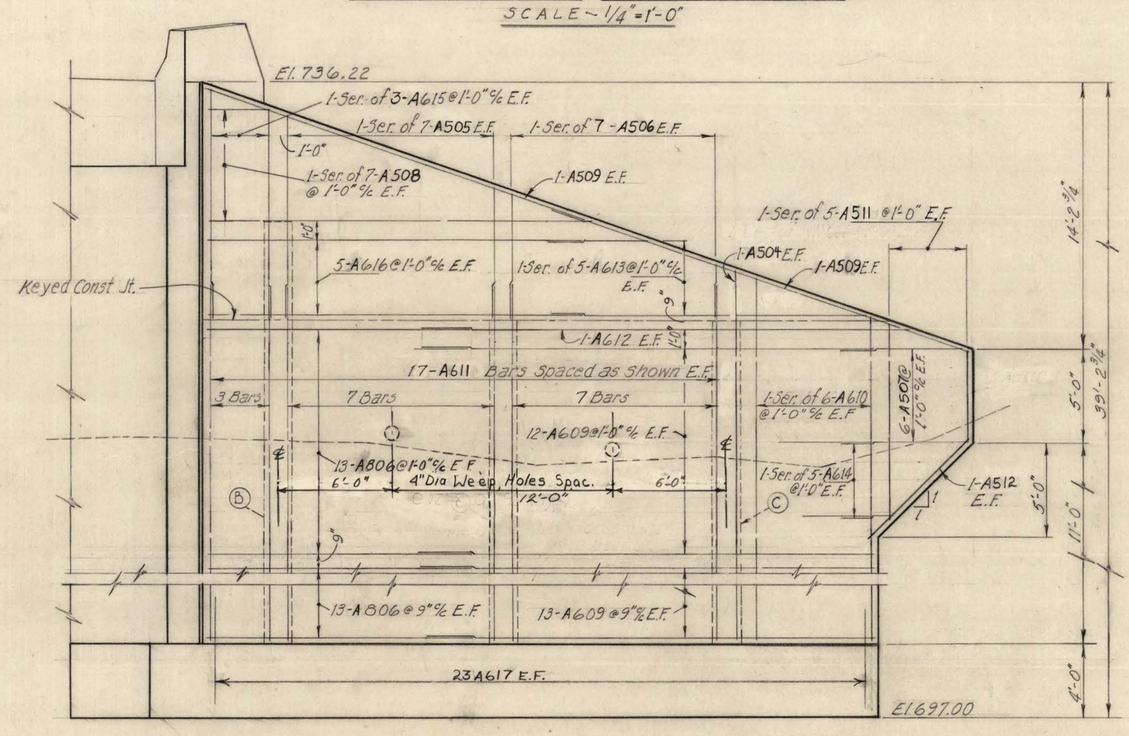


WINGWALL "B" PLAN (NORTH ABUTMENT)
SCALE ~ 1/4" = 1'-0"



WINGWALL "A" ELEVATION (NORTH ABUTMENT)
SCALE ~ 1/4" = 1'-0"

LEGEND
E.F. — Each Face
F.F. — Front Face
B.F. — Back Face



WINGWALL "B" ELEVATION (NORTH ABUTMENT)
SCALE ~ 1/4" = 1'-0"

BRIDGE NO.	DWG. NO.
3145	8
DESIGNED BY: T.S.	
DETAILED BY: E.B.	
CHECKED BY: V.A.R.	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

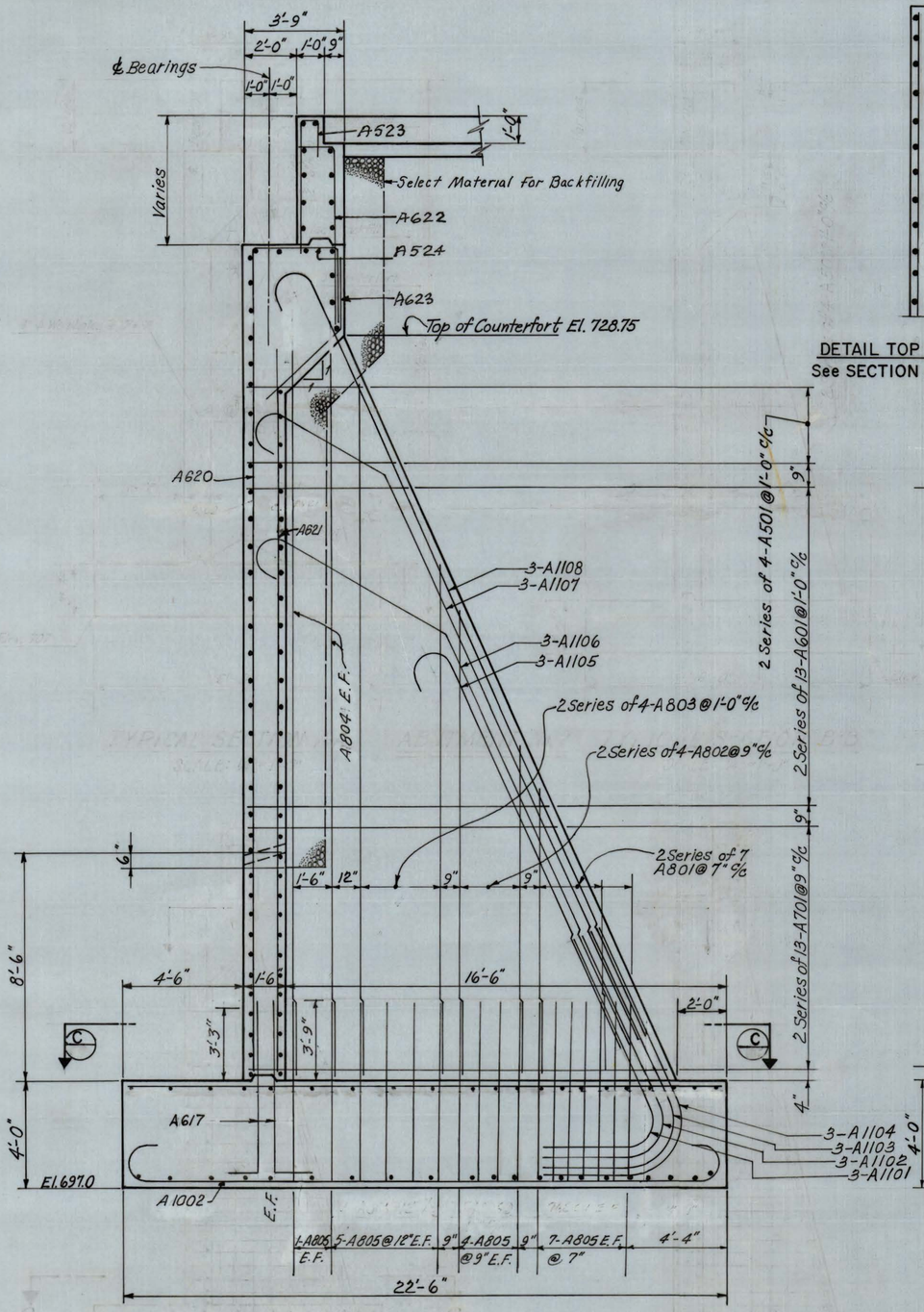
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

NORTH ABUTMENT WINGWALLS
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

SCALE AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

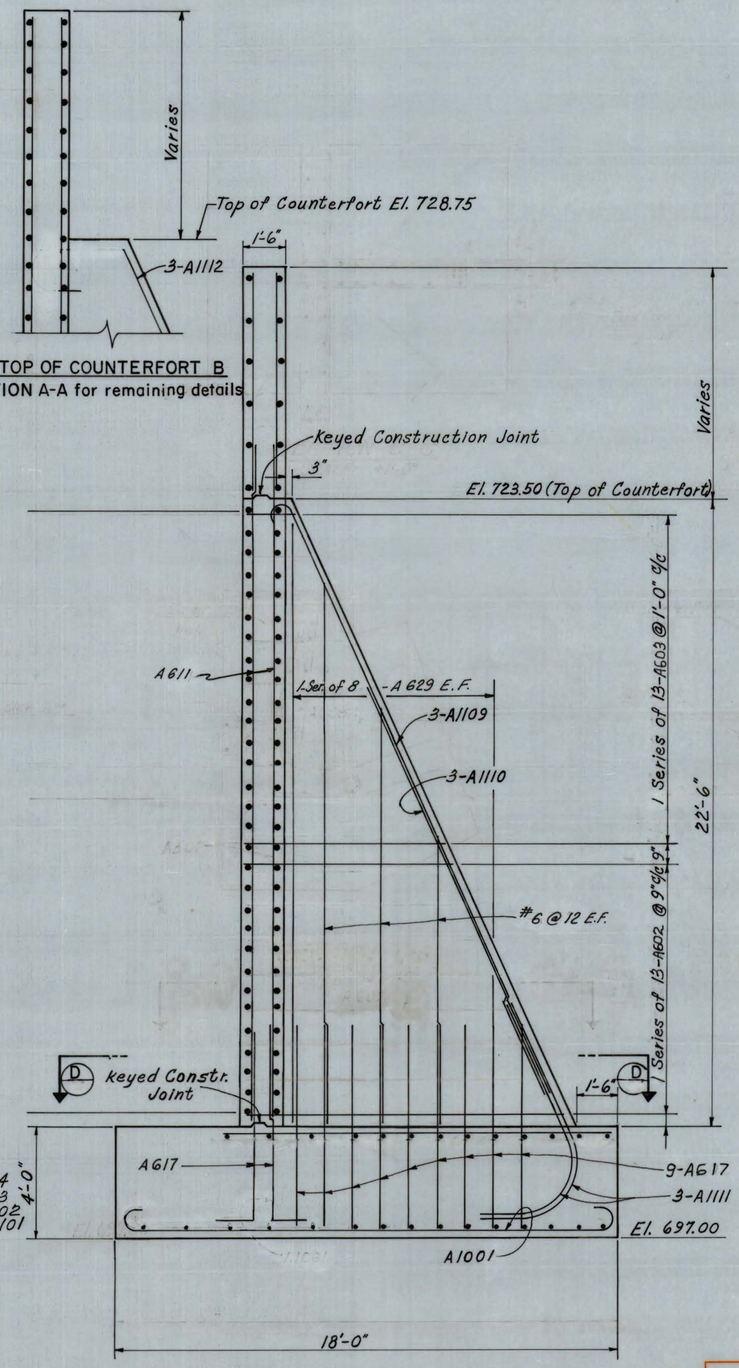
FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	80	130



COUNTERFORT A

SECTION A-A

Scale - 3/8" = 1'-0"



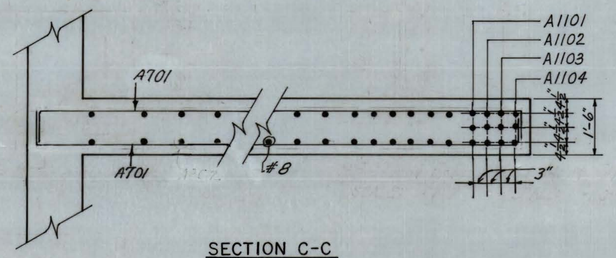
DETAIL TOP OF COUNTERFORT B

See SECTION A-A for remaining details

COUNTERFORT C

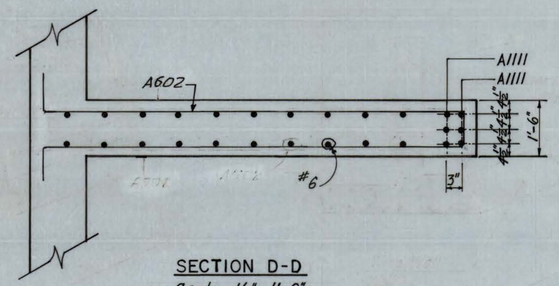
SECTION K-K

Scale - 3/8" = 1'-0"



SECTION C-C

Scale - 1/2" = 1'-0"



SECTION D-D

Scale - 1/2" = 1'-0"

BRIDGE NO.	DWG. NO.
3145	9
DESIGNED BY: TS	
DETAILED BY: EB	
CHECKED BY: VAP	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

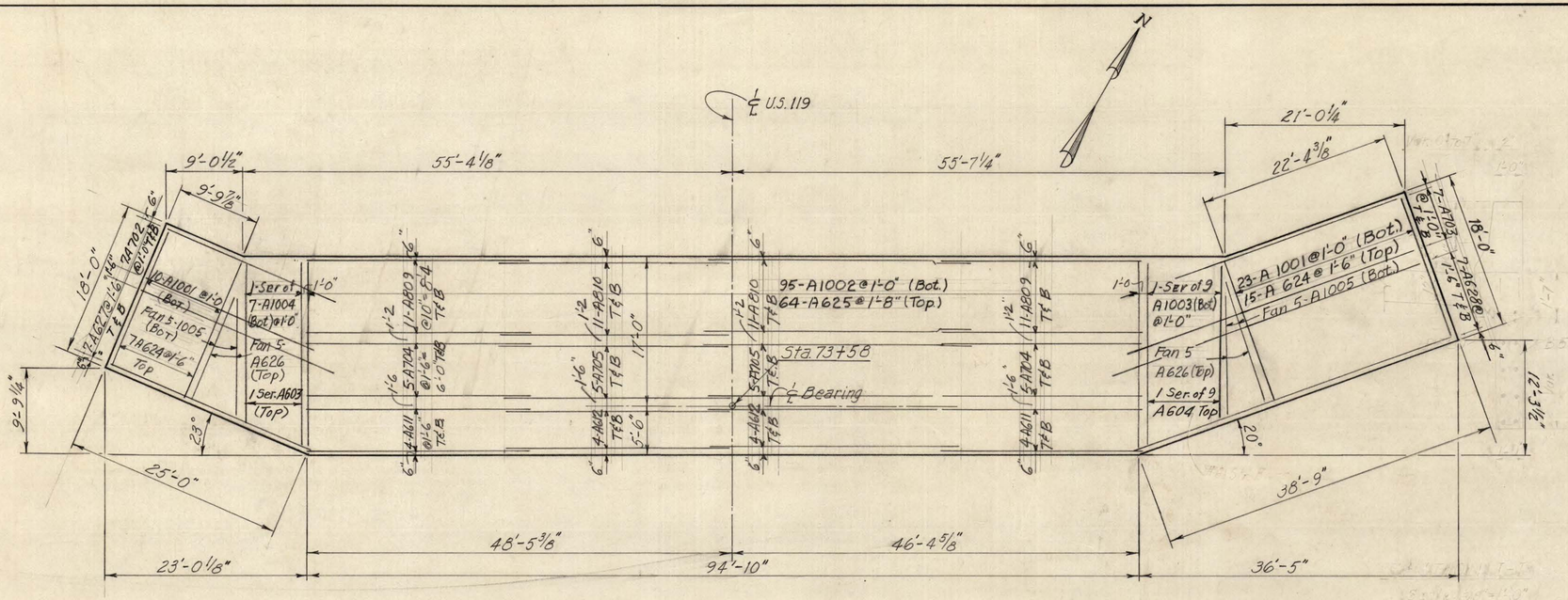
DETAILS - NORTH ABUTMENT

BRIDGE NO. 3145

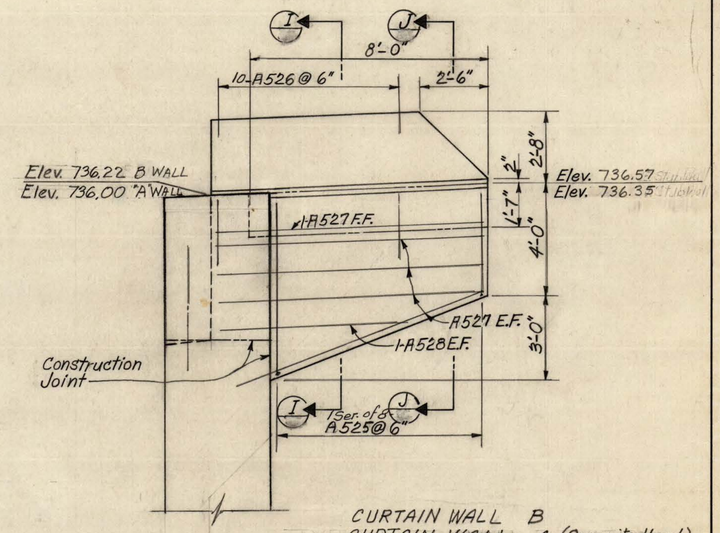
SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

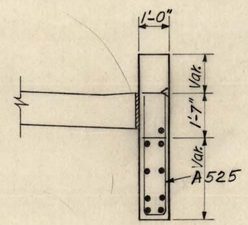
FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	81	130



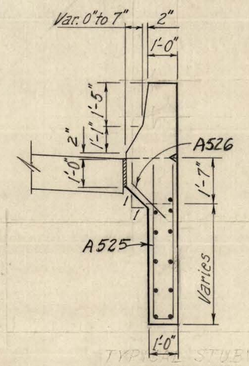
FOOTING PLAN
NORTH ABUTMENT
SCALE ~ 1/8" = 1'-0"



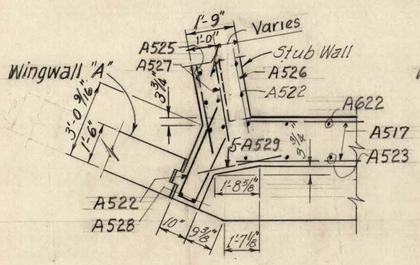
CURTAIN WALL B
CURTAIN WALL A (Opposite Hand)
SCALE ~ 3/8" = 1'-0"



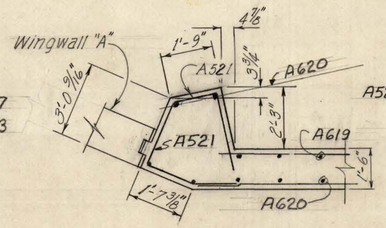
SECTION J-J
Scale: 3/8" = 1'-0"



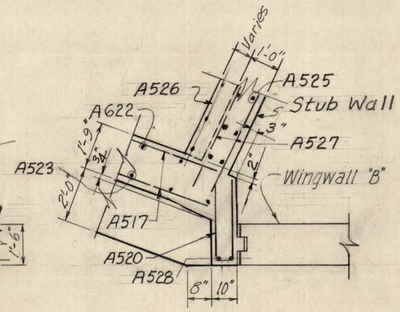
SECTION I-I
SCALE ~ 3/8" = 1'-0"



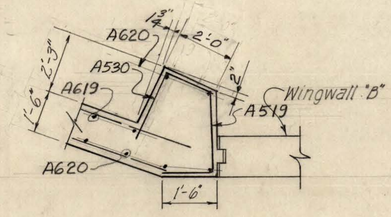
SECTION B-B
Scale 3/8" = 1'-0"



SECTION C-C
Scale 3/8" = 1'-0"



SECTION F-F
Scale 3/8" = 1'-0"



SECTION G-G
Scale 3/8" = 1'-0"

BRIDGE NO.	DWG. NO.
3145	9A
DESIGNED BY: T.S.	
DETAILED BY: E.B.	
CHECKED BY: R.	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

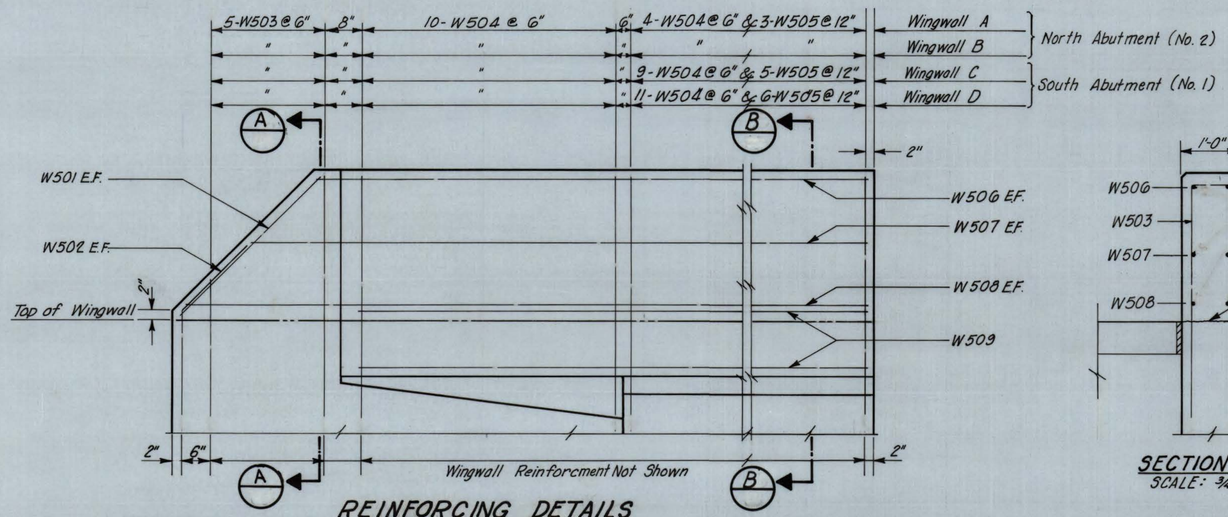
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

ABUTMENT DETAILS
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

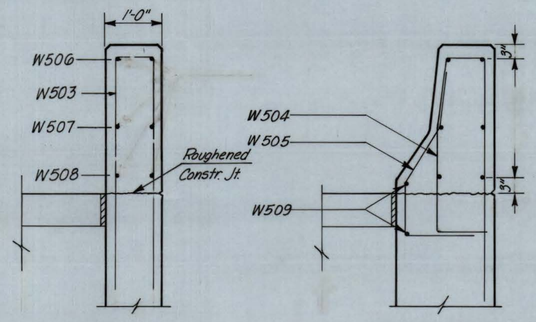
SCALE
AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	82	130

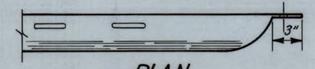


REINFORCING DETAILS
SCALE: 3/4" = 1'-0"

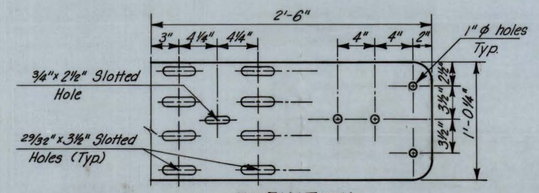


SECTION A-A
SCALE: 3/4" = 1'-0"

SECTION B-B
SCALE: 3/4" = 1'-0"



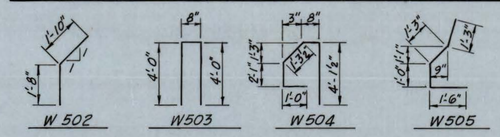
PLAN



ELEVATION
END ANCHORAGE DETAIL
SCALE: 1 1/2" = 1'-0"

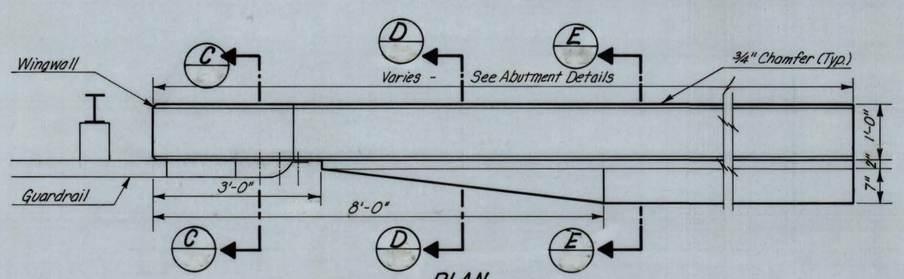
REINFORCING BAR SCHEDULE

Wingwall	W501	W502	W503	W504	W505	W506		W507		W508		W509		Total
	3'-6"	3'-6"	8'-8"	9'-2"	5'-0"	No.	Length	No.	Length	No.	Length	No.	Length	
A	2	2	5	14	3	2	6'-11"	2	8'-3"	2	9'-5"	2	6'-4"	274 lb.
B	2	2	5	14	3	2	6'-10"	2	8'-2"	2	9'-4"	2	6'-3"	274 lb.
										Total To Sheet No. 74				548 lb.
C	2	2	5	19	5	2	9'-1"	2	10'-5"	2	11'-7"	2	8'-6"	351 lb.
D	2	2	5	21	6	2	10'-1"	2	11'-5"	2	12'-7"	2	9'-6"	383 lb.
										Total To Sheet No. 74				734 lb.

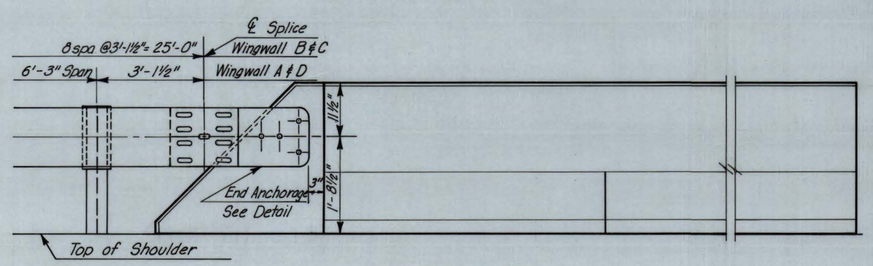


NOTES:
- Thickness shall be .138" (10 ga.)
- All dimensions subject to mfg. tolerances.

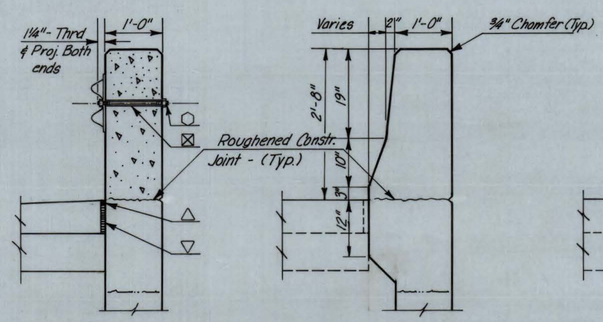
NOTES:
- For South Abutment Wingwalls See Sheet No. 76
- For North Abutment Wingwalls See Sheet No. 79
- For Bar List See Sheet No. 98



PLAN
SCALE: 3/4" = 1'-0"



ELEVATION
SCALE: 3/4" = 1'-0"



SECTION C-C
SCALE: 3/4" = 1'-0"

SECTION D-D
SCALE: 3/4" = 1'-0"

SECTION E-E (S. ABUTMENT ONLY)
SCALE: 3/4" = 1'-0"

○ Anchor Bolts - 7/8" ϕ bolt with 2-2" ϕ 3/32" thk 15/16" ϕ hole washers & 2-std. hex. nuts. 4 req'd. per connection.

△ Preformed Neoprene Joint Sealer. (Typical All Wingwalls). See Approach Slab sheet 99.

▽ 3/4" Pre-moulded Expansion Joint Material shall conform to A.A.S.H.O. M-213-65 (Typ. all Wingwalls. See Approach Slab Sheet).

⊠ 1" ϕ Standard Pipe Sleeve Cast into Wingwall.

All Hardware for the Guardrail Attachment shall be galvanized in accordance with A.S.T.M. 123, 2oz. Cost of galvanized to be included in price paid for Item 601.-2.

BRIDGE NO.	DWG. NO.
3145	10
DESIGNED BY:	T.S.
DETAILED BY:	T.S.
CHECKED BY:	V.P.
DATE :	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

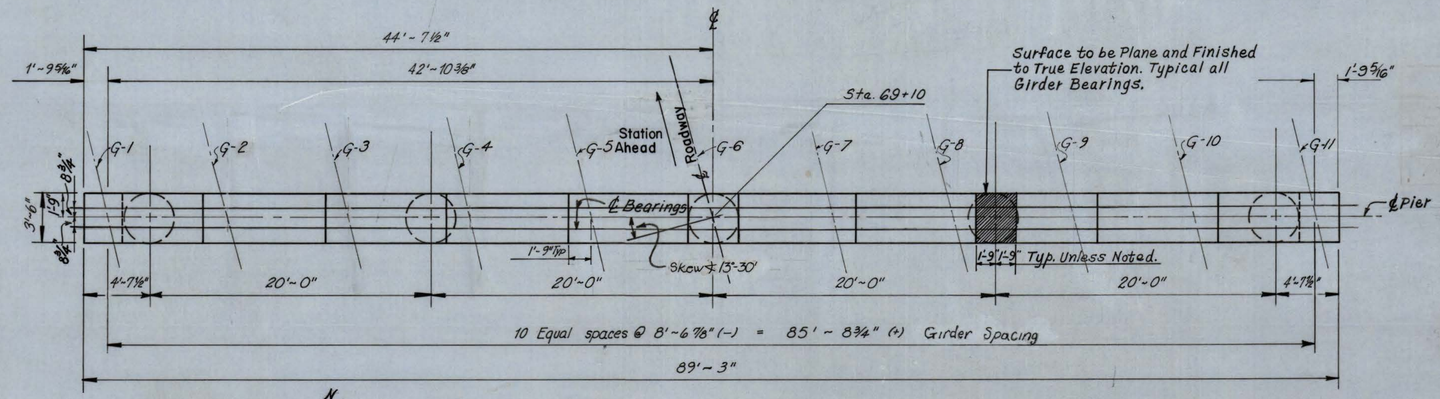
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

WINGWALL PARAPETS
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

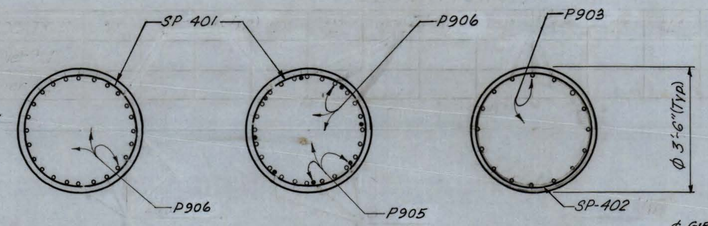
SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	83	130



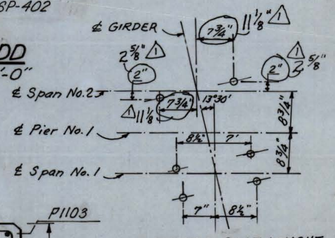
PIER CAP PLAN
SCALE 3/16"=1'-0"



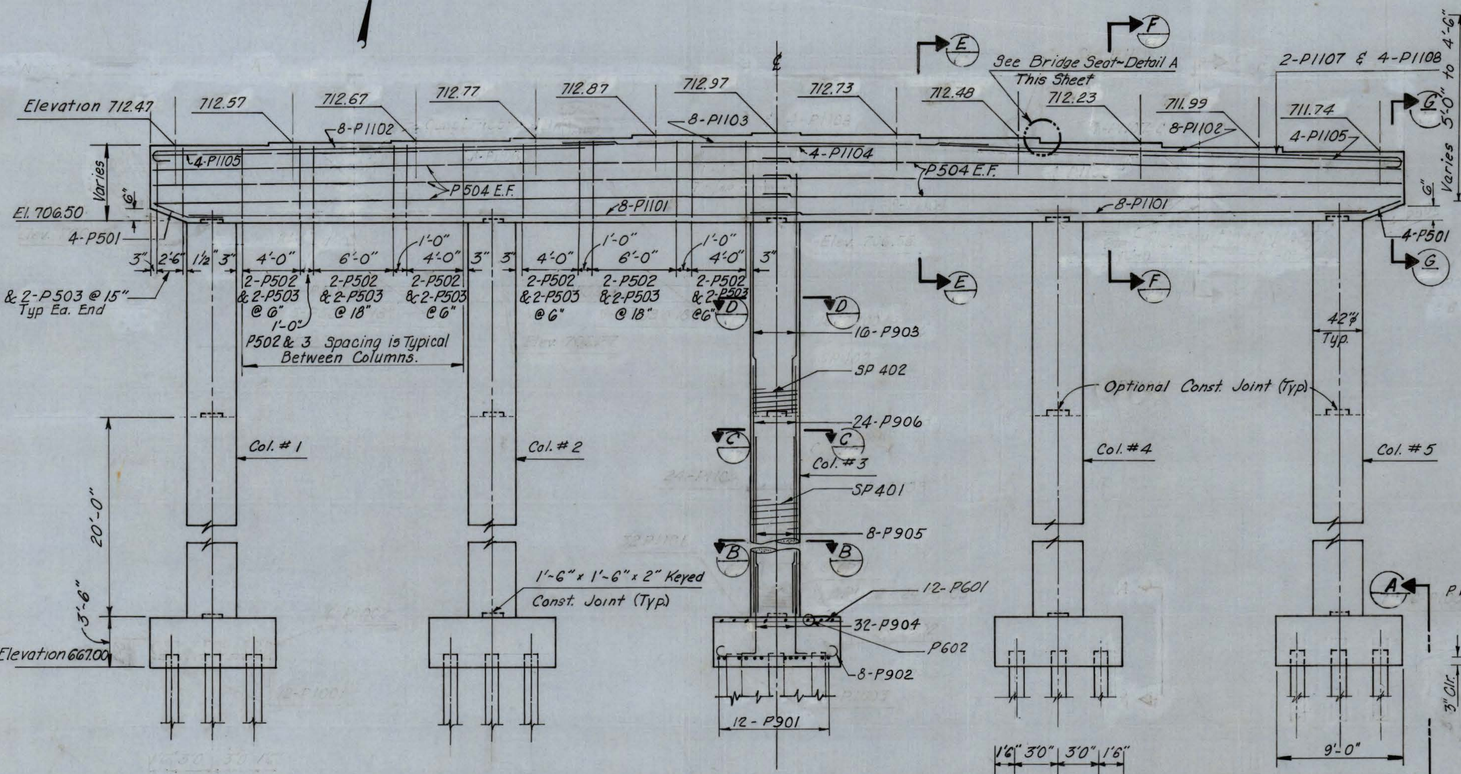
SECTION-CC
SCALE: ½"=1'-0"

SECTION-BB
SCALE: ½"=1'-0"

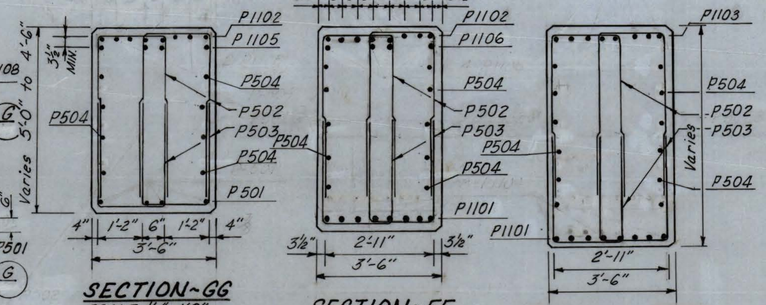
SECTION-DD
SCALE: ½"=1'-0"



ANCHOR BOLT LAYOUT
PIER NO. 1



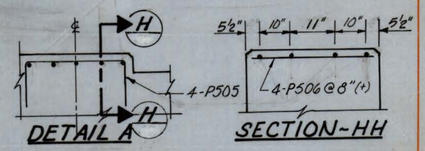
ELEVATION - PIER No. 1
SCALE 3/16"=1'-0"



SECTION-GG
SCALE ½"=1'-0"

SECTION-FF
SCALE ½"=1'-0"

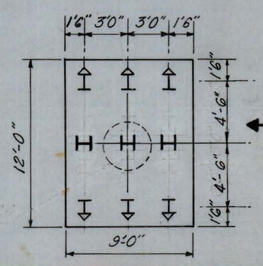
SECTION-EE
SCALE ½"=1'-0"



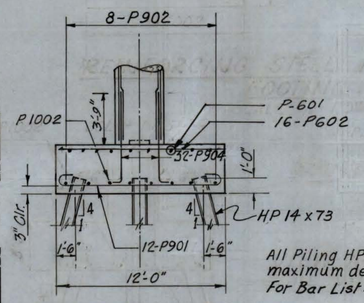
DETAIL A

SECTION-HH

BRIDGE SEAT REINFORCEMENT
(TYPICAL AT GIRDER #1 THRU #11)
SCALE ½"=1'-0"



FOOTING PLAN OF PILES
SCALE: 3/16"=1'-0"



All Piling HP14x73 shall have a maximum design load of 58 Tons.
For Bar List - See Sheet 98.

VIEW A-A
SCALE: 3/16"=1'-0"

ESTIMATE OF QUANTITIES

TYPE	DESCRIPTION	UNITS	QUANT.
212-1	STRUCTURE EXCAVATION	C.Y.	177
601-2	CLASS B CONCRETE	C.Y.	192
602-1	REINFORCING STEEL BARS	LBS.	47614
616-4	STEEL BEARING PILES DRIVEN	L.F.	3510

Notes:
1. ⅄ Indicates direction of 3:12 batter.
2. Reinforcing:
   The spiral reinforcement shall extend into the pier cap to the lower layer of reinforcement.
   Spiral bars SP402 to be plain bars.
   Terminate spirals with 1½ closed coils at top & bottom.

BRIDGE NO.	DWG. NO.
3145	11
DESIGNED BY: TS	
DETAILED BY: DM	
CHECKED BY: VAP	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY
1	83	Anchor Bolt Layout	5-7-79	C.E.S.

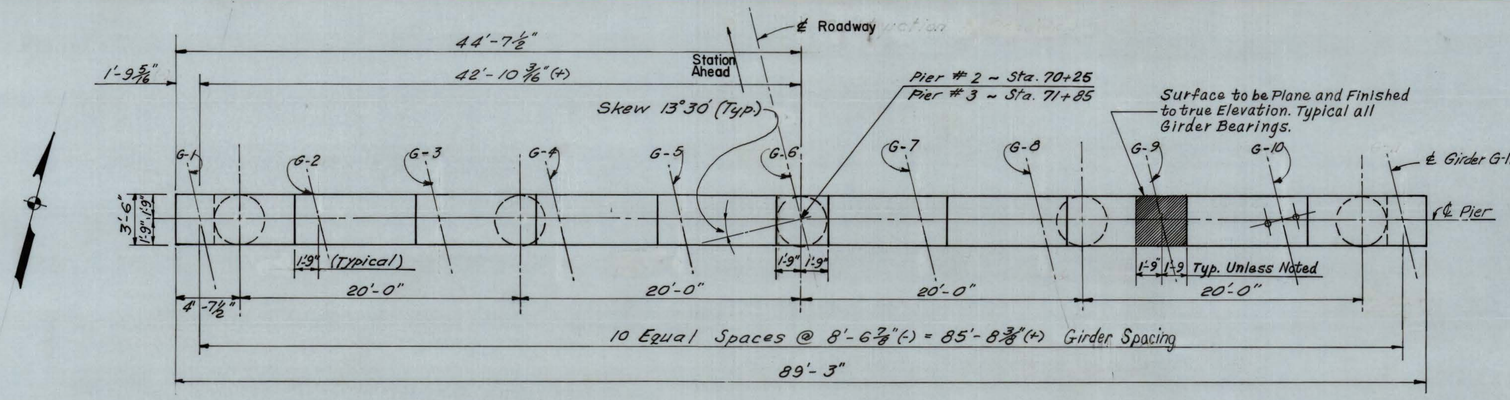
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

DETAILS - PIER NO. 1
BRIDGE NO. 3145

SCALE: AS SHOWN

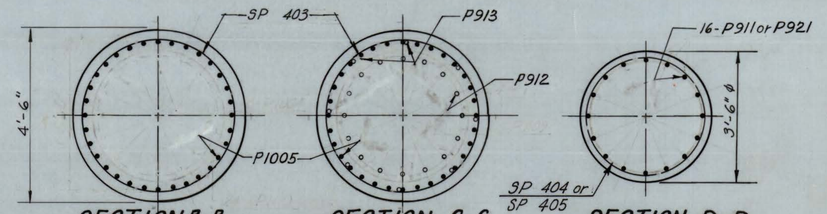
RACKOFF ASSOCIATES, INC.
ENGINEERS-CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	84	130



PIER CAP PLAN
Scale: 3/16" = 1'-0"

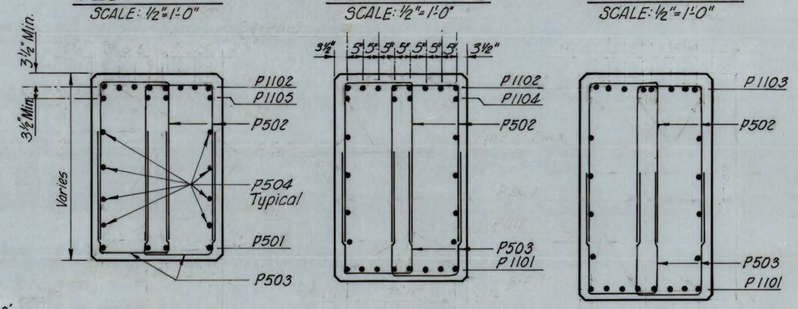
LOCATIONS	ELEVATIONS "A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	"L"	"M"	"N"	DIMENSIONS "P"	"R"
Pier #2	713.84	713.94	714.02	714.14	714.24	714.34	714.10	713.85	713.61	713.36	713.11	708.00	610.00	53'-0"	21'-0"
Pier #3	719.63	719.73	719.83	719.93	720.03	720.13	719.89	719.64	719.40	719.15	718.90	713.50	610.00	53'-0"	26'-6"



SECTION B-B
SCALE: ½" = 1'-0"

SECTION C-C
SCALE: ½" = 1'-0"

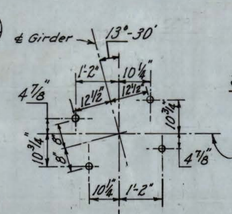
SECTION D-D
SCALE: ½" = 1'-0"



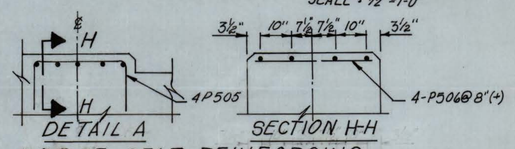
SECTION G-G
SCALE: ½" = 1'-0"

SECTION F-F
SCALE: ½" = 1'-0"

SECTION E-E
SCALE: ½" = 1'-0"



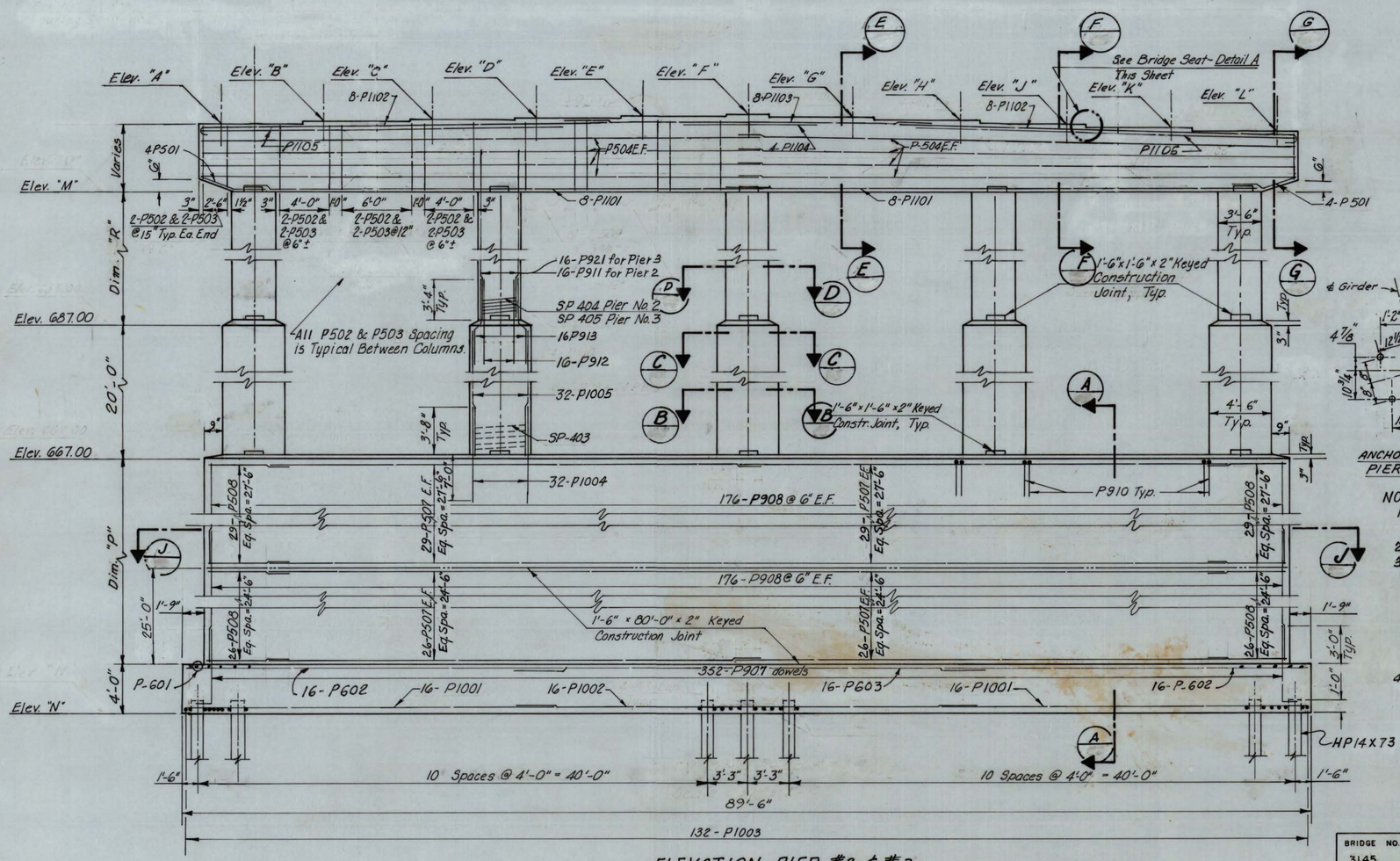
ANCHOR BOLT LAYOUT
PIERS NO. 2 & NO. 3



DETAIL A

SECTION H-H

BRIDGE SEAT REINFORCING
(TYPICAL AT GIRDER #1 THRU #11)
Scale: ½" = 1'-0"



ELEVATION PIER #2 & #3
Scale: 3/16" = 1'-0"

NOTES:

1. For Sections A-A and J-J, and Piling Layout, see Sheet No. 86
2. ⊥ Indicates direction of 3:12 batter.
3. Reinforcing.
   The spiral reinforcement shall extend into the pier cap to the lower layer of reinforcement.
   Spiral bars SP402 to be plain bars.
   Terminate spirals with 1½ closed coils at top & bottom.
4. For Bar List - See Sheet 98.

PIERS NO. 2 & 3 ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITIES PIER 2	QUANTITIES PIER 3
212-1	STRUCTURE EXCAVATION	C.Y.	720	1391
212-2	WET EXCAVATION	C.Y.	1103	1103
212-4	COFFERDAMS	EACH	1	1
601-2	CLASS B CONCRETE	C.Y.	1492	1547
602-1	REINFORCING STEEL BARS	LBS.	170320	172447
616-4	STEEL BEARING PILES DRIVEN	L.F.	2645	2645

BRIDGE NO.	DWG. NO.
3145	12
DESIGNED BY: TS	
DETAILED BY: DM	
CHECKED BY: VAP	
DATE :	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

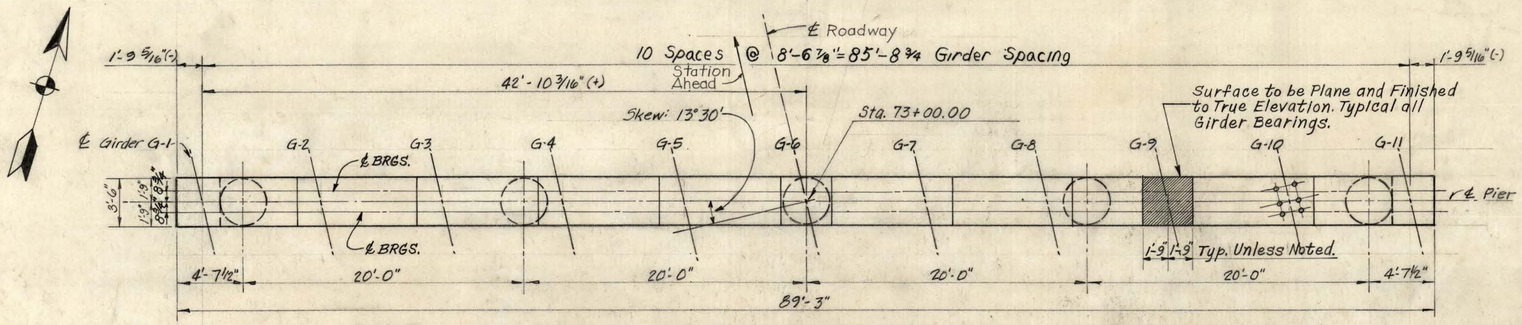
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

DETAILS - PIERS NO. 2 & 3
BRIDGE NO. 3145

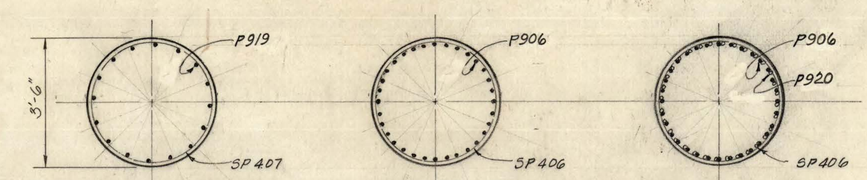
SCALE AS SHOWN

BRICKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	85	130



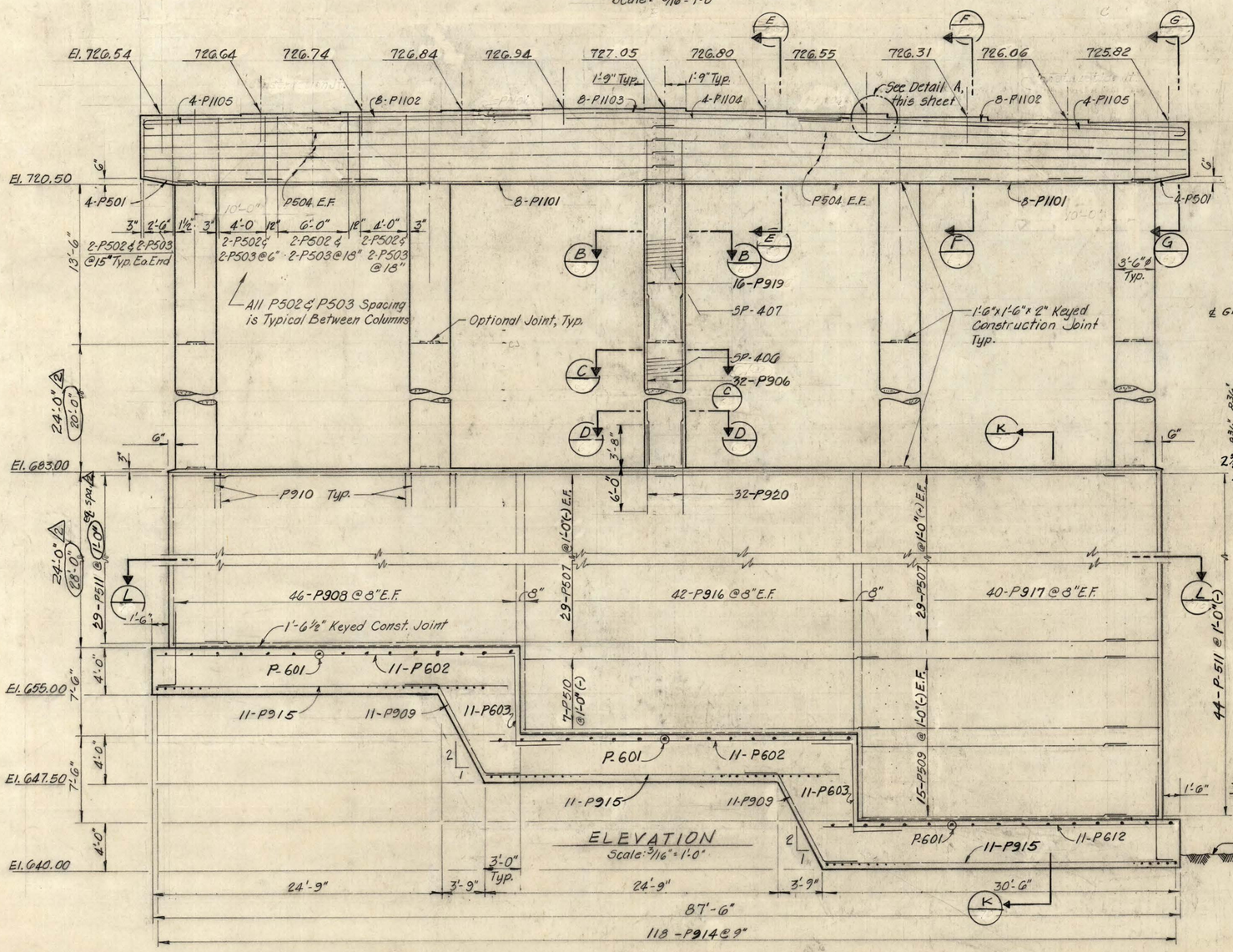
PIER CAP PLAN
Scale: 3/16" = 1'-0"



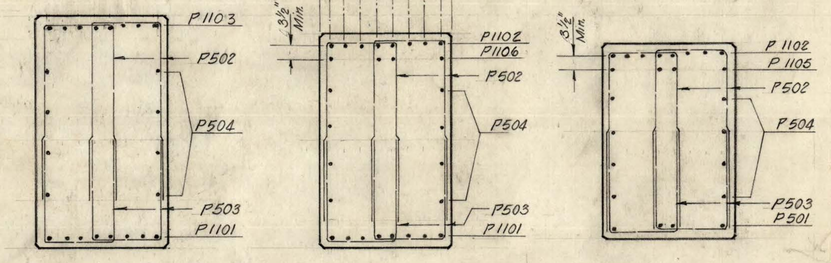
SECTION B-B
Scale: 1/2" = 1'-0"

SECTION C-C
Scale: 1/2" = 1'-0"

SECTION D-D
Scale: 1/2" = 1'-0"



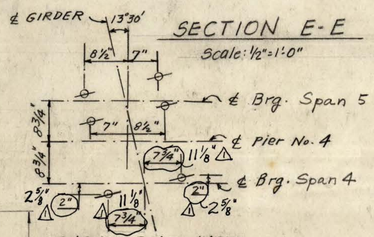
ELEVATION
Scale: 3/16" = 1'-0"



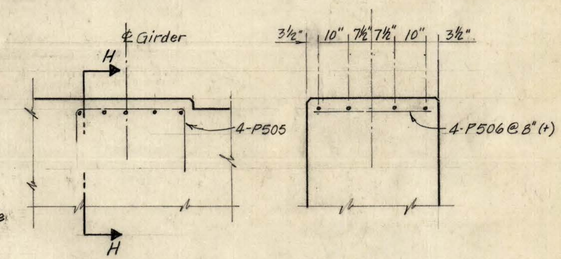
SECTION E-E
Scale: 1/2" = 1'-0"

SECTION F-F
Scale: 1/2" = 1'-0"

SECTION G-G
Scale: 1/2" = 1'-0"



ANCHOR BOLT LAYOUT
PIER NO. 4



DETAIL A

SECTION H-H

BRIDGE SEAT REINFORCING
Scale: 1/2" = 1'-0"

NOTES:

1. ⊿ Indicates direction of 3:12 batter.
2. Reinforcing.
   The spiral reinforcement shall extend into the pier cap to the lower layer of reinforcement. Spiral bars SP402 to be plain bars. Terminate spirals with 1½ closed coils at top & bottom.
3. Contractor shall submit Plans for Sheeting and Shoring and Excavation to the Department of Highway and the Norfolk & Western Railroad for Approval prior to proceeding with Construction of this Pier. No seperate payment will be made for this work. The Cost thereof shall be included in the Price Bid for Structure Excavation Item 212-1.
4. For Bar List - See Sheet 98.

NOTE:
CARRY THE FOOTING A MINIMUM OF 1'-0" INTO ROCK AND POUR AGAINST THE FACE OF ROCK WITHOUT THE USE OF FORMS.
THE PIER IS DESIGNED FOR A BEARING OF 4.94 K.S.F.

NOTE:
For Section K-K and L-L, see Sheet 86.

ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANT.
601-2	CLASS B CONCRETE	C.Y.	755
602-1	REINF. STEEL BARS	LBS.	101711
212-1	STRUCTURE EXCAVATION	C.Y.	1780

BRIDGE NO.	DWG. NO.
3145	13

DESIGNED BY:
DETAILED BY: D·W·M
CHECKED BY:
DATE:

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY
2	85	Bar spacing & dimension change	6-25-79	E.S.
1	85	Anchor Bolt Layout	5-7-79	C.E.S.

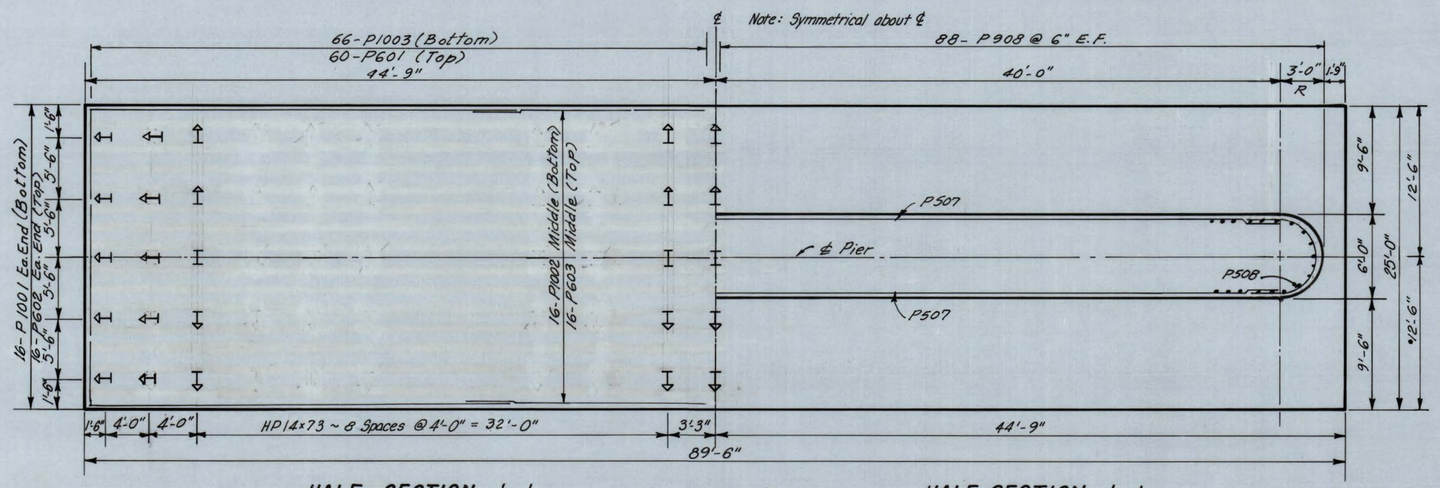
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

DETAILS - PIER NO. 4
BRIDGE NO. 3145

SCALE AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	86	130



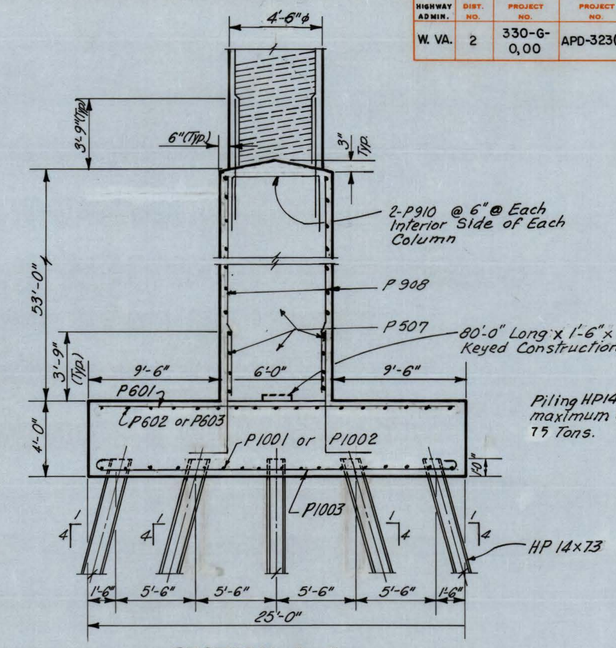
HALF SECTION J-J
FOOTING

NOTE : For Elevation View
See Sheet No. 84

HALF SECTION J-J

PIER 2 & 3 DETAILS

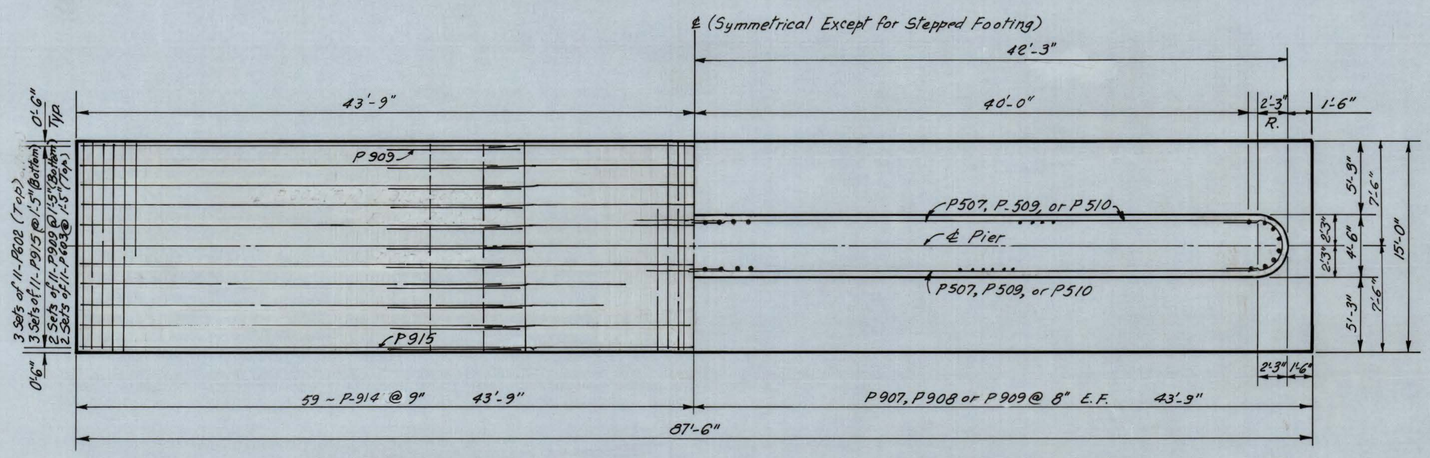
Scale = 3/16" = 1'-0"



Piling HP14x73 shall have a maximum design load of 75 Tons.

SECTION A-A

No Scale



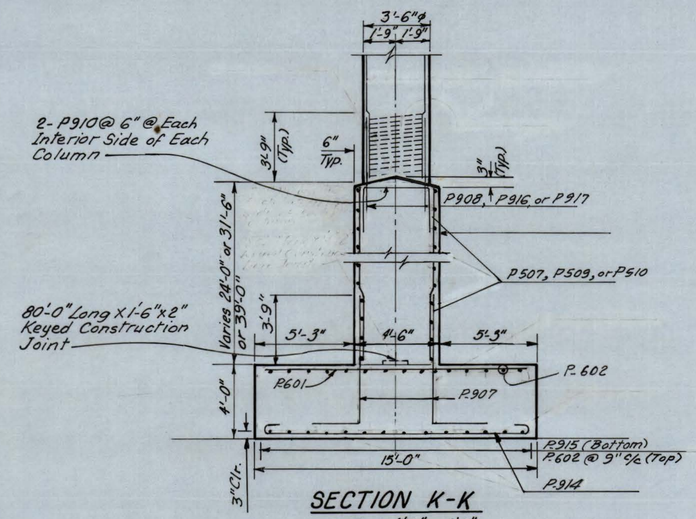
HALF SECTION L-L
PLAN - FOOTING

NOTE : For Elevation View
See Sheet No. 85

HALF SECTION L-L

PIER 4 DETAILS

Scale: 3/16" = 1'-0"



SECTION K-K

Scale : 1/4" = 1'-0"

BRIDGE NO.	DWG. NO.
3145	14
DESIGNED BY: T. B.	
DETAILED BY: D.W.M.	
CHECKED BY: V.A.P.	
DATE :	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

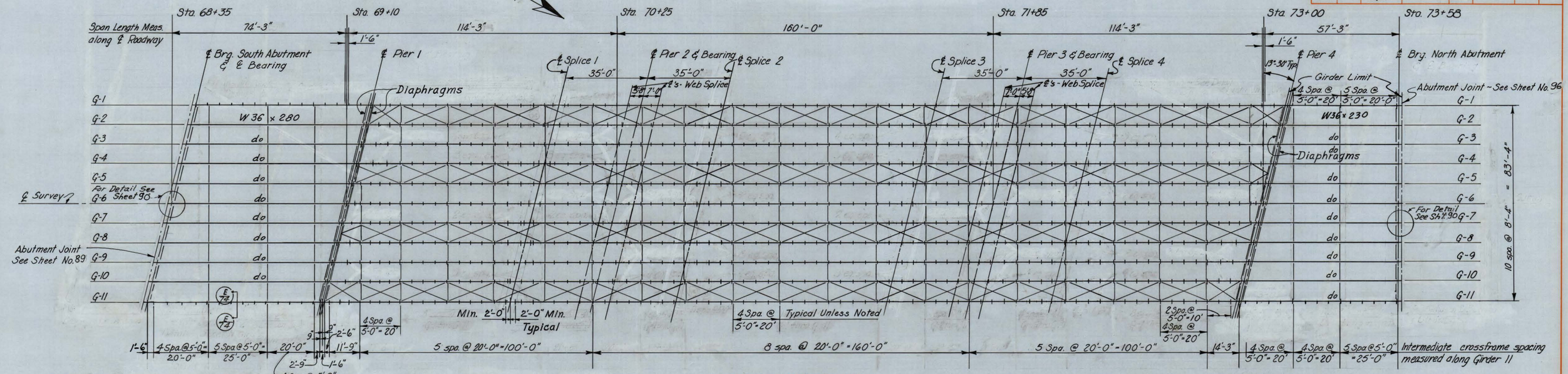
FOOTING DETAILS - PIERS
BRIDGE NO. 3145

SCALE
AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	87	130

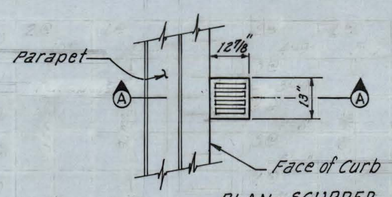
NOTE: Stiffeners along Pier ℄'s are Bearing Stiffeners.



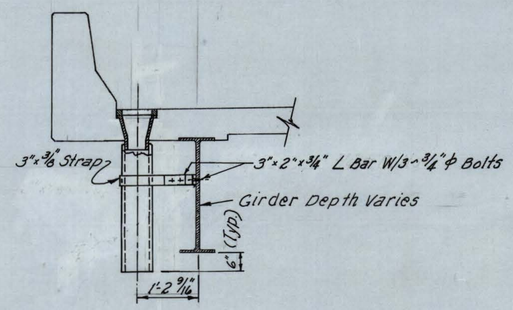
FRAMING PLAN

SCALE: 1" = 20'-0"

NOTE: Stiffeners For End Span Girders G-1 & G-11 on Exterior Face Only.
No Stiffeners On End Span Girders G-2 thru G-10.
Intermediate stiffeners shall be spaced a maximum of 5'-0" c/c.
Cross frames shall be moved to miss splices as necessary.
For intermediate diaphragms and end diaphragms for end span - see sheet 90
For details at pier 1 and pier 4 see sheet 90
For section E-E see Sheet 90



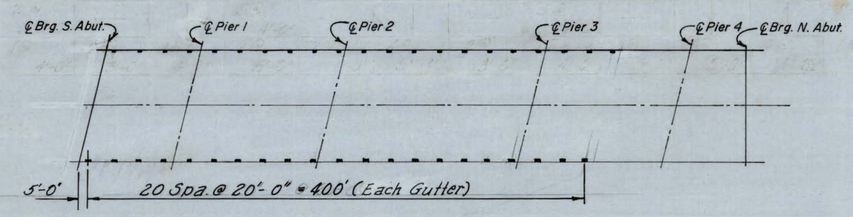
PLAN - SCUPPER



SECTION A-A

SCUPPER DETAILS

Notes: The cost of all Scuppers, Scupper Supports, Drain Boxes and Fittings shall be included in the price bid for Item 615-1, Steel Superstructure.
All surfaces of Scuppers, Gratins, Pipes, Fittings and Drain Boxes shall be Galvanized as per A.S.T.M. A123.
Scuppers and Gratings shall be made of Cast Steel - A.S.T.M. A27 (Grade 65-35) Malleable Iron - A.S.T.M. A47-68 (Grade 35018) or Nodular Iron A.S.T.M. A536 (Grade 65-45-12).
Structural Steel may be used in lieu of Cast Metals, in which case A.S.T.M. A36 Steel shall be used.
Welding of Cast Material will not be permitted.
For Details of Reinforcing Steel around Scuppers, See Sheet Nº 93



SCUPPER LOCATION

SCALE: 1" = 60'

BRIDGE NO.	DWG. NO.
3145	15
DESIGNED BY: T.S.	
DETAILED BY:	
CHECKED BY: VAP	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

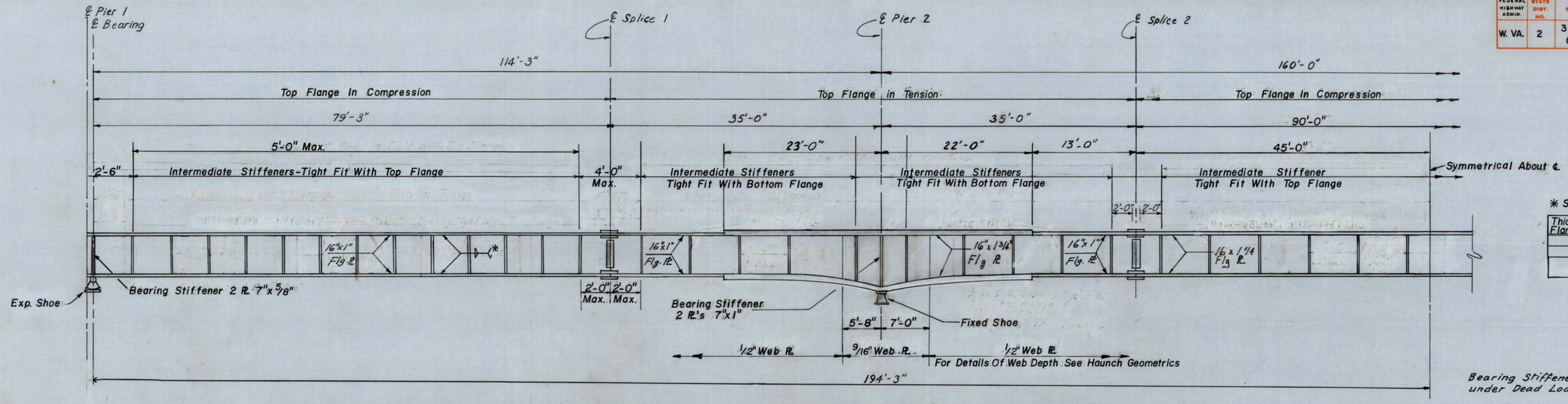
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

FRAMING PLAN
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	88	130



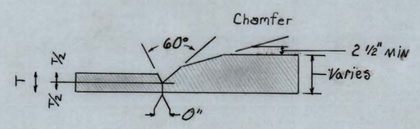
Bearing Stiffeners Shall be Vertical under Dead Load.

* Size Of Welds As Follows

Thickness Of Flange Plates	Weld Size
1 1/4"	5/16"
1 3/4"	3/8"
1"	5/16"

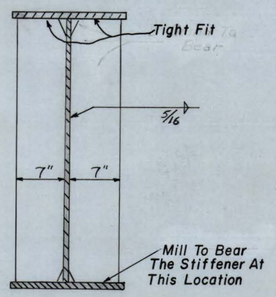
GIRDER ELEVATION (TYPICAL)

NOT TO SCALE

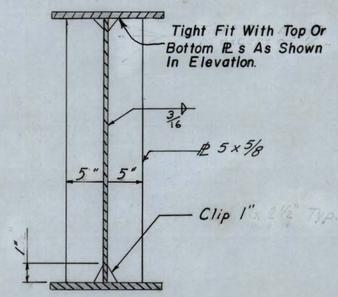


ELEVATION

SHOP FLANGE SPLICE

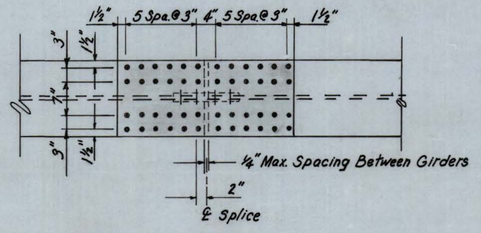


BEARING STIFFENER DETAIL

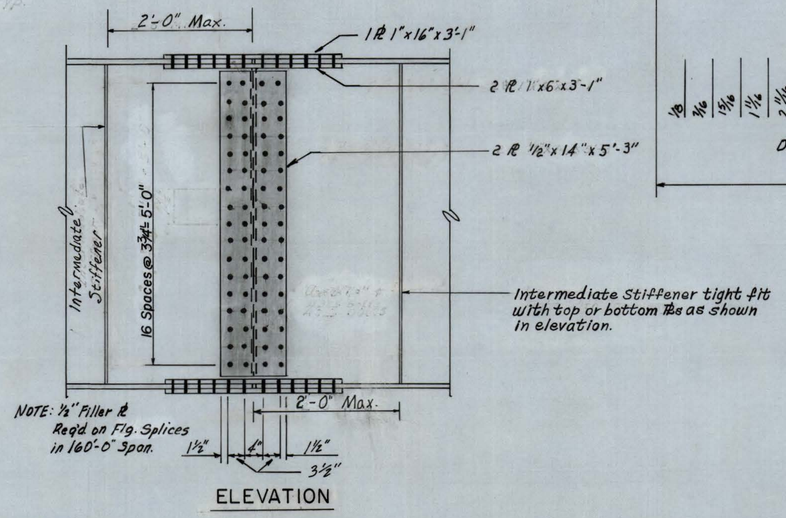


INTERMEDIATE STIFFENER DETAIL

NO SCALE



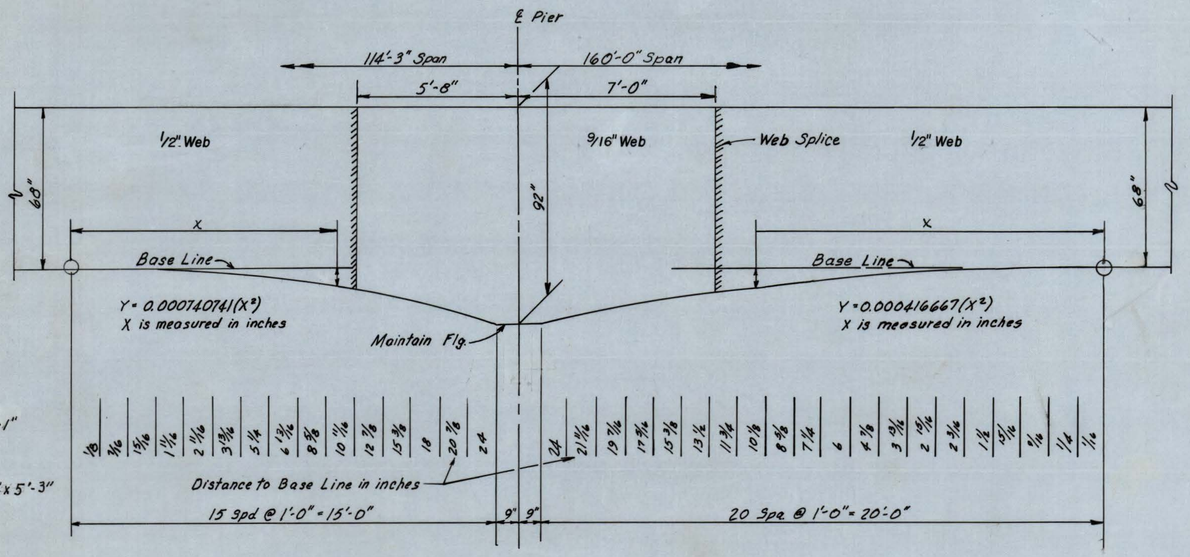
PLAN



ELEVATION

FIELD SPLICE DETAIL

Scale 3/4" = 1'-0"



HAUNCH GEOMETRICS

SCALE: 3/8" = 1'-0"

BRIDGE NO.	DWG. NO.
3145	16

DESIGNED BY: TS

DETAILED BY:

CHECKED BY: AP

DATE:

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

GIRDER DETAILS
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

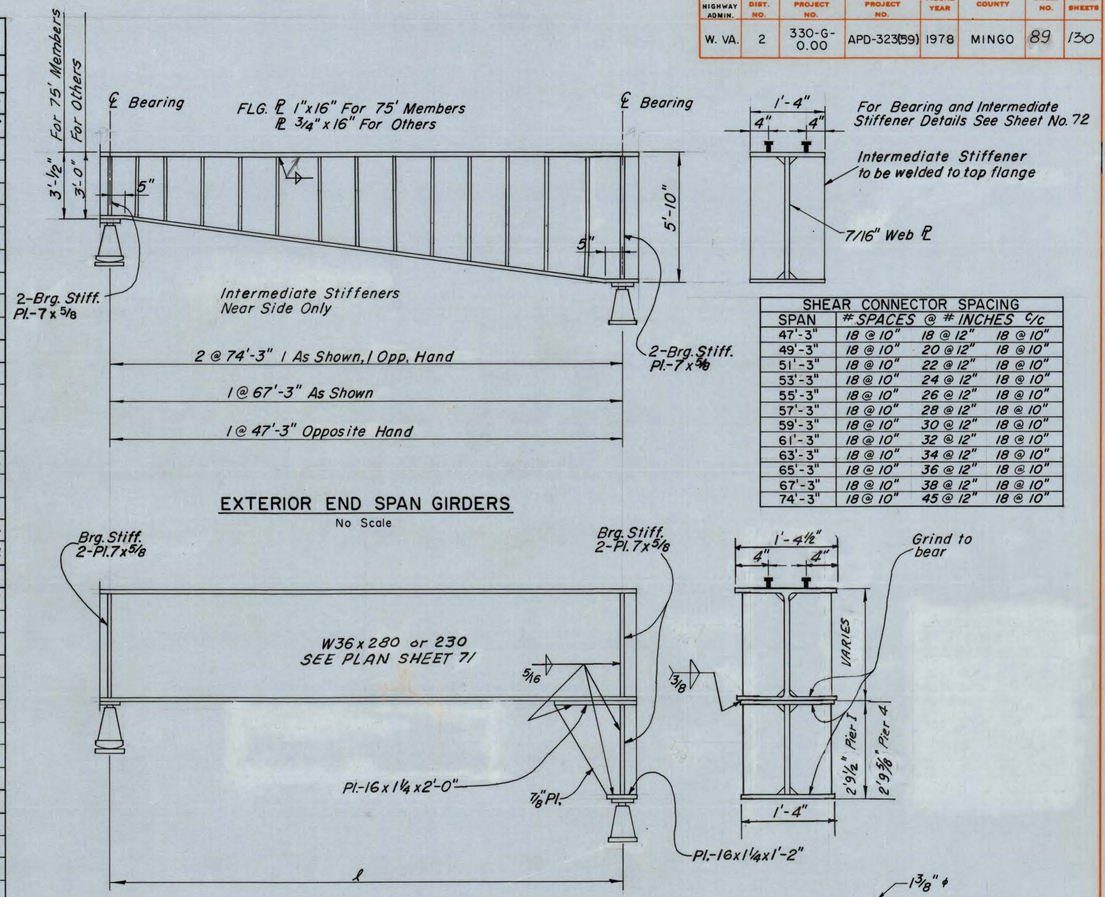
SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	89	130

CAMBER TABLE

LOCATION	GIRDER 1			GIRDER 2			GIRDER 3			GIRDER 4			GIRDER 5			GIRDER 6			GIRDER 7			GIRDER 8			GIRDER 9			GIRDER 10			GIRDER 11		
STA. PT.	S	C	T	S	C	T	S	C	T	S	C	T	S	C	T	S	C	T	S	C	T	S	C	T	S	C	T	S	C	T	S	C	T
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	.07	.35	.42	.09	.50	.59	.09	.50	.59	.09	.50	.59	.09	.62	.71	.09	.77	.86	.09	.62	.71	.09	.50	.59	.09	.50	.59	.09	.50	.59	.07	.35	.42
3	.13	.64	.77	.17	.93	1.10	.17	.93	1.10	.17	.93	1.10	.17	1.15	1.32	.17	1.43	1.60	.17	1.15	1.32	.17	.93	1.10	.17	.93	1.10	.17	.93	1.10	.13	.64	.77
4	.17	.84	1.01	.24	1.27	1.51	.24	1.27	1.51	.24	1.27	1.51	.24	1.56	1.80	.24	1.95	2.19	.24	1.56	1.80	.24	1.27	1.51	.24	1.27	1.51	.24	1.27	1.51	.17	.84	1.01
5	.19	.95	1.14	.28	1.49	1.77	.28	1.49	1.77	.28	1.49	1.77	.28	1.83	2.11	.28	2.28	2.56	.28	1.83	2.11	.28	1.49	1.77	.28	1.49	1.77	.28	1.49	1.77	.19	.95	1.14
6	.19	.96	1.15	.29	1.56	1.85	.29	1.56	1.85	.29	1.56	1.85	.29	1.92	2.21	.29	2.39	2.68	.29	1.92	2.21	.29	1.56	1.85	.29	1.56	1.85	.29	1.56	1.85	.19	.96	1.15
7	.17	.87	1.04	.28	1.49	1.77	.28	1.49	1.77	.28	1.49	1.77	.28	1.83	2.11	.28	2.28	2.56	.28	1.83	2.11	.28	1.49	1.77	.28	1.49	1.77	.28	1.49	1.77	.17	.87	1.04
8	.14	.73	.87	.24	1.27	1.51	.24	1.27	1.51	.24	1.27	1.51	.24	1.56	1.80	.24	1.95	2.19	.24	1.56	1.80	.24	1.27	1.51	.24	1.27	1.51	.24	1.27	1.51	.14	.73	.87
9	.10	.52	.62	.17	.93	1.10	.17	.93	1.10	.17	.93	1.10	.17	1.15	1.32	.17	1.43	1.60	.17	1.15	1.32	.17	.93	1.10	.17	.93	1.10	.17	.93	1.10	.10	.52	.62
10	.05	.27	.32	.09	.50	.59	.09	.50	.59	.09	.50	.59	.09	.62	.71	.09	.77	.86	.09	.62	.71	.09	.50	.59	.09	.50	.59	.09	.50	.59	.05	.27	.32
11A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	.05	.27	.32	.05	.27	.32	.05	.27	.32	.05	.27	.32	.05	.33	.38	.05	.41	.46	.05	.33	.38	.05	.27	.32	.05	.27	.32	.05	.27	.32	.05	.27	.32
13	.09	.47	.56	.09	.48	.57	.09	.48	.57	.09	.48	.57	.09	.60	.69	.09	.75	.84	.09	.60	.69	.09	.48	.57	.09	.48	.57	.09	.48	.57	.09	.47	.56
14	.12	.61	.73	.12	.62	.74	.12	.62	.74	.12	.62	.74	.12	.76	.88	.12	.95	1.07	.12	.76	.88	.12	.62	.74	.12	.62	.74	.12	.62	.74	.12	.61	.73
15	.12	.63	.75	.12	.64	.76	.12	.64	.76	.12	.64	.76	.12	.79	.91	.12	.99	1.11	.12	.79	.91	.12	.64	.76	.12	.64	.76	.12	.64	.76	.12	.63	.75
16	.11	.55	.66	.11	.58	.69	.11	.58	.69	.11	.58	.69	.11	.71	.82	.11	.88	.99	.11	.71	.82	.11	.58	.69	.11	.58	.69	.11	.58	.69	.11	.55	.66
17	.08	.39	.47	.08	.43	.51	.08	.43	.51	.08	.43	.51	.08	.53	.61	.08	.66	.74	.08	.53	.61	.08	.43	.51	.08	.43	.51	.08	.43	.51	.08	.39	.47
18	.04	.20	.24	.04	.25	.29	.04	.25	.29	.04	.25	.29	.04	.30	.34	.04	.38	.42	.04	.30	.34	.04	.25	.29	.04	.25	.29	.04	.25	.29	.04	.20	.24
19	.01	.05	.06	.01	.09	.10	.01	.09	.10	.01	.09	.10	.01	.11	.12	.01	.13	.14	.01	.11	.12	.01	.09	.10	.01	.09	.10	.01	.09	.10	.01	.05	.06
20	-.01	-.03	-.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-.01	-.03	-.04
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	.04	.18	.22	.03	.15	.18	.03	.15	.18	.03	.15	.18	.03	.18	.21	.03	.23	.26	.03	.18	.21	.03	.15	.18	.03	.15	.18	.03	.15	.18	.04	.18	.22
23	.10	.52	.63	.09	.45	.54	.09	.45	.54	.09	.45	.54	.09	.55	.64	.09	.69	.78	.09	.55	.64	.09	.45	.54	.09	.45	.54	.09	.45	.54	.10	.52	.63
24	.18	.92	1.10	.15	.80	.95	.15	.80	.95	.15	.80	.95	.15	.98	1.13	.15	1.22	1.37	.15	.98	1.13	.15	.80	.95	.15	.80	.95	.15	.80	.95	.18	.92	1.10
25	.24	1.22	1.46	.20	1.04	1.24	.20	1.04	1.24	.20	1.04	1.24	.20	1.28	1.48	.20	1.60	1.80	.20	1.28	1.48	.20	1.04	1.24	.20	1.04	1.24	.20	1.04	1.24	.24	1.22	1.46
26	.26	1.33	1.59	.22	1.13	1.35	.22	1.13	1.35	.22	1.13	1.35	.22	1.39	1.61	.22	1.73	1.95	.22	1.39	1.61	.22	1.13	1.35	.22	1.13	1.35	.22	1.13	1.35	.26	1.33	1.59
27	.24	1.22	1.46	.20	1.04	1.24	.20	1.04	1.24	.20	1.04	1.24	.20	1.28	1.48	.20	1.60	1.80	.20	1.28	1.48	.20	1.04	1.24	.20	1.04	1.24	.20	1.04	1.24	.24	1.22	1.46
28	.18	.92	1.10	.15	.80	.95	.15	.80	.95	.15	.80	.95	.15	.98	1.13	.15	1.22	1.37	.15	.98	1.13	.15	.80	.95	.15	.80	.95	.15	.80	.95	.18	.92	1.10
29	.10	.52	.62	.09	.45	.54	.09	.45	.54	.09	.45	.54	.09	.55	.64	.09	.69	.78	.09	.55	.64	.09	.45	.54	.09	.45	.54	.09	.45	.54	.10	.52	.62
30	.04	.18	.22	.03	.15	.18	.03	.15	.18	.03	.15	.18	.03	.18	.21	.03	.23	.26	.03	.18	.21	.03	.15	.18	.03	.15	.18	.03	.15	.18	.04	.18	.22
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	-.01	-.03	-.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-.01	-.03	-.04
33	.01	.05	.06	.01	.09	.10	.01	.09	.10	.01	.09	.10	.01	.11	.12	.01	.13	.14	.01	.11	.12	.01	.09	.10	.01	.09	.10	.01	.09	.10	.01	.05	.06
34	.04	.20	.24	.04	.25	.29	.04	.25	.29	.04	.25	.29	.04	.30	.34	.04	.38	.42	.04	.30	.34	.04	.25	.29	.04	.25	.29	.04	.25	.29	.04	.20	.24
35	.08	.39	.47	.08	.43	.51	.08	.43	.51	.08	.43	.51	.08	.53	.61	.08	.66	.74	.08	.53	.61	.08	.43	.51	.08	.43	.51	.08	.43	.51	.08	.39	.47
36	.11	.55	.66	.11	.58	.69	.11	.58	.69	.11	.58	.69	.11	.71	.82	.11	.88	.99	.11	.71	.82	.11	.58	.69	.11	.58	.69	.11	.58	.69	.11	.55	.66
37	.12	.63	.75	.12	.64	.76	.12	.64	.76	.12	.64	.76	.12	.79	.91	.12	.99	1.11	.12	.79	.91	.12	.64	.76	.12	.64	.76	.12	.64	.76	.12	.63	.75
38	.12	.61	.73	.12	.62	.74	.12	.62	.74	.12	.62	.74	.12	.76	.88	.12	.95	1.07	.12	.76	.88	.12	.62	.74	.12	.62	.74	.12	.62	.74	.12	.61	.73
39	.09	.47	.56	.09	.48	.57	.09	.48	.57	.09	.48	.57	.09	.60	.69	.09	.75	.84	.09	.60	.69	.09	.48	.57	.09	.48	.57	.09	.48	.57	.09	.47	.56
40	.05	.27	.32	.05	.27	.32	.05	.27	.32	.05	.27	.32	.05	.33	.38	.05	.41	.46	.05	.33	.38	.05	.27	.32	.05	.27	.32	.05	.27	.32	.05	.27	.32
41A&B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	.03	.14	.17	.02	.12	.14	.03	.15	.18	.03	.17	.20	.04	.25	.29	.04	.34	.38	.05	.31	.36	.05	.27	.32	.06	.31	.36	.06	.32	.38	.06	.29	.35
43	.05	.26	.31	.04	.24	.28	.05	.28	.33	.06	.32	.38	.07	.48	.55	.08	.63	.71	.09	.58	.67	.09	.50	.59	.11	.57	.68	.11	.59	.70	.11	.55	.66
44	.07	.35	.42	.06	.32	.38	.07	.38	.45	.08	.44	.52	.09	.65	.74	.10	.86	.96	.12	.79	.91	.12	.67	.79	.14	.76	.90	.15	.80	.95	.14	.71	.85
45	.08	.39	.47	.07	.38	.45	.07	.38	.45	.10	.52	.62	.11	.77	.88	.12	1.01	1.13	.14	.92	1.06	.14	.77	.91	.16	.88	1.04	.17	.92	1.09	.16	.80	.96
46	.08	.39	.47	.07	.40	.47	.09	.46	.55	.10	.54	.64	.12	.80	.92	.13	1.05	1.18	.15	.96	1.11	.15	.81	.96	.17	.92	1.09	.18	.97	1.15	.16	.81	.97
47	.07	.36	.43	.07	.38	.45	.07	.38	.45	.10	.52	.62	.11	.77	.88	.12	1.01	1.13	.14	.92	1.06	.14	.77	.91	.16	.88	1.04	.17	.92	1.09	.15	.74	.89
48	.06	.30	.36	.06	.32	.38	.07	.38	.45	.08	.44	.52	.09	.65	.74	.10	.86	.96	.12	.79	.91	.12	.67	.79	.14	.76	.90	.15	.80	.95	.12	.61	.73
49	.04	.21	.25	.04	.24	.28	.05	.28	.33	.06	.32	.38	.07	.48	.55	.08	.63	.71	.09	.58	.67	.09	.50	.59	.11	.57	.68	.11	.59	.70	.09	.43	.52
50	.02	.11	.13	.02	.12	.14	.03	.15	.18	.03	.17	.20	.04	.25	.29	.04	.34	.38	.05	.31	.36	.05	.27	.32	.06	.30	.36	.06	.32	.38	.04	.23	.27
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



EXTERIOR END SPAN GIRDERS
No Scale

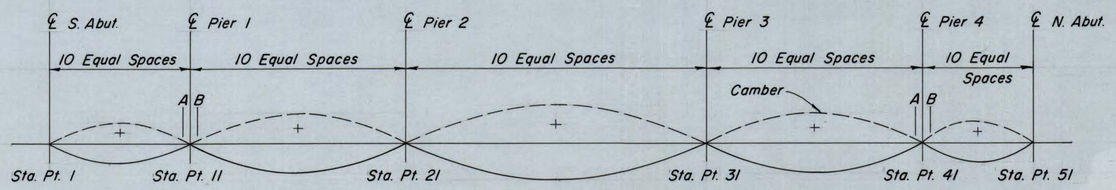
SHEAR CONNECTOR SPACING			
SPAN	# SPACES @ # INCHES c/c		
47'-3"	18 @ 10"	18 @ 12"	18 @ 10"
49'-3"	18 @ 10"	20 @ 12"	18 @ 10"
51'-3"	18 @ 10"	22 @ 12"	18 @ 10"
53'-3"	18 @ 10"	24 @ 12"	18 @ 10"
55'-3"	18 @ 10"	26 @ 12"	18 @ 10"
57'-3"	18 @ 10"	28 @ 12"	18 @ 10"
59'-3"	18 @ 10"	30 @ 12"	18 @ 10"
61'-3"	18 @ 10"	32 @ 12"	18 @ 10"
63'-3"	18 @ 10"	34 @ 12"	18 @ 10"
65'-3"	18 @ 10"	36 @ 12"	18 @ 10"
67'-3"	18 @ 10"	38 @ 12"	18 @ 10"
74'-3"	18 @ 10"	45 @ 12"	18 @ 10"

INTERIOR END SPAN GIRDERS
No Scale

SHEAR CONNECTOR DETAIL
No Scale

NOTES: Stud rows to be placed perpendicular to ℄ Stringer.
Shear Connector Studs shall conform to ASTM A108, Grade 1015 or 1020.

NOTES: Camber Is Given In Inches.
Camber Abbreviations Are As Follows.
S-Camber Due To Steel.
C-Camber Due To Concrete Slab. Overlay And Parapet Concrete.
T-Total Camber.



DEAD LOAD DEFLECTION AND CAMBER DIAGRAM
No Scale

NOTE: When Total Camber is less than minimum that can be maintained in a Beam, then no Camber is required, but Beam shall be placed with any Mill Camber up.

BRIDGE NO.	DWG. NO.
3145	17
DESIGNED BY	T.S.
DETAILED BY	TLM
CHECKED BY	VAP
DATE	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

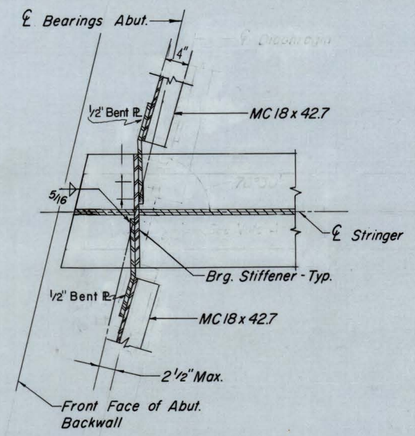
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

STEEL DETAILS
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

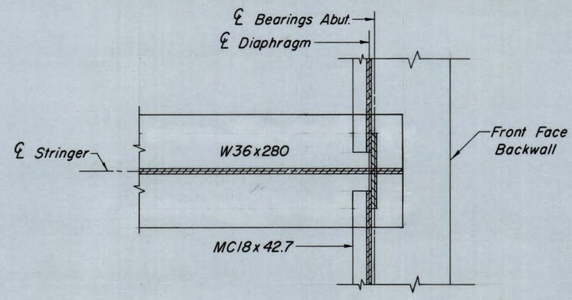
SCALE: NO SCALE

RACKOFF ASSOCIATES, INC.
CONSULTING ENGINEERS
CHARLESTON, W. VA. COLUMBUS, OHIO

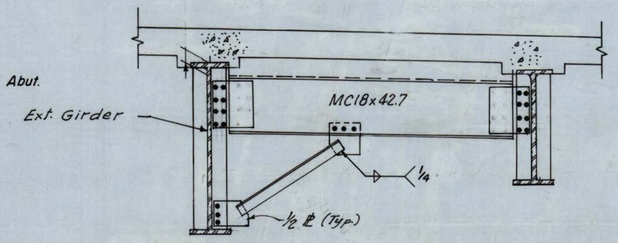
FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	90	130



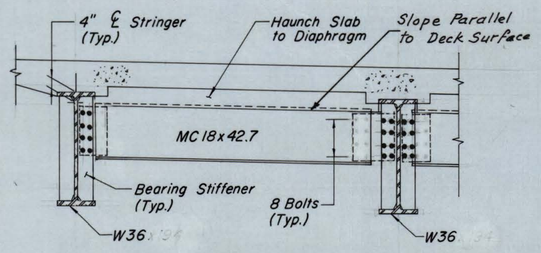
PLAN @ SOUTH ABUTMENT
Scale: 1" = 1'-0"



PLAN @ NORTH ABUTMENT
Scale: 1" = 1'-0"

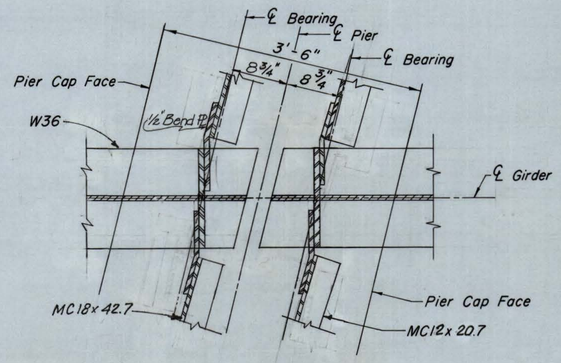


SECTION E-E
Scale 1/2" = 1'-0"

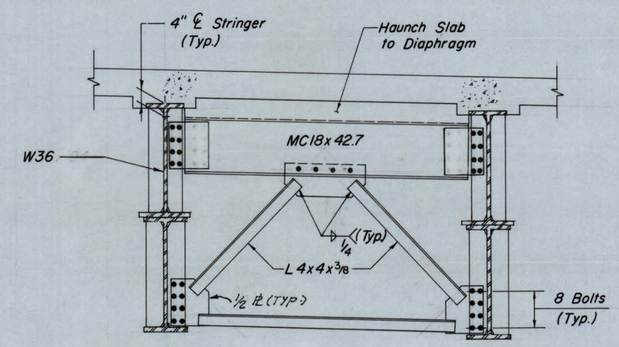


ELEVATION

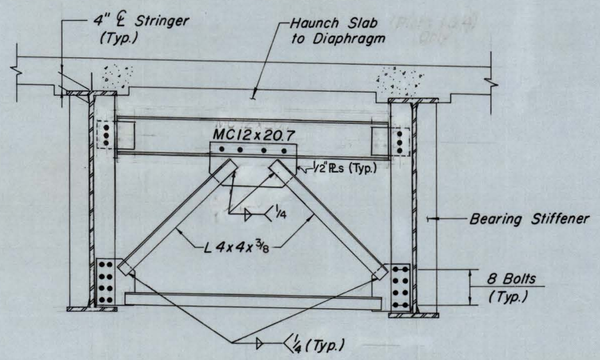
BEARING DIAPHRAGMS @ ABUTMENTS
Scale: 1/2" = 1'-0"



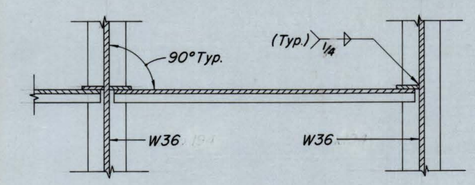
SECTION C-C
Scale: 1/2" = 1'-0"
SECTION C'-C' (Opposite Hand)



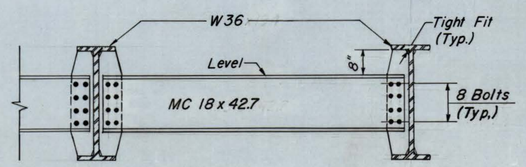
SECTION A-A
Scale: 1/2" = 1'-0"



SECTION B-B
Scale: 1/2" = 1'-0"

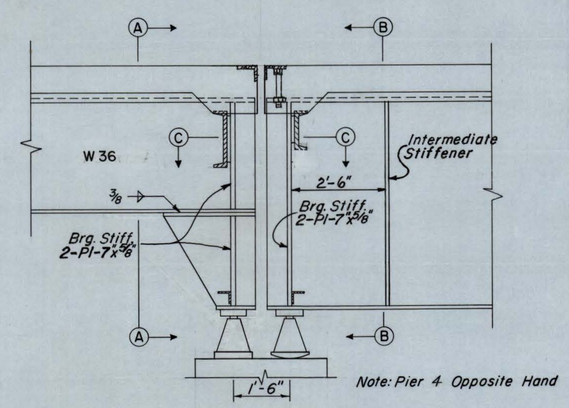


PLAN
Scale: 1/2" = 1'-0"



ELEVATION
Scale: 1/2" = 1'-0"

INTERMEDIATE DIAPHRAGMS
TYPICAL @ END SPANS



Note: Pier 4 Opposite Hand

ELEVATION-GIRDERS @ PIERS 1 & 4
Scale: 1/2" = 1'-0"

- Ends of stringers, bearing stiffeners, and end diaphragms shall be vertical.
- All diaphragm connections shall be made with 7/8" ø A325 bolts.
- For framing plan see sheet no. 87
- For girder elevation see sheet no. 88
- For endspan elevations see sheet no. 89

BRIDGE NO.	DWG. NO.
3145	18
DESIGNED BY: T.S.	
DETAILED BY:	
CHECKED BY: V.A.P.	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

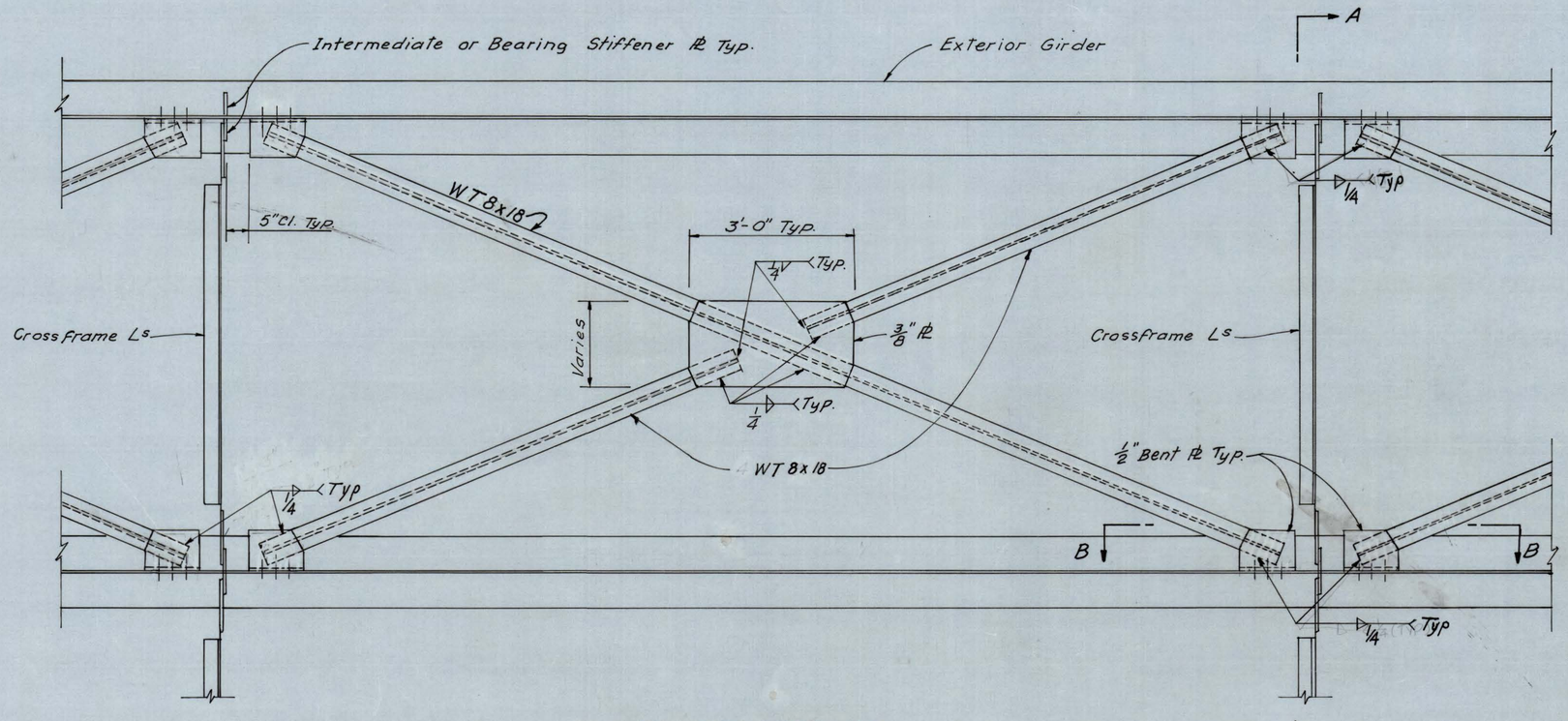
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

STEEL DETAILS
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

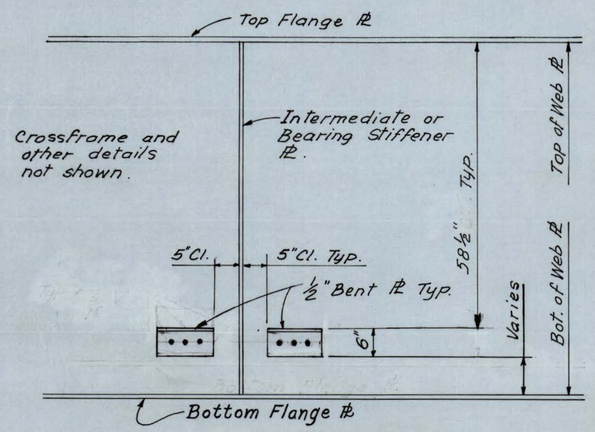
SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

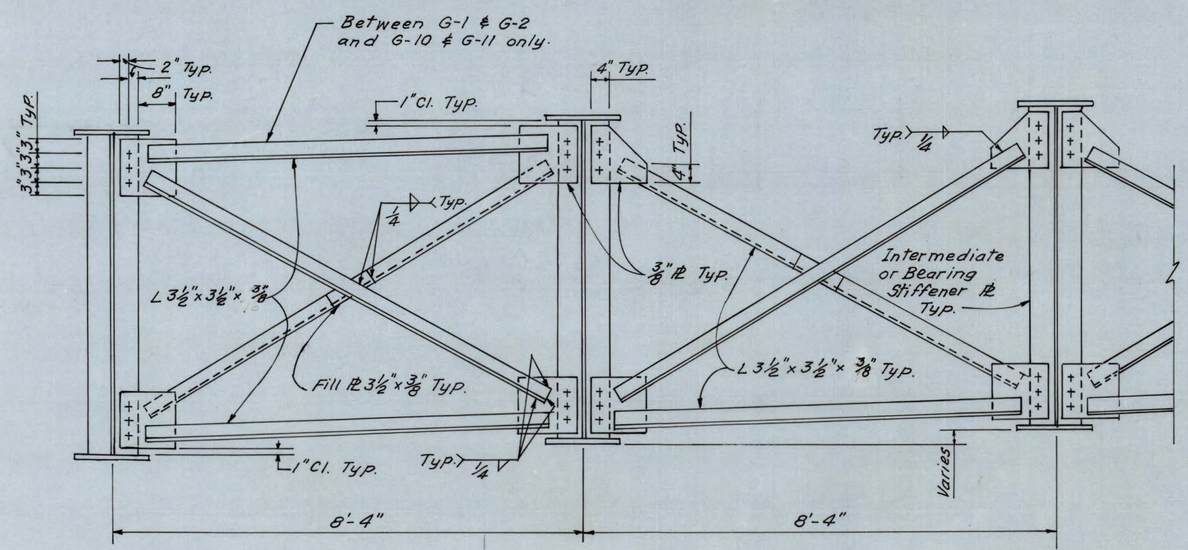
FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	91	130



BRACING DETAILS
SCALE 3/4" = 1'-0"
PLAN VIEW
INTERIOR BAY DETAILS SIMILAR



SECTION B-B
SCALE 3/4" = 1'-0"



SECTION A-A
SCALE 3/4" = 1'-0"

NOTE:
All bolts shall be 7/8" ϕ high strength bolts unless otherwise specified.

Place bolt head on exposed side of fascia beams.

BRIDGE NO. 3145	DWG. NO. 19
DESIGNED BY: T.S.	
DETAILED BY:	
CHECKED BY: VAP	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

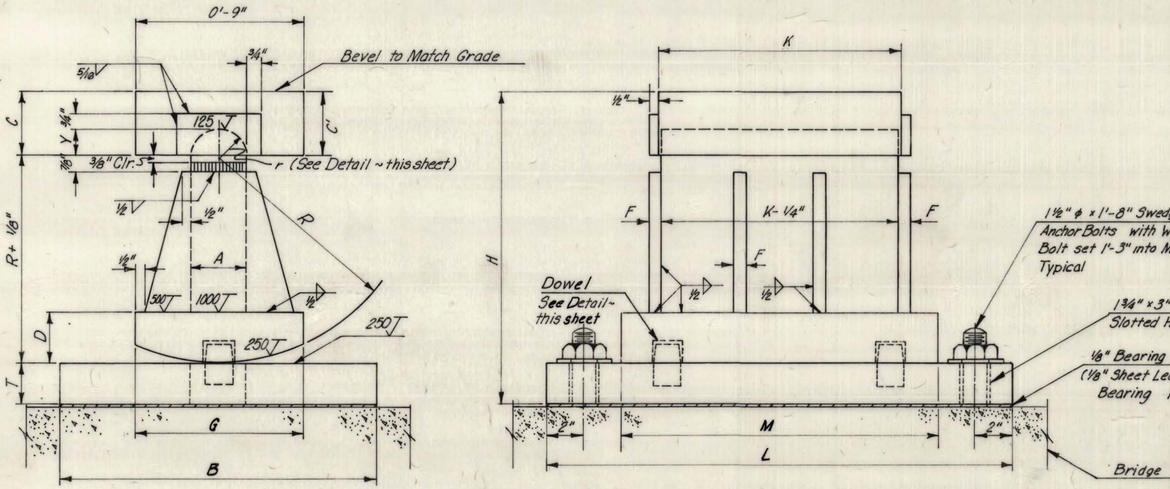
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

CROSS FRAME & BRACING DETAILS
BRIDGE NO. 3145

SCALE AS SHOWN

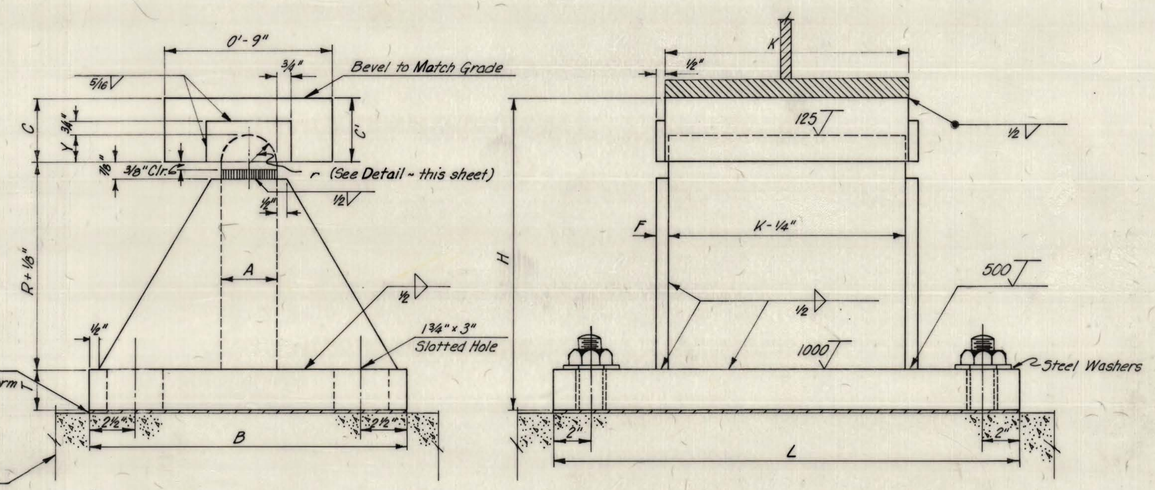
RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO	STATE PROJECT NO	FEDERAL PROJECT NO	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	92	130



EXPANSION SHOE DETAIL

(See Table Below for Additional Dimensions)



FIXED SHOE DETAIL

(See Table Below for Additional Dimensions)

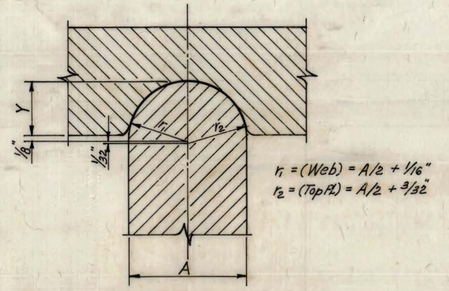
LOCATION	TYPE	DIMENSIONS (Inches) A	B	C	C'	D	F	G	H	K	L	M	R	T	Y	*WEIGHT (Lbs)	NUMBER REQ'D	TOTAL WEIGHT
PIER 1	EXPANSION	3	11	3 1/4		2	1/2	8	12 3/8	10 1/2	20	18	7 1/2	1 1/2	1 7/16	315	11	3465
PIER 4	EXPANSION	3	11	3 1/4		2	1/2	8	12 3/8	10 1/2	20	18	7 1/2	1 1/2	1 7/16	315	11	3465
PIER 2 & 3	FIXED	3 1/2	21	3 3/4		—	1	—	20 1/8	14 1/2	29	—	13	3 1/4	1 11/16	1025	22	22550
NORTH ABUT	EXPANSION	2 1/2	10	2 1/2		2	1/2	7 1/2	10 9/16	9	19	17	6	1 1/2	1 3/16	250	11	2750
SOUTH ABUT.	EXPANSION	3	11	3		2	1/2	8	12 1/8	10 1/2	20	18	7 1/2	1 1/2	1 7/16	315	11	3465
PIER 1	FIXED	3	11	2 3/4		—	1/2	—	11 7/8	10 1/2	20	18	7 1/2	1 1/2	1 7/16	295	11	3245
PIER 4	FIXED	2 1/2	10	5 1/4		—	1/2	—	13 3/16	9	19	17	6 1/2	1 1/2	1 3/16	225	11	2475
										26		27						
																		41415

27 △

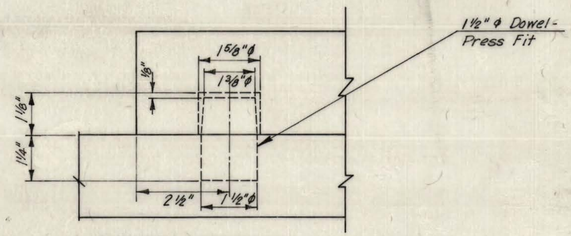
* Weights Given include Sheet Lead, Anchor Bolts and Washers.

NOTES:

- Rockers shall be shop-assembled & match-marked to insure free movement on Pintles.
- ℄ of All bearings shall be true-vertical @ 68° F. under Full Dead Load.
- Holes in Masonry Pl. shall be filled with molten Zinc after the shoes have been placed in Final Position.
- All Steel shall be ASTM A36-70a.
- All Shoes including Sole Pl., Masonry Pl., & Anchor Bolts shall be Galvanized after Fabrication. Galvanizing shall be in accordance with ASTM - A123 - 2oz. Cost of galvanizing will be included in price paid for Structural Steel.



TOP BEARING DETAIL



DOWEL DETAIL

BRIDGE NO.	DWG. NO.
3145	20

DESIGNED BY: T.S.
DETAILED BY:
CHECKED BY: V.A.R.
DATE :

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY
1	20	Shoe Dimension Chart	5-7-79	C.E.S.

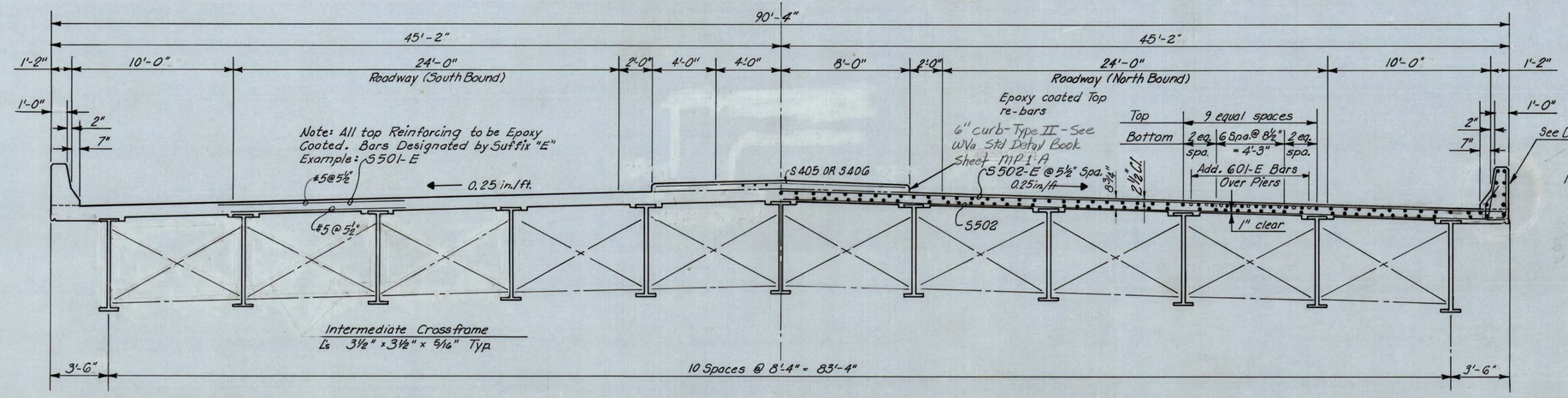
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

BEARING DETAILS
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

SCALE NO SCALE

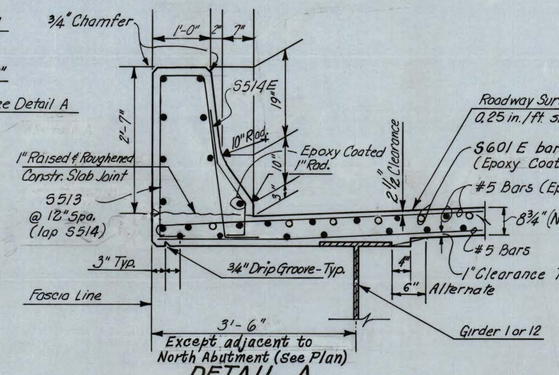
RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	93	130



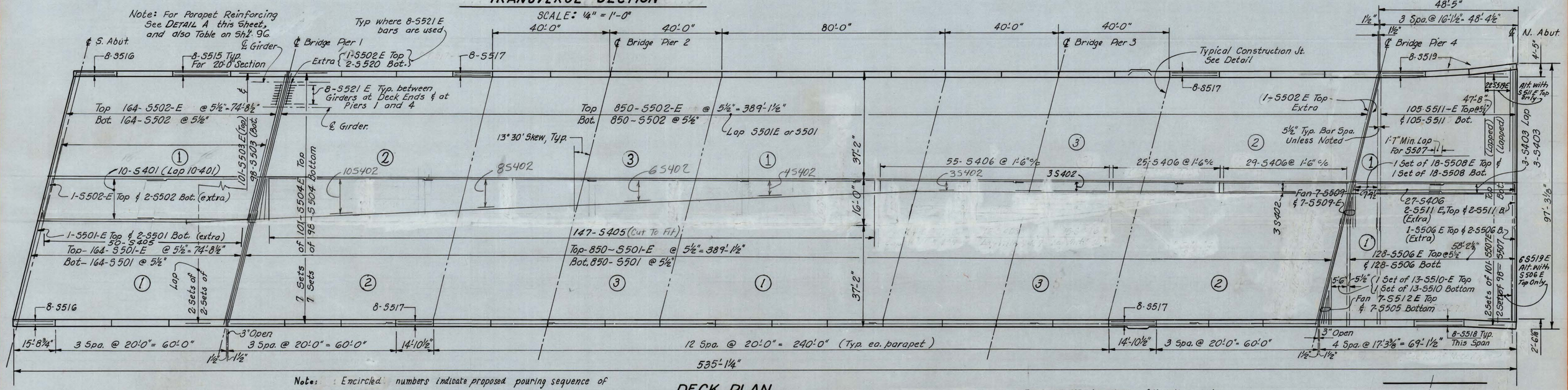
TRANSVERSE SECTION

SCALE: ¼" = 1'-0"



DETAIL A

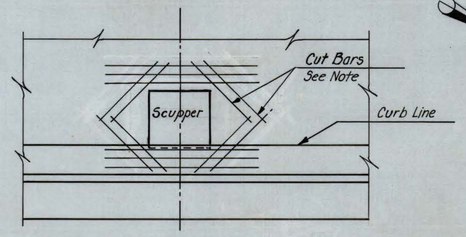
SCALE: ¾"=1'-0"



DECK PLAN

NO SCALE

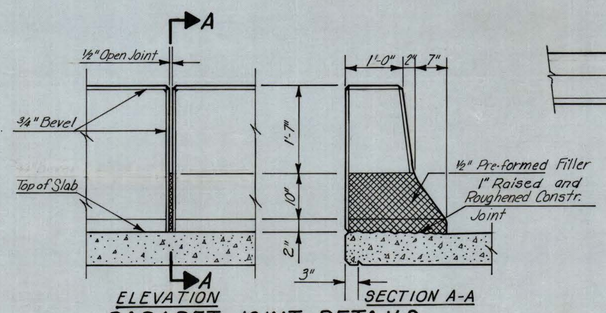
Note: Encircled numbers indicate proposed pouring sequence of the superstructure deck.



NOTE: Where reinforcing bars interfere with placement of Scupper, the bars shall be cut as directed by the Engineer and the cut-off portions placed across corners of Scupper.
Reinforcing bars outside the gutter are not to be cut.

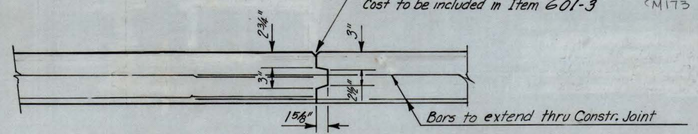
DETAILS OF REINFORCING AROUND SCUPPER

SCALE: ½" = 1'-0"



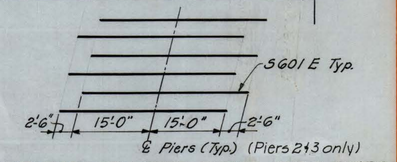
PARAPET JOINT DETAILS

SCALE: ¾" = 1'-0"



SLAB CONSTRUCTION JOINTS

SCALE: 1" = 1'-0"



PLACEMENT OF ADDED REINF. OVER PIERS

BRIDGE NO.	DWG. NO.
3145	21
DESIGNED BY: H.V.H.	
DETAILED BY:	
CHECKED BY: T.S.	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY
1	93	AASTHO Spec. No. Revised	11/28/78	JeD

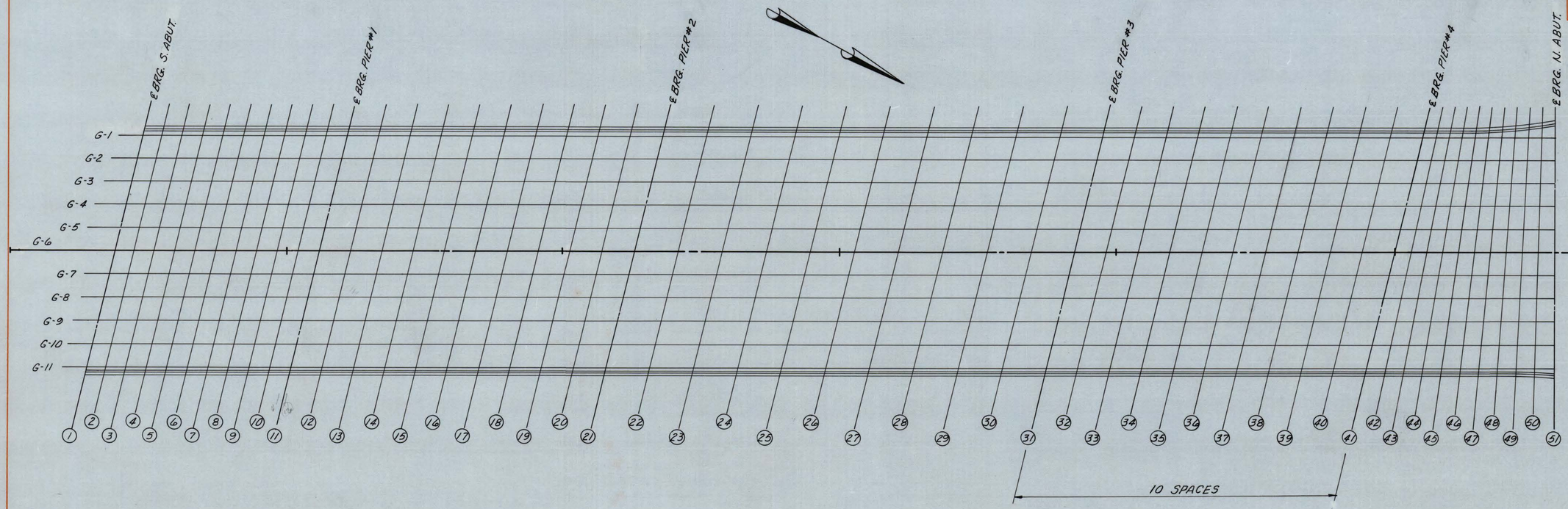
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

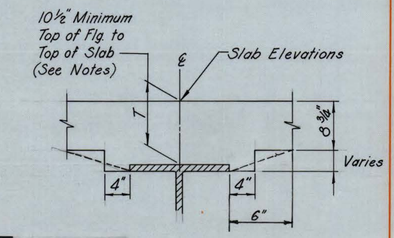
ROADWAY SLAB
BRIDGE NO. 3145

SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	94	130





ALTERNATE HAUNCH

LOCATION OF ROADWAY ELEVATIONS

NO SCALE

TOP OF SLAB ELEVATION											
LINE	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6	GIRDER 7	GIRDER 8	GIRDER 9	GIRDER 10	GIRDER 11
1	717.48	717.58	717.68	717.78	717.89	717.99	717.74	717.49	717.25	717.00	716.76
2	717.75	717.85	717.95	718.06	718.16	718.26	718.01	717.77	717.52	717.27	717.03
3	718.02	718.12	718.23	718.33	718.43	718.53	718.28	718.04	717.79	717.55	717.30
4	718.30	718.40	718.50	718.60	718.70	718.80	718.55	718.31	718.06	717.82	717.57
5	718.57	718.67	718.77	718.87	718.97	719.07	718.83	718.58	718.33	718.09	717.84
6	718.84	718.94	719.04	719.14	719.24	719.34	719.10	718.85	718.61	718.36	718.11
7	719.11	719.21	719.31	719.41	719.51	719.62	719.37	719.12	718.88	718.63	718.39
8	719.38	719.48	719.58	719.68	719.79	719.89	719.64	719.39	719.15	718.90	718.66
9	719.65	719.75	719.85	719.96	720.06	720.16	719.91	719.67	719.42	719.17	718.93
10	719.92	720.02	720.13	720.23	720.33	720.43	720.18	719.94	719.69	719.45	719.20
11	720.20	720.30	720.40	720.50	720.60	720.70	720.46	720.21	719.96	719.72	719.47
12	720.61	720.71	720.81	720.91	721.02	721.12	720.87	720.63	720.38	720.13	719.89
13	721.03	721.13	721.23	721.33	721.43	721.53	721.29	721.04	720.80	720.55	720.30
14	721.44	721.54	721.65	721.75	721.85	721.95	721.70	721.46	721.21	720.97	720.72
15	721.86	721.96	722.06	722.16	722.26	722.37	722.12	721.87	721.63	721.38	721.14
16	722.28	722.38	722.48	722.58	722.68	722.78	722.54	722.29	722.04	721.80	721.55
17	722.69	722.79	722.89	723.00	723.10	723.20	722.95	722.71	722.46	722.21	721.97
18	723.11	723.21	723.31	723.41	723.51	723.61	723.37	723.12	722.88	722.63	722.38
19	723.52	723.63	723.73	723.83	723.93	724.03	723.78	723.54	723.29	723.05	722.80
20	723.94	724.04	724.14	724.24	724.35	724.45	724.20	723.95	723.71	723.46	723.22
21	724.36	724.46	724.56	724.66	724.76	724.86	724.62	724.37	724.13	723.88	723.63
22	724.94	725.04	725.14	725.24	725.34	725.44	725.20	724.95	724.70	724.46	724.21
23	725.52	725.62	725.72	725.82	729.92	726.02	725.78	725.53	725.28	725.04	724.79
24	726.09	726.20	726.30	726.39	726.50	726.60	726.35	726.11	725.86	725.62	725.37
25	726.67	726.77	726.88	726.98	727.08	727.18	726.93	726.69	726.44	726.20	725.95
26	727.25	727.35	727.45	727.56	727.66	727.76	727.51	727.27	727.02	726.77	726.53
27	727.83	727.93	728.03	728.14	728.24	728.34	728.09	727.85	727.60	727.35	727.11
28	728.41	728.51	728.61	728.71	728.82	728.92	728.67	728.42	728.18	727.93	727.69
29	728.99	729.09	729.19	729.29	729.39	729.50	729.25	729.00	728.76	728.51	728.27

TOP OF SLAB ELEVATION											
LINE	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6	GIRDER 7	GIRDER 8	GIRDER 9	GIRDER 10	GIRDER 11
30	729.57	729.67	729.77	729.87	729.92	730.07	729.83	729.58	729.34	729.09	728.85
31	730.15	730.25	730.35	730.45	730.55	730.65	730.41	730.16	729.92	729.67	729.42
32	730.56	730.67	730.77	730.87	730.97	731.07	730.82	730.58	730.33	730.09	729.84
33	730.98	731.08	731.18	731.28	731.39	731.49	731.24	730.99	730.75	730.50	730.26
34	731.40	731.50	731.60	731.70	731.80	731.90	731.66	731.41	731.16	730.92	730.67
35	731.81	731.91	732.01	732.12	732.22	732.32	732.07	731.83	731.58	731.33	731.09
36	732.23	732.33	732.43	732.53	732.63	732.73	732.49	732.24	732.00	731.75	731.50
37	732.65	732.75	732.85	732.95	733.05	733.15	732.91	732.66	732.41	732.17	731.92
38	733.06	733.16	733.26	733.36	733.47	733.57	733.32	733.08	732.83	732.58	732.34
39	733.48	733.58	733.68	733.78	733.88	733.98	733.74	733.49	733.25	733.00	732.75
40	733.89	733.99	734.10	734.20	734.30	734.40	734.15	733.91	733.66	733.42	733.17
41	734.31	734.41	734.51	734.61	734.71	734.82	734.57	734.32	734.08	733.83	733.59
42	734.48	734.59	734.70	734.81	734.92	735.03	734.79	734.55	734.31	734.07	733.83
43	734.66	734.77	734.89	735.00	735.12	735.24	735.00	734.77	734.54	734.31	734.08
44	734.83	734.95	735.08	735.20	735.32	735.45	735.22	735.00	734.78	734.55	734.33
45	735.00	735.14	735.27	735.40	735.53	735.66	735.44	735.23	735.01	734.80	734.58
46	735.18	735.32	735.45	735.59	735.73	735.87	735.66	735.46	735.26	735.05	734.84
47	735.35	735.50	735.64	735.79	735.93	736.08	735.88	735.69	735.50	735.31	735.11
48	735.53	735.68	735.83	735.98	736.13	736.29	736.11	735.93	735.75	735.57	735.38
49	735.70	735.86	736.02	736.18	736.34	736.50	736.33	736.17	736.00	735.83	735.66
50	735.88	736.04	736.21	736.37	736.54	736.71	736.56	736.41	736.25	736.10	735.95
51	736.05	736.22	736.39	736.57	736.74	736.92	736.78	736.65	736.51	736.38	736.25

NOTES:

- Elevations on top of Slab are at ℄ of Beam.
- After all Beams have been assembled and falsework removed, the Contractor shall take elevations along the top of the Stringer at points where the Grade Elevations are given. The difference between this and the Grade Elevation shown, plus the amount of deflection shown at each point due to the D.L. of the concrete, will be the thickness "T" at these points. The minimum thickness "T" shall not be less than 10½" at the centerline of Beams. If the Beams have excessive Camber and this minimum cannot be maintained, the Grade Line shall be adjusted to obtain this thickness.
- For Deck Plan See Sheet No. 93
- For Bar Schedule See Sheet No. 97
- For Additional Deck Details See Sheet Nos. 95 & 96

BRIDGE NO.	DWG. NO.
3145	22
DESIGNED BY: P.R	
DETAILED BY:	
CHECKED BY: T.L.	
DATE :	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

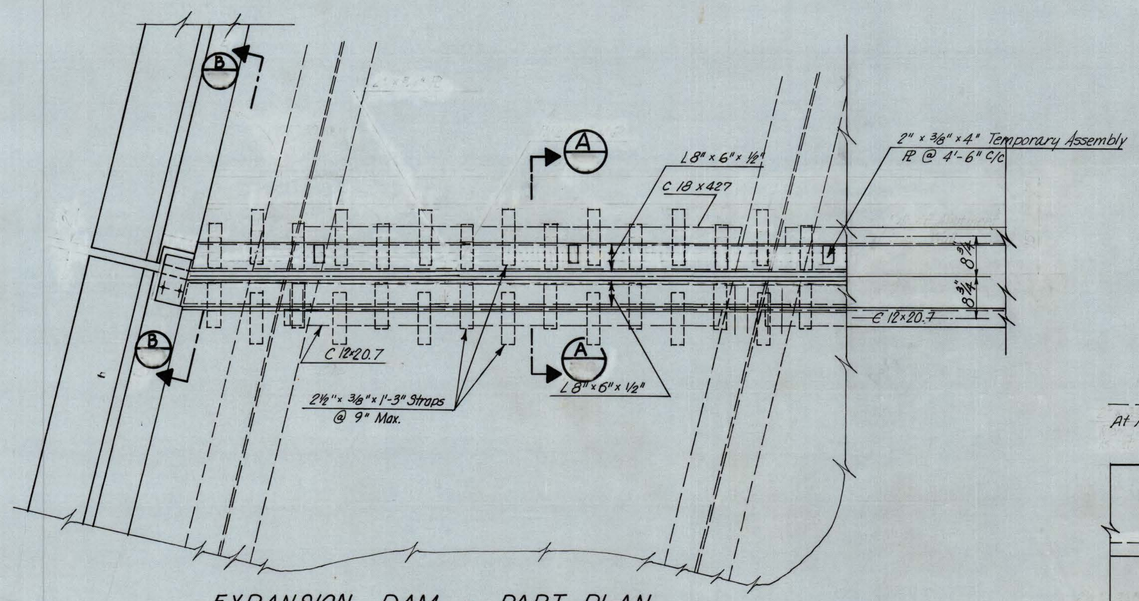
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

SLAB ELEVATIONS
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

SCALE: NO SCALE

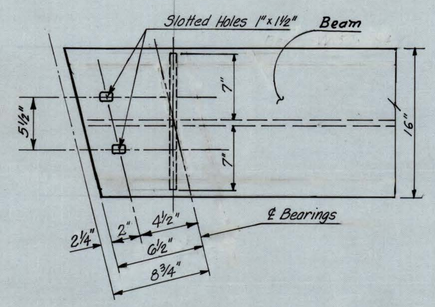
RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0,00	APD-323(59)	1978	MINGO	95	130



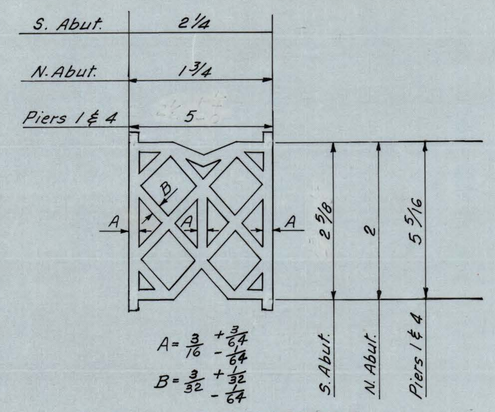
EXPANSION DAM - PART PLAN

SCALE: 3/4" = 1'-0"



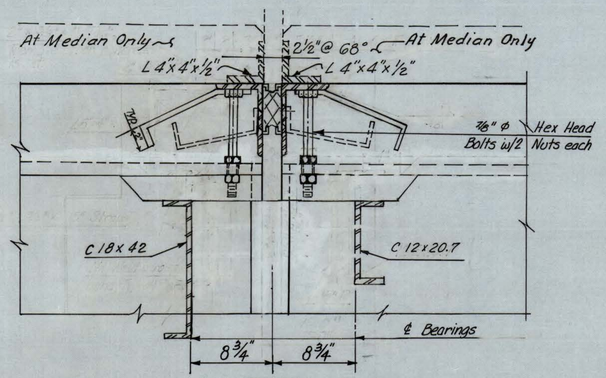
BEAM END DETAIL

SCALE: 1 1/2" = 1'-0"



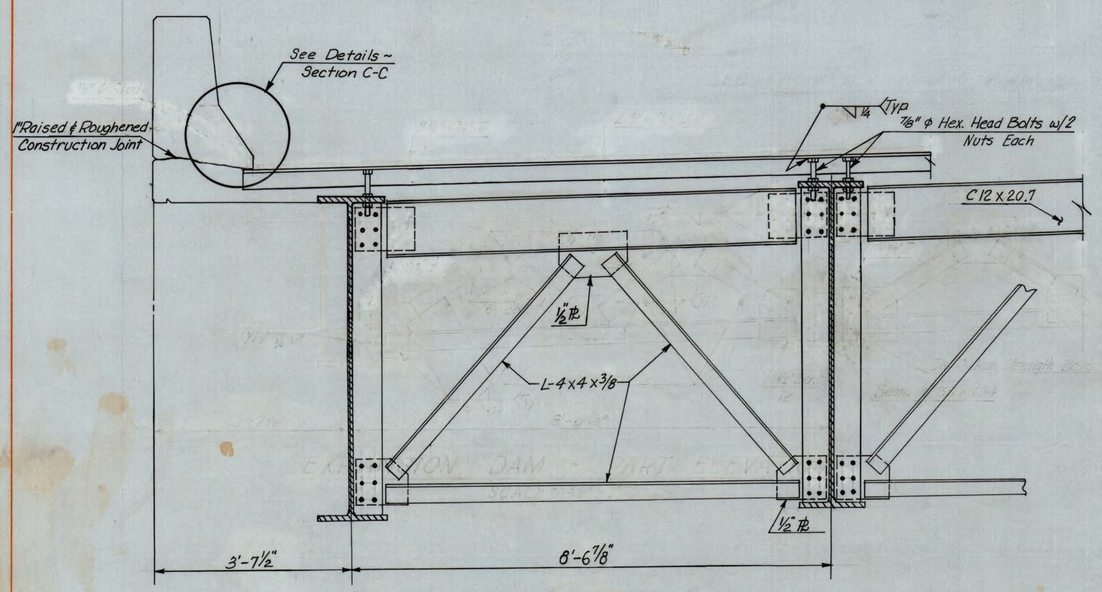
DETAIL OF PREFORMED JOINT SEALER

Contractor may furnish an Equivalent Sealed Expansion Joint subject to the approval of the Engineer at no additional Project Cost.



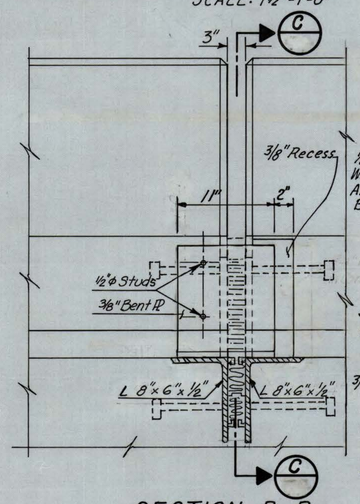
SECTION A-A

SCALE: 1 1/2" = 1'-0"



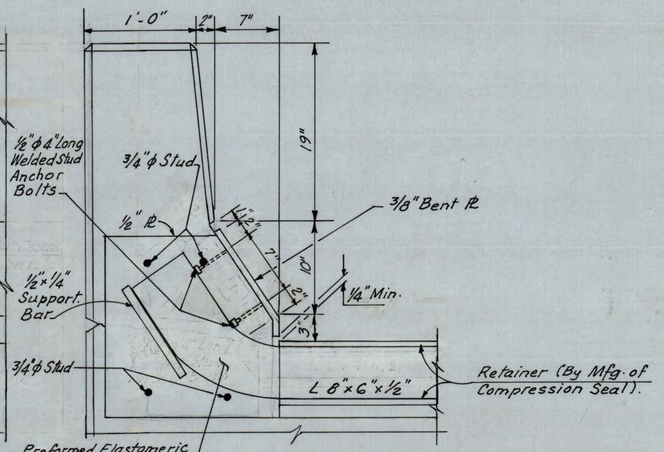
EXPANSION DAM ~ PART ELEVATION

SCALE: 3/4" = 1'-0"



SECTION B-B

SCALE: 1 1/2" = 1'-0"



SECTION C-C

SCALE: 1 1/2" = 1'-0"

BRIDGE NO.	DWG. NO.
3145	23
DESIGNED BY: HVH	
DETAILED BY:	
CHECKED BY: T.S.	
DATE :	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

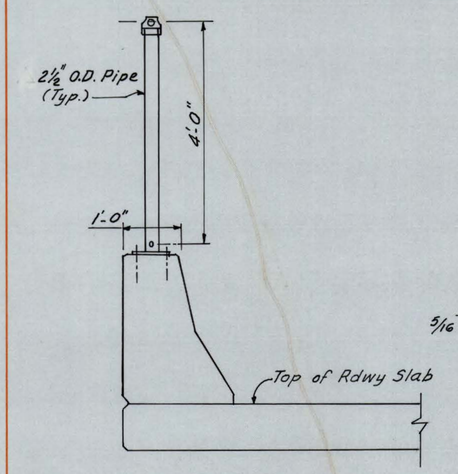
WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

JOINT DETAILS
EXPANSION DAM
BRIDGE NO. 3145

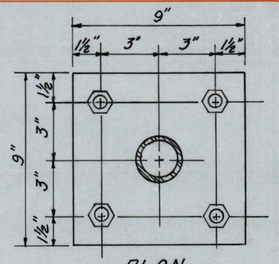
SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

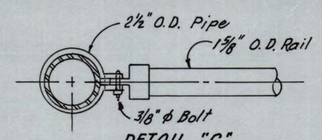
FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	96	130



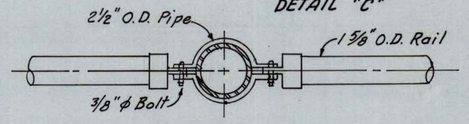
SECTION THRU SLAB
Scale: ¾" = 1'-0"



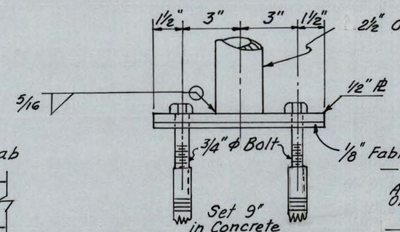
PLAN



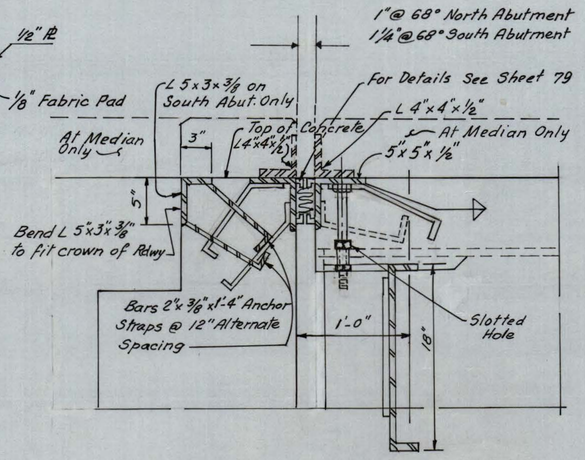
DETAIL "C"



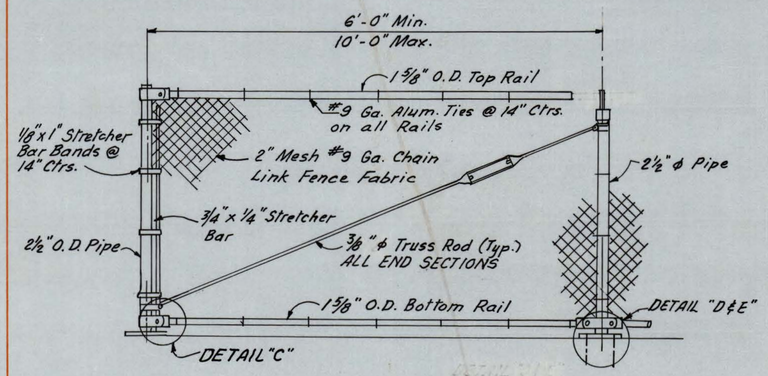
DETAIL "D"
Scale: 3" = 1'-0"



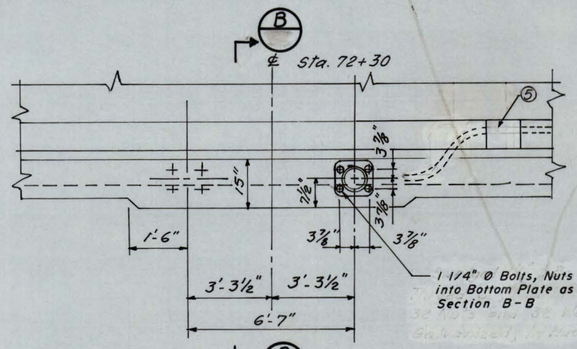
DETAIL "E"
Scale: 3" = 1'-0"



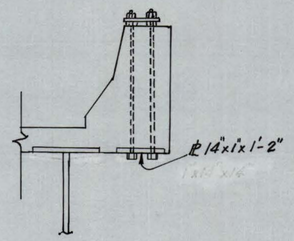
SECTION AT ABUTMENT



ELEVATION VIEW - FENCE
Scale: ¾" = 1'-0"

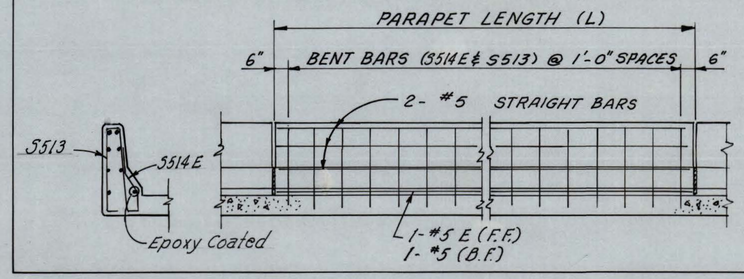


PLAN AT SIGN SUPPORT



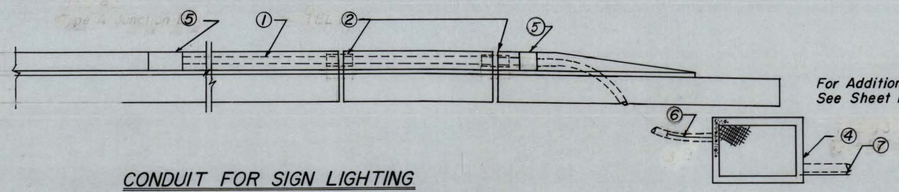
SECTION B-B
Scale: ½" = 1'-0"

PARAPET LENGTH	NO. PARAPETS REQUIRED	BENT BARS		STRAIGHT BARS									
		S513	S514E	S515	S515E	S516	S516E	S517	S517E	S518	S518E	S519	S519E
L = 20'-0"	42	840	840	294	42								
L = 17'-3⅜"	4	68	68			28	4						
L = 16'-1½"	3	48	48					21	3				
L = 15'-8¾"	2	32	32							14	2		
L = 14'-10½"	4	60	60									28	4
TOTALS		1048	1048	294	42	28	4	21	3	14	2	28	4



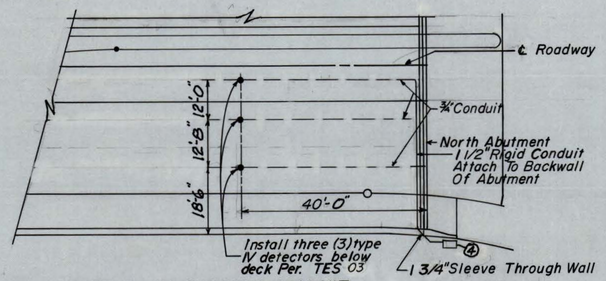
PARAPET REINFORCING STEEL

Same as J.B.A. Plan at Sign Support



For Additional Electrical Details See Sheet No. 41

CONDUIT FOR SIGN LIGHTING ON NORTHEAST PARAPET ONLY



PART PLAN SHOWING CONDUIT FOR TYPE IV DETECTORS

Legend

1. 1½" Rigid Metal Conduit all Bends Shall Have A Min. Radius Of 10".
2. Conduit Expansion And Deflection Joint Fitting. For Details See Sheet No. TEL 31.
4. Concrete Junction Box. For Details See Sheet No. TEL 43.
5. Type A Junction Box. For Details See Sheet No. TEL 42
6. Insulated (Green) Copper Wire, Equal In Size To The Largest Adjoining Phase Wire Except Where Otherwise Called For In Plans And Specifications
7. #4 Tinned Bare Copper Ground Wire With 2' Slack Inside Junction Box.
8. All Junction Boxes, Conduit, Wire ETC. For Sign Lighting to Be Bid Per Item 662-14 Incidental Electrical Work.
9. All Junction Boxes, Conduit, Conduiet, Wire, ETC For the Installation of Type IV Detectors To Be BID Per Item 660-2 (PBS.) Traffic Detectors.

BRIDGE NO.	DWG NO.
3145	24
DESIGNED BY:	
DETAILED BY:	
CHECKED BY:	
DATE	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

MISC. DETAILS DECK
BRIDGE NO. 3145
U.S. 119 OVER TUG FORK

SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS CONSULTANTS
COLUMBUS, OHIO

REINFORCING STEEL LIST

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	97	130

SOUTH ABUTMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	R
A401	2	6'-3"	8.5	Str.						
A402	2	9'-0"	12.2	Str.						
A501	86	9'-1"	813.7	3	2'-10"	3'-5"	2'-10"			
A502	86	4'-4"	388.0	Str.						
A503	176	5'-8"	1039.8	Str.						
A504	83	9'-4"	806.9	3	2'-7"	0'-8"	6'-8"			
A505	83	5'-7"	468.8	3	2'-7"	1'-5"	1'-7"			
A506	22	30'-0"	687.7	Str.						
A507	9	16'-0"	150.0	Str.						
A508	2	18'-10"	39.2	Str.						
A509	5	17'-4"	90.3	Str.						
A510	4	19'-10"	82.7	Str.						
A511	21	10'-2"	222.5	Str.						
A512	3	8'-2"	25.5	Str.						
A513	3	11'-4"	35.4	Str.						
A514	3	4'-9"	14.8	14	1'-7"	3'-2"				
A515	3	11'-11"	37.3	Str.						
A516	8	6'-8"	55.6	Str.						
A517	16	3'-5"	57.0	Str.						
A518	5	11'-8"	60.8	Str.						
A519	4	8'-3"	34.4	Str.						
A520	1	7'-4"	7.6	2	1'-10"	5'-6"	5½"			
A521	8	7'-2"	59.8	Str.						
A522	5	12'-8"	66.0	Str.						
A523	4	9'-8"	40.3	Str.						
A524	1	7'-10"	8.2	2	1'-10"	6'-0"	7"			
A525	30	5'-8"	177.2	Str.						
A526	2 Sets of 3	3'-0" to 5'-6"	26.8	Str.	Vary by 1'-3"					
Note: W501 thru W509 (See Sheet Nº 66 Stubwalls)										
A601	58	30'-0"	2618.7	Str.						
A602	14	11'-0"	231.8	Str.						
A603	7	9'-9"	102.7	Str.						
A604	15	6'-9"	152.4	Str.						
A605	7	11'-11"	125.6	Str.						
A606	98	7'-6"	1106.2	Str.						
A607	7	16'-0"	168.6	Str.						
A608	8	18'-10"	226.7	Str.						
A609	99	4'-10"	719.6	14	3'-10"	1'-0"				
A610	2 Sets of 10	8'-0" to 14'-9"	342.4	3	3'-8" to 7'-10½"	0'-8"	3'-8" to 7'-10½" (2 Sets Vary A&C by 0'-4½"			
A611	4	8'-11"	53.7	14	8'-3"	0'-8"				
A612	1	7'-4"	11.0	2	1'-10"	5'-6"	5½"			
A613	8	6'-7"	79.2	Str.						
A614	4	7'-4"	44.1	14	6'-8"	0'-8"				
A615	4	8'-4"	50.1	14	7'-8"	0'-8"				
A616	4	10'-4"	62.2	14	9'-8"	0'-8"				
A617	1	7'-10"	11.8	2	1'-10"	6'-0"	7"			
A618	2 Sets of 3	3'-0" to 5'-6"	38.4	Str.	Vary by 1'-3"					

NORTH ABUTMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	R
A401	2	3'-8"	4.9	Str.						
A501	20 SER OF 4	6'-1¾" to 7'-4¾"	565.1	3	1'-0"	4'-3⅝" to 4'-8⅝"	1'-0"	Vary B by 5"		
A504	2	24'-7"	51.2	Str.						
A505	2 SER OF 5	6'-11" to 10'-8"	128.3	Str.	Vary by 7½"					
A506	2 SER OF 7	2'-9" to 6'-6"	67.6	Str.	Vary by 7½"					
A507	12	7'-0"	87.6	Str.						
A508	2 SER OF 7	3'-3" to 20'-6"	173.4	Str.	Vary by 2'-10½"					
A509	4	22'-6"	93.8	Str.						

NORTH ABUTMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	R
A510	2	27'-10"	58.0	Str.						
A511	2 SER OF 5	4'-10" to 10'-2"	78.2	Str.	Vary by 1'-4"					
A512	4	8'-0"	33.3	Str.						
A513	2 SER OF 5	4'-10" to 9'-10"	76.4	Str.	Vary by 1'-3"					
A514	2 SER OF 5	6'-6" to 7'-9"	59.4	Str.	Vary by 5"					
A515	2 SER OF 7	8'-1" to 10'-7"	136.2	Str.	Vary by 5"					
A516	2 SER OF 9	11'-2" to 12'-0"	72.3	Str.	Vary by 4"					
A517	20	21'-0"	438.0	Str.						
A518	20	28'-0"	584.0	Str.						
A519	35	4'-1"	148.9	14	1'-4"	2'-9"				
A520	5	6'-0"	31.2	3	2'-9"	0'-6"	2'-9"			
A521	35	9'-3"	337.6	6	1'-6"	1'-4"	2'-9"	1'-2"	2'-6"	
A522	5	6'-6"	33.9	3	2'-6"	0'-6"	3'-6"			
A523	62	9'-11"	641.4	3	2'-9"	0'-8"	6'-6"			
A524	62	6'-9"	436.5	3	1'-9"	3'-3"	1'-9"			
A525	2 SER OF 9	8'-0" to 13'-3"	354.6	3	6'-⅛" to 3'-8"	0'-8"	6'-⅛" to 3'-8"	2 Sets	Vary A&C by 4½"	
A526	20	2'-2"	45.2	2	0'-9"	1'-5"	12			
A527	18	9'-7"	179.8	Str.						
A528	4	6'-5"	53.5	Str.						
A529	5	3'-0"	15.6	Str.						
A530	35	4'-3"	155.1	14	1'-9"	2'-6"				
A601	20 SER OF 13	8'-0" to 13'-0"	4100.4	3	1'-0"	8'-0" to 11'-0"	1'-0"	Vary B by 5"		
A602	3 SER OF 13	17'-0" to 25'-0"	1230.1	20	1'-0"	7'-0" to 11'-0"	1'-0"	7'-0" to 11'-0"	1'-0"	B & D Vary by 4"
A603	3 SER OF 13	5'-0" to 14'-0"	556.4	20	1'-0"	1'-0" to 5'-6"	1'-0"	1'-0" to 5'-6"	1'-0"	B & D Vary by 4½"
A604	1 SER OF 9	18'-6" to 21'-10"	608.3	Str.	Vary by 5"					
A605	42	10'-6"	662.3	Str.						
A606	2 SER OF 5	9'-9" to 13'-9"	176.4	Str.	Vary by 1'-0"					
A607	10	14'-0"	210.2	Str.						
A608	2 SER OF 5	8'-0" to 27'-0"	262.8	Str.	Vary by 4'-9"					
A609	50	24'-2"	1815.1	Str.						
A610	2 SER OF 6	22'-5" to 24'-1"	419.0	Str.	Vary by 4"					
A611	78	24'-0"	2811.7	Str.						
A612	18	25'-9"	696.1	Str.						
A613	2 SER OF 5	4'-6" to 14'-6"	142.6	Str.	Vary by 2'-6"					
A614	2 SER OF 5	2'-8" to 6'-8"	56.0	Str.	Vary by 1'-0"					
A615	2 SER OF 3	10'-11" to 12'-2"	104.0	Str.	Vary by 7½"					
A616	10	21'-3"	319.1	Str.						
A617	254	8'-0"	3052.1	14	7'-0"	1'-0"				
A618	40	21'-0"	1261.6	Str.						
A619	40	28'-0"	1682.2	Str.						
A620	62	29'-6"	2747.1	Str.						
A621	62	26'-6"	2467.7	Str.						
A622	62	7'-8"	714.2	14	1'-4"	6'-4"				
A623	62	6'-9"	628.5	2	4'-7"	2'-2"	12			
A624	22	17'-6"	578.2	Str.						
A625	64	21'-6"	2066.7	Str.						
A626	10	11'-6"	172.7	Str.						
A627	14	24'-6"	515.1	Str.						
A628	14	38'-0"	799.0	Str.						
A629	6 SER OF 9	21'-6" to 5'-9"	982.3	Str.	Vary by 2'-3"					
A630	1 SER OF 7	18'-6" to 21'-0"	207.7	Str.	Vary by 5"					
A701	20 SER OF 13	11'-3" to 15'-3"	7026.8	3	1'-0"	11'-0" to 14'-7"	1'-0"	Vary B by 4"		
A702	14	22'-0"	629.5	Str.						
A703	14	36'-0"	1030.1	Str.						
A704	20	24'-0"	981.1	Str.						
A705	20	26'-0"	1062.8	Str.						
A801	20 SER OF 7	3'-0" to 11'-0"	2616.6	14	1'-0"	2'-0" to 10'-0"		Vary B by 1'-4"		
A802	20 SER OF 4	13'-0" to 18'-0"	3310.8	14	1'-0"	12'-0" to 17'-0"		Vary by 1'-8"		
A803	20 SER OF 8	20'-0" to 27'-0"	5019.6	14	1'-0"	19'-0" to 26'-0"		Vary by 2'-4"		
A804	40	27'-0"	2883.6	Str.						
A805	340	8'-8"	7867.6	14	1'-0"	7'-8"				
A806	104	14'-0"	3887.5	Str.						
A807	104	21'-0"	5831.2	Str.						
A808	104	28'-4"	7866.6	Str.						
A809	44	24'-0"	2819.5	Str.						
A810	44	26'-0"	3054.4	Str.						
A1001	33	20'-4"	2886.8	11	17'-6"	1'-5"				
A1002	95	24'-10"	10150.1	11	22'-0"	1'-5"				
A1003	1 SER OF 9	21'-4" to 24'-8"	890.7	11	18'-6" to 21'-10"	1'-5"	Vary A by 5"			
A1004	1 SER OF 7	21'-4" to 23'-10"	679.8	11	18'-6" to 21'-0"	1'-5"	Vary A by 5"			
A1005	10	13'-5"	577.4	10	12'-0"	1'-5"				

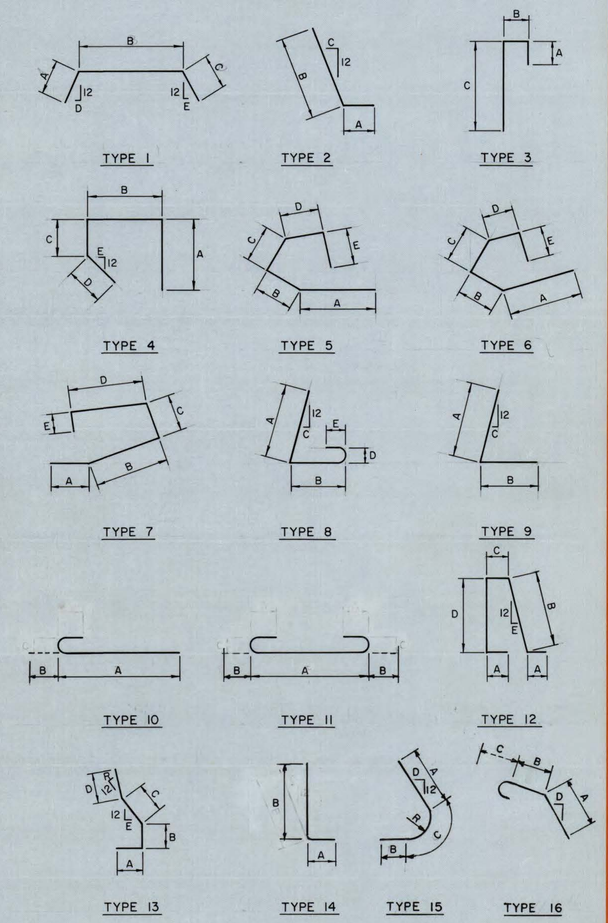
SUPERSTRUCTURE

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	R
S401	21	38'-8"	542	Str.						
S402	37	57'-1"	2059	Str.						
S403	6	31'-0"		Str.						
S405	197	15'-8"	2061	Str.						
S406	136	3'-8"	296	Str.						
S501	1016	41'-8½"	44198	Str.						
S501E	1016	42'-3½"	44816	10	41'-8½"	0'-7"				
S502	1016	52'-6½"	55678	Str.						
S502E	1024	53'-8½"	57362	10	52'-6½"	0'-7"				
S503	196	38'-8"	7905	Str.						
S503E	202	38'-8"	8145	Str.						
S504	686	57'-1"	40843	Str.						
S504E	707	57'-1"	42093	Str.						
S505	7	14'-2½"	104	Str.						
S506	130	40'-10½"	5542	Str.						
S506E	130	41'-5½"	5621	10	40'-10½"	0'-7"				
S507	2 Sets of 98	25'-0" to 37'-6"	6388	Str.	(Vary	Ea. By	0'-0¼")			196
S507E	2 Sets of 101	25'-0" to 37'-6"	6584	Str.	(Vary	Ea. By	0'-0¼")			202
S508	1 Set of 18	49'-1" to 15'-8"	608	Str.	(Vary	Ea. By	1'-11½")			18
S508E	1 Set of 18	49'-1" to 15'-8"	608	Str.	(Vary	Ea. By	1'-11½")			18
S509	7	15'-8"	114	Str.						
S509E	7	15'-8"	114	10						
S510	1 Set of 13	38'-10" to 16'-2"	372	Str.	(Vary	Ea. By	1'-11½")			13
S510E	1 Set of 13	39'-5" to 16'-9"	380	10	38'-10" to 16'-2"	1'-4⅜"		(Vary A	by 1'-11½")	13
S511	107	51'-8"	5765	Str.						
S511E	107	52'-3"	5831	10	51'-8"	0'-7"				
S512E	7	14'-9½"	108	10	14'-2½"	0'-7"				
S513	1048	7'-11"	8653	12	0'-8"	3'-0"	0'-7"	3'-0"	0'-1¼"	
S514E	1048	3'-3"	3552	13	0'-8"	0'-10"	1'-1"	0'-8"	0'-8⅜"	0'-7⅛"
S515	294	19'-8"	6029	Str.						
S515E	42	19'-8"	861	Str.						
S516	28	16'-11"	494	Str.						
S516E	4	16'-11"	71	Str.						
S517	21	15'-9½"	346	Str.						
S517E	3	15'-9½"	49	Str.						
S518	14	15'-5"	225	Str.						
S518E	2	15'-5"	32	Str.						
S519	28	14'-6"	423	Str.						
S519E	32	14'-6"	480	Str.						
S520	120	8'-0"	1001	Str.						
S521E	480	2'-10"	1418	4	1'-6"	0'-10"	0'-10"	0'-8"	12'-0"	
S601E	192	32'-6"	9372	Str.						

NORTH ABUTMENT

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	R
A1101	30	12'-1⅞"	1938.1	15	7'-0"	3'-2"	1'-11⅞"	9		1'-0"
A1102	30	12'-10½"	2052.9	15	7'-0"	3'-2"	2'-8½"	9		1'-4⅜"
A1103	30	13'-7¼"	2167.7	15	7'-0"	3'-2"	3'-5⅛"	9		1'-8⅜"
A1104	30	14'-3⅞"	2282.4	15	7'-0"	3'-2"	4'-1⅞"	9		2'-1⅞"
A1105	30	17'-9½"	2835.5	10	16'-0"	1'-9½"				
A1106	30	26'-3½"	4190.3	16	18'-0"	6'-6"	1'-9½"	9		
A1107	30	16'-3"	2590.0	16	23'-0"	5'-0"	1'-9½"	9		
A1108	24	32'-9½"	4181.1	10	31'-0"	1'-9½"				
A1109	9	25'-9½"	1233.2	10	24'-0"	1'-9½"				
A1110	9	16'-0"	765.0	Str.						
A1111	18	14'-1⅞"	1353.8	15	7'-0"	3'-2"	4'-1⅞"	6		2'-1⅞"
A1112	6	29'-0"	924.4	Str.						
Note: W501 Thru 509 (See Sheet No.66 Stubwalls) STUBWALLS										

BENDING DIAGRAMS



NOTE:
FOR BENDING NOT SHOWN, SEE SHEET Nº 92

BRIDGE NO.	DWG. NO.
3145	25

DESIGNED BY:
DETAILED BY: DLM
CHECKED BY: TS
DATE:

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

REINFORCING STEEL LIST
ABUTMENTS & SUPERSTRUCTURE
BRIDGE NO. 3145

SCALE: NO SCALE

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

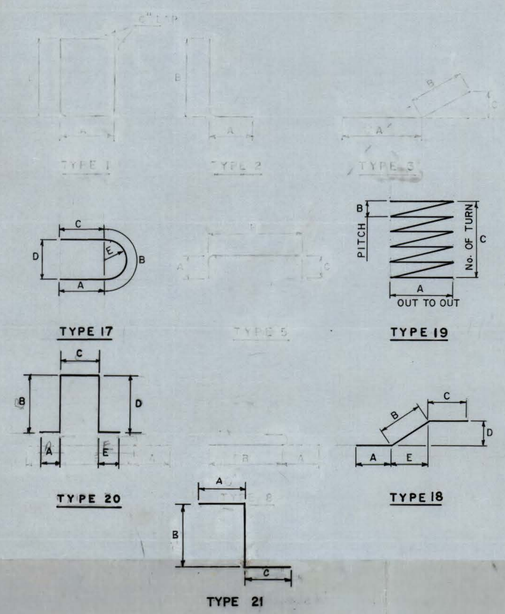
REINFORCING STEEL LIST

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	98	130

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	R
				PIER 1						
P501	8	4'-4"	36	2	2'-9"	1'-7"	2⅛"			
P502	208	11'-2"	2423	3	3'-10½"	1'-10¾"	3'-10½"			
P503	208	9'-6"	2061	3	3'-7½"	1'-10¾"	3'-7½"			
P504	16	45'-3	755	Str.						
P505	44	6'-10"	313	3	1'-10"	3'-2"	1'-10"			
P506	44	3'-2"	146	Str.						
P601	60	8'-6"	766	Str.						
P602	80	11'-6"	1382	Str.						
P901	60	14'-2"	2891	11	11'-8"	1'-3"				
P902	40	11'-2"	1519	11	8'-8"	1'-3"				
P903	80	19'-0"	5168	Str.						
P904	160	7'-5"	4035	14	0'-8"	6'-9"				
P905	40	18'-10"	2560	Str.						
P906	120	23'-6"	9588	Str.						
P1101	16	43'-6"	3696	Str.						
P1102	16	36'-0"	3060	10	34'-2½"	1'-9½"				
P1103	8	27'-8"	1176	Str.						
P1104	4	22'-6"	478	Str.						
P1105	8	30'-0"	1275	Str.						
				PIER 2						
P501	8	4'-4"	36	2	2'-9"	1'-7"	2⅛"			
P502	208	11'-2"	2423	3	3-10½	1'-10¾"	3-10½			
P503	208	9'-6"	2061	3	3-7½	1'-10¾"	3-7½			
P504	16	45'-3"	755	Str.						
P505	44	6'-10"	313	3	1'-10"	3'-2"	1'-10"			
P506	44	3'-2"	146	Str.						
P507	220	40'-0"	9178	Str.						
P508	110	13'-8¾"	1575	17	2'-6"	8'-8¾"	2'-6"	5'-6¾"	—	2'-8¾"
P907	352	9'-4"	11165	14	2'-10"	6'-6"				
P908	704	27'-8"	66232	Str.						
P910	16	11'-4"	616	3	2'-10"	5'-8"	2'-10"			
P911	80	24'-0"	6528	Str.						
P912	80	6'-11"	1882	Str.						
P913	80	7'-11"	2154	18	3'-8"	0'-6¾"	3'-8"	0'-3"	0'-6"	
P1001	32	30'-0"	4131	Str.						
P1002	16	35'-4"	2432	Str.						
P1003	132	27'-9"	15762	11	24'-6"	1'-7½"				
P1004	160	10'-8"	7345	Str.						
P1005	160	19'-8"	13542	Str.						
P1101	16	43'-6"	3696	Str.						
P1102	16	36'-0"	3060	10	34'-2½"	1'-9½"				
P1103	8	27'-8"	1176	Str.						
P1104	4	22'-6"	478	Str.						
P1105	8	30'-0"	1275	Str.						
P601	170	24'-6"	4416	Str.						
P602	34	30'-0"	1532	Str.						
P603	17	35'-4"	902	Str.						

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	R
				PIER 3						
P501	8	4'-4"	36	2	2'-9"	1'-7"	2⅛"			
P502	208	11'-0¾"	2423	3	4'-7"	1'-10¾"	4'-7"			
P503	208	9'-6¾"	2061	3	3'-10"	1'-10¾"	3'-10"			
P504	16	45'-3"	755	Str.						
P505	44	6'-10"	313	3	1'-10"	3'-2"	1'-10"			
P506	44	3'-2"	146	Str.						
P507	220	40'-0"	9178	Str.						
P508	110	13'-8¾"	1575	17	2'-6"	8'-8¾"	2'-6"	5'-6¾"	—	2'-8¾"
P601	170	24'-6"	4416	Str.						
P602	34	30'-0	1532	Str.						
P603	17	35'-4"	902	Str.						
P907	352	9'-4"	11165	14	2'-10"	6'-6"				
P908	704	27'-8"	66232	Str.						
P910	16	11'-4"	616	3	2'-10"	5'-8"	2'-10"			
P912	80	6'-11"	1882	Str.						
P913	80	7'-11"	2154	18	3'-8"	0'-6¾"	3'-8"	0'-3"	0'-6"	
P921	80	29'-6"	8024	Str.						
P1001	32	30'-0"	4131	Str.						
P1002	16	35'-4"	2432	Str.						
P1003	132	27'-9"	15762	11	24'-6"	1'-7½"				
P1004	160	10'-8"	7345	Str.						
P1005	160	19'-8"	13542	Str.						
P1101	16	43'-6"	3696	Str.						
P1102	16	36'-0"	3060	10	34'-2½"	1'-9½"				
P1103	8	27'-8"	1176	Str.						
P1104	4	22'-6"	478	Str.						
P1105	8	30'-0"	1275	Str.						
				PIER 4						
P501	8	4'-4"	36	2	2'-9"	1'-7"	2⅛"			
P502	208	11'-2"	2423	3	3'-10½"	1'-10¾"	3'-10½"			
P503	208	9'-6"	2061	3	3'-7½"	1'-10¾"	3'-7½"			
P504	16	45'-3"	755	Str.						
P505	44	6'-10"	313	3	1'-10"	3'-2"	1'-10"			
P506	44	3'-2"	146	Str.						
P507	180	40'-0"	4172	Str.						
P509	32	17'-3"	576	Str.						
P510	14	30'-0"	438	Str.						
P511	64	11'-3"	751	17	2'-6"	6'-3"	2'-6"	4'-0"	—	2'-0"
P601	118	14'-6"	2570	Str.						
P602	33	30'-0"	1487	Str.						
P603	22	11'-6"	380	21	2'-0"	7'-6"	2'-0"			
P906	160	27'-6"	14960	Str.						
P907	256	9'-4	8120	14	2'-10"	6'-6"				
P908	92	23'-8"	7403	Str.						
P909	22	14'-0½"	1050	18	2'-10"	8'-4⅝"	2'-10"	3'-9"	7'-6"	
P914	118	17'-0"	6820	11	14'-6"	1'-3"				
P915	33	30'-0"	3366	Str.						
P916	84	31'-2"	8902	Str.						
P917	80	38'-8"	10517	Str.						
P918	16	9'-6"	517	3	2'-10"	3'-10"	2'-10"			
P919	80	16'-6"	4480	Str.						
P920	160	9'-8"	5264	Str.						
P1101	16	43'-6"	3696	Str.						
P1102	16	36'-0"	3060	10	34'-2½"	1'-9½"				
P1103	8	27'-8"	1176	Str.						
P1104	4	22'-6"	478	Str.						
P1105	8	30'-0"	1275	Str.						

BENDING DIAGRAM



SPIRAL BAR LIST

MARK	SIZE	NUMBER OF SPIRALS PIER 1	PIER 2	PIER 3	PIER 4	PITCH	LENGTH	CORE DIA.	No OF TURNS	TYPE	WEIGHT
SP401	½"φ	5				3½"	20'-7"	38"%	72	6	2392
SP402	½"φ	5				3½"	16'-3½"	38"%	57	6	1894
SP403	½"φ		5	5		3½"	19'-8½"	50"%	69	6	6033
SP404	½"φ		5			3½"	21'-7"	38"%	75	6	2492
SP405	½"φ			5		3½"	27'-1"	38"%	94	6	3123
SP406	½"φ				5	3½"	24'-7"	38"%	86	6	2858
SP407	½"φ				5	3½"	14'-1"	38"%	50	6	1661

THE INSPECTOR SHALL PICK RANDOM BARS FROM THE REINFORCING BAR LIST FOR TEST BARS. HE SHALL CUT 5'-0" FROM THE BARS CHOSEN: RE BARS IN THE LIST SHALL BE SPLICED TO THE BARS SO LISTED, AND THE RE BARS HAVE BEEN DETAILED TO ALLOW A 30 DIA. SPLICE AT EACH END. ONE RE BAR FOR EACH 10 TON OR FRACTION THEREOF, OF EACH SIZE AND FOR SUB AND SUPERSTRUCTURE, HAVE BEEN INCLUDED IN THE BILL OF STEEL AND WILL BE PAID FOR UNDER ITEM 602.1. IN THE EVENT ALL BARS OF ANY ONE SIZE ARE NOT SENT IN ONE SHIPMENT. THE SUPPLIER SHALL FURNISH AT HIS EXPENSE. ONE FOR EACH 10 TON OR FRACTION THEREOF FOR EACH EXTRA SHIPMENT.

IN THE EVENT THAT ANY SHIPMENT OF MATERIAL HAS BEEN PRE-TESTED AND HAS BEEN INDENTIFIED IN ACCORDANCE WITH MATERIAL CONTROL, SOIL AND TESTING DIVISION'S INFORMATIONAL MEMORANDUM #17, (1M-17). THE SHIPMENT MAY BE ACCEPTED WITHOUT FURTHER TESTING SUBJECT TO RECORD SAMPLING PROCEDURES.

NOTE:

- THE LENGTH OF SPIRAL SP401 THRU SP406 IS THE DISTANCE FROM THE TOP OF THE OPTIONAL CONSTRUCTION JOINT TO THE BOTTOM OF THE PIER CAP REINFORCED STEEL.
- SPLICES IN SPIRAL BARS SHOULD BE AVOIDED IF PRACTICAL OR, IF NECESSARY, SHALL BE MADE BY A LAP OF 1½ TURNS. SPIRAL SHALL EXTEND 2" INTO PIER CAP.

REPLACEMENT BARS

SIZE	NO.	LENGTH	WEIGHT
4	2	7'-8"	10
5	20	9'-4"	195
6	2	7'-9"	23
7	1	—	
8	4	7'-8"	256
9	10	9'-4"	317
10	3	13'-5"	173
11	3	22-6"	239

BRIDGE NO.	DWG. NO.
3145	26

DESIGNED BY:
DETAILED BY: DM
CHECKED BY: R
DATE:

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY
1	98	Dim. PS02 & PS03 - Pier 2 & 3	11/13/79	JeB

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

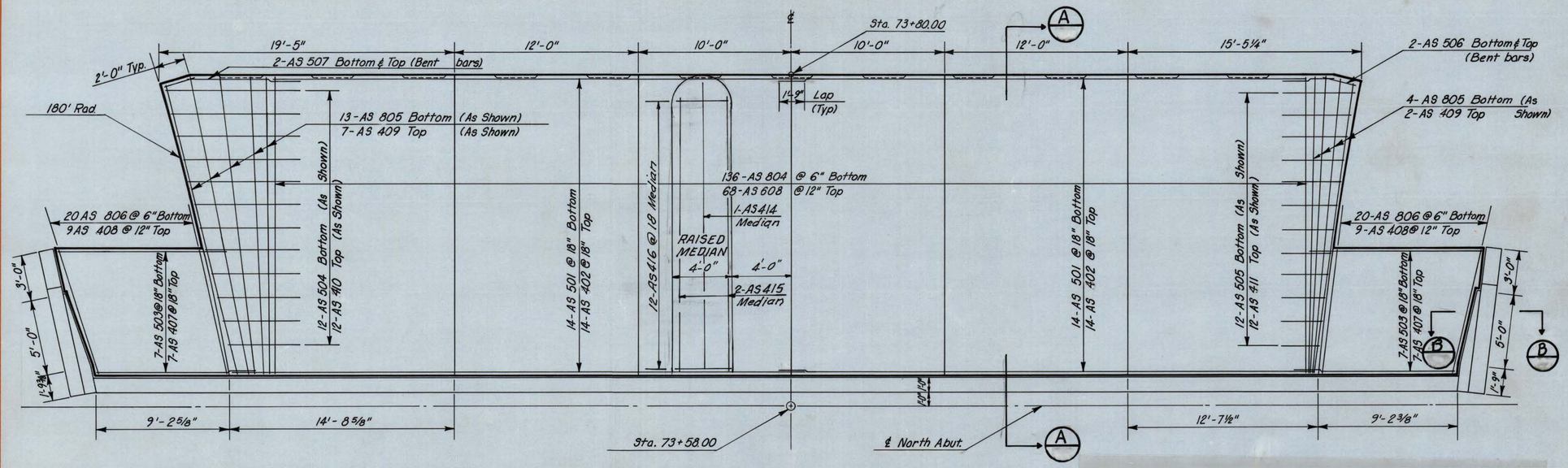
REINFORCING STEEL LIST

BRIDGE NO. 3145

SCALE: NO SCALE

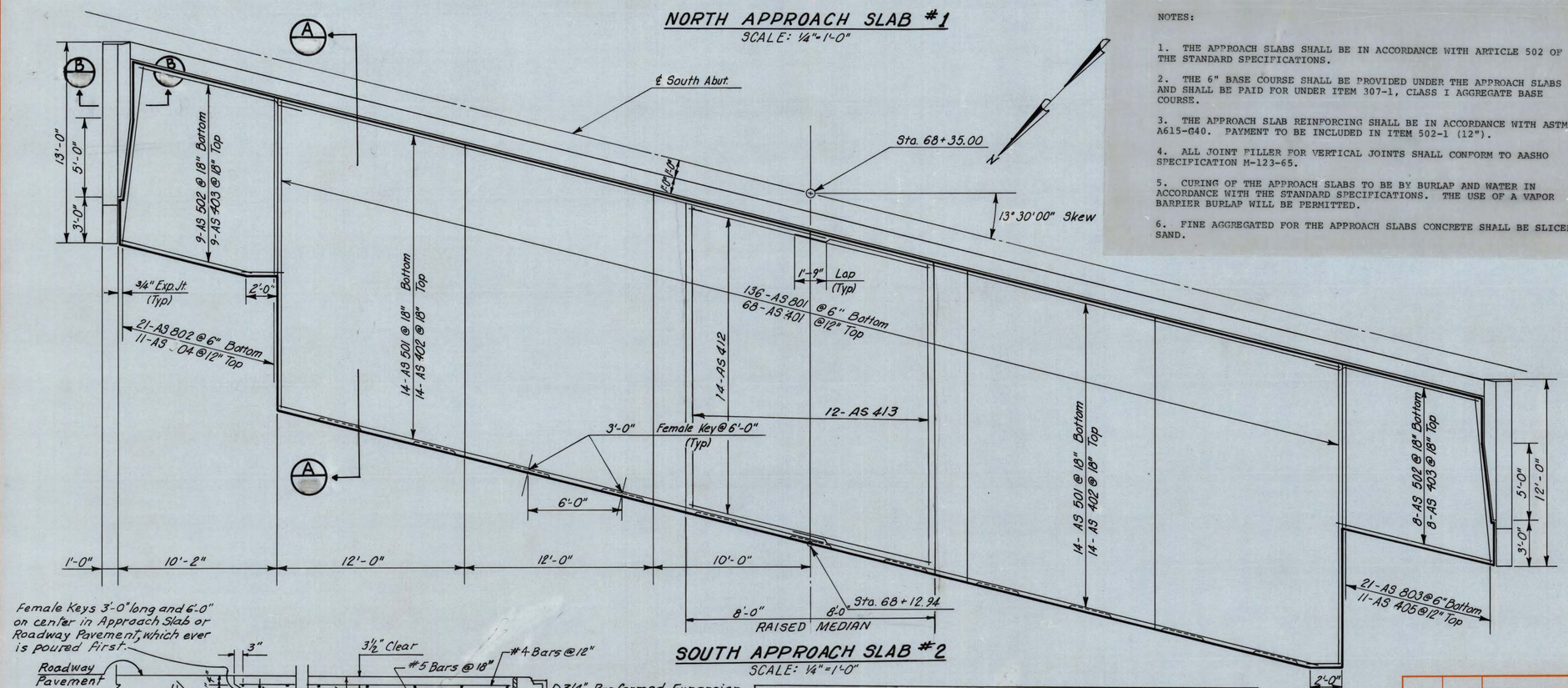
RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W. VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	99	130



NORTH APPROACH SLAB #1

SCALE: ¼" = 1'-0"



SOUTH APPROACH SLAB #2

SCALE: ¼" = 1'-0"

NOTES:

1. THE APPROACH SLABS SHALL BE IN ACCORDANCE WITH ARTICLE 502 OF THE STANDARD SPECIFICATIONS.

2. THE 6" BASE COURSE SHALL BE PROVIDED UNDER THE APPROACH SLABS AND SHALL BE PAID FOR UNDER ITEM 307-1, CLASS I AGGREGATE BASE COURSE.

3. THE APPROACH SLAB REINFORCING SHALL BE IN ACCORDANCE WITH ASTM A615-G40. PAYMENT TO BE INCLUDED IN ITEM 502-1 (12").

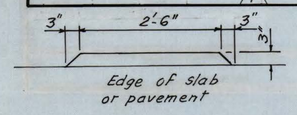
4. ALL JOINT FILLER FOR VERTICAL JOINTS SHALL CONFORM TO AASHO SPECIFICATION M-123-65.

5. CURING OF THE APPROACH SLABS TO BE BY BURLAP AND WATER IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE USE OF A VAPOR BARRIER BURLAP WILL BE PERMITTED.

6. FINE AGGREGATED FOR THE APPROACH SLABS CONCRETE SHALL BE SLICED SAND.

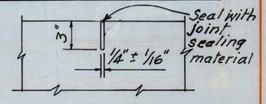
REINFORCING SCHEDULE

MARK	TYPE	SIZE	NUMBER OF BARS APP. SL. #1	APP. SL. #2	TOTAL	LENGTH	WEIGHT LBS.
AS801	ST.	8	136 #2	#1	136	19'-7"	711.
AS802	ST.	8	21		21	10'-10 to 11'-5"	624
AS803	ST.	8	21		21	9'-10" to 10'-5"	568
AS804	ST.	8		136	136	19'-7"	711.
AS805	ST. Rad.	8		17	17	19'-9"	896
AS806	ST. Rad.	8		40	40	8'-4"	890
AS501	ST.	5	28		28	35'-7"	1039
AS501	ST.	5		28	28	34'-8"	1012
AS502	ST.	5	17		17	11'-6" to 12'-3"	211
AS503	ST.	5		14	14	11'-0" to 11'-9"	166
AS504	ST.	5		12	12	4'-3" to 9'-0"	83
AS505	ST.	5		12	12	2'-3" to 5'-0"	45
AS506	Bend	5		2	2	5'-0"	10
AS507	Bend	5		2	2	9'-0"	19
AS401	ST.	4	68		68	19'-7"	889
AS402	ST.	4	28		28	35'-7"	666
AS402	ST.	4		28	28	34'-8"	648
AS403	ST.	4	17		17	11'-6" to 12'-3"	135
AS404	ST.	4	11		11	10'-10" to 11'-5"	82
AS405	ST.	4	11		11	9'-10" to 10'-5"	74
AS406	ST.	4		68	68	19'-7"	889
AS407	ST.	4		14	14	11'-0" to 11'-9"	106
AS408	ST.	4		18	18	8'-4"	100
AS409	ST. Rad.	4		9	9	19'-9"	119
AS410	ST.	4		12	12	4'-3" to 9'-0"	65
AS411	ST.	4		12	12	2'-3" to 4'-6"	54
AS412	ST.	4		14	14	7'-8"	72
AS413	ST.	4		12	12	19'-6"	156
AS414	ST.	4	1	1	1	19'-6"	13
AS415	ST.	4	2	2	2	17'-9"	24
AS416	ST.	4	12	12	12	3'-8"	29



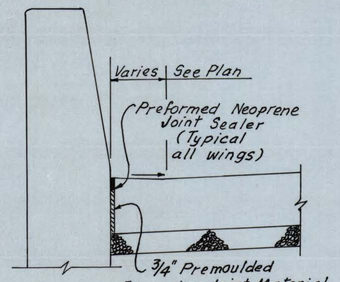
DETAIL OF KEY

Scale: ¾" = 1'-0"



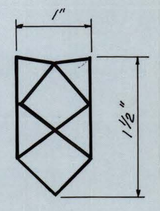
DETAIL OF SAWED LONGITUDINAL JOINT

(Not to scale)



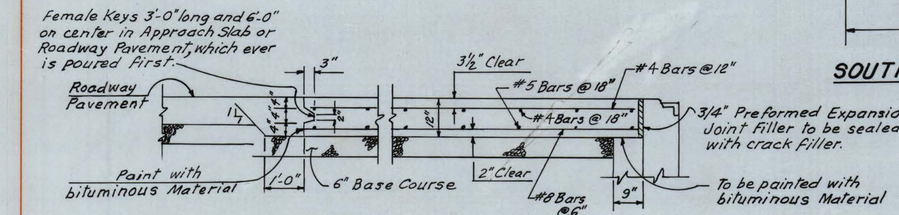
SECTION "B-B"

Scale: ¾" = 1'-0"



PREFORMED NEOPRENE JOINT SEALER

(Not to scale)



SECTION "A - A"

Scale: 1/2" = 1'-0"

ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	KY.	W.VA.	TOTAL
501-1(12")	Portland Cement Concrete Approach Slab				
	Reinforcing Steel Bars 114G4 12429	S.Y.	175	184	359
	Preformed Elastomeric Joint Sealer 112-3½ 105-9		4	4	8
307-1	Class I Aggregate Base Course	C.Y.	3.2	3.4	6.6
	112-3½ 105-9		30	31	61

2

BRIDGE NO.	DWG. NO.
3145	27

DESIGNED BY: TVL

DETAILED BY:

CHECKED BY: T.S.

DATE:

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY
2	99	Base Course Quantity Revised	1/22/79	S
1	99	Approach Slabs Reversed	1/22/79	S

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

APPROACH SLABS

BRIDGE NO. 3145

SCALE: AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	2	330-G-0.00	APD-323(59)	1978	MINGO	100	130

BORING NO. B-1

STA. 68+72, LT. 47'

CONCRETE = 0.3'

GROUND 665.5

Blows	Soil	Elev.	Description
4, 9, 10	VST	660.1	BR. CLAY SILT SOME FINE SAND
8	L	651.8	BR. SILT
7, 4	L-VL	642.2	BR. SILT
5, 5	L	632.9	BR FINE SAND LITTLE SILT FEW SEAMS SILTY CLAY, SILT,
5	L	627.5	BR. SILT, SOME FINE SAND TRACE OF CLAY, FEW SMS OF SILTY CLAY
17	W MST	624.8	CLAYEY SILT W/ INTERBEDDED SM. FINE SAND
	MD	622.7	F-C SAND & LITTLE SILT
48	D	615.3	F-C GRAVEL, SOME F-C SAND LITTLE SILT FEW TO MANY COBBLES & BOULDERS
68, 54	VD	607.1	BR & GY F-C GRAVEL (SS.F.) SOME F-C SAND LITTLE SILT
138	VD	602.7	F-C SAND, SOME F-C GRAVEL (SS.F.) LITTLE SILT, MANY COBBLES & BOULDERS
71, 101 6"	VD	594.5	F-C GRAVEL (SANDSTONE FRAG.) SOME F-C SAND LITTLE SILT F-M COBBLES & BOULDERS
100%	S-MH	592.6	BR. & GY. FINE SANDSTONE — EST/MATE PILE TIP
100%	MH	584.0	GY. F-C SANDSTONE

BORING NO. B-2

STA. 68+66, LT. 20'

T.S. = 0.7'

GROUND 665.0

Blows	Soil	Elev.	Description
2	20-PL VL-L	659.4	BR MOTTLED W/DK-GY SILT L-S F-C SAND, FEW ROOTS, SLIGHTLY ORGANIC
5	L	656.2	SILT, FINE SAND, & TRACE CLAY
P	ST-VST	653.7	CLAYEY SILT
4, 5, 4	L	642.6	BR. SILT
5	L	636.7	FINE SAND TRACE SILT FEW SEAMS OF SILT
4	VL	632.3	BR. SILT
8	L	626.6	FINE SAND TRACE SILT FEW SEAMS OF SILTY CLAY & SILT
19	W MD	622.5	F-C SAND, TRACE SILT LITTLE F-C GRAVEL (SANDSTONE FRAG.)
57	VD	615.0	F-C GRAVEL (SANDSTONE FRAG.) SOME F-C SAND, TRACE SILT F-M COBBLES & BOULDERS
84, 56, 69 6", 99, 145 6"	VD	595.0	F-C GRAVEL (SANDSTONE FRAG.)
72%	VS-MH	593.4	BR. F-C SANDSTONE
92%	MH	590.0	GY. FINE SANDSTONE INTERBEDDED W/ DARK GY. SILTSTONE — EST/MATE PILE TIP
	MH	585.0	GY. F-C SANDSTONE

BORING NO. B-3

STA. 68+62, RT. 25'

T.S. = 0.0'

GROUND 665.0

Blows	Soil	Elev.	Description
18	MD	663.0	FILL: GY. F-C GRAVEL
8, P, 8, 5	L	652.6	BR SILT
P, 5	20-PL 29-PL ST-VST	647.6	BR CLAYEY SILT, LITTLE FINE SAND, FEW ROOTS
7	L	642.3	BR SILT
7, 7	L	631.6	BR FINE SAND LITTLE SILT FEW SMS OF SILT
7, 13	W L	621.9	BR FINE SAND TRACE SILT FEW SMS OF SILT
32	MD	615.0	GY & BR F-C GRAVEL
18	MD	611.4	BR F-C SAND, SOME F-C GRAVEL LITTLE SILT, FEW C & B
34	D	606.9	BR & GY F-C GRAVEL, SOME F-C SAND, LITTLE SILT, FEW C & B
69	MD	602.3	GY F-C SAND
105 6"	VD	594.5	BR & GY F-C SAND — GY F-C SANDSTONE INTERBEDDED W/DK-GY SHALE & SILTSTONE
88%	MH	592.6	
100%	MH	584.5	GY F-C SANDSTONE — ESTIMATE PILE TIP

BORING NO. B-4

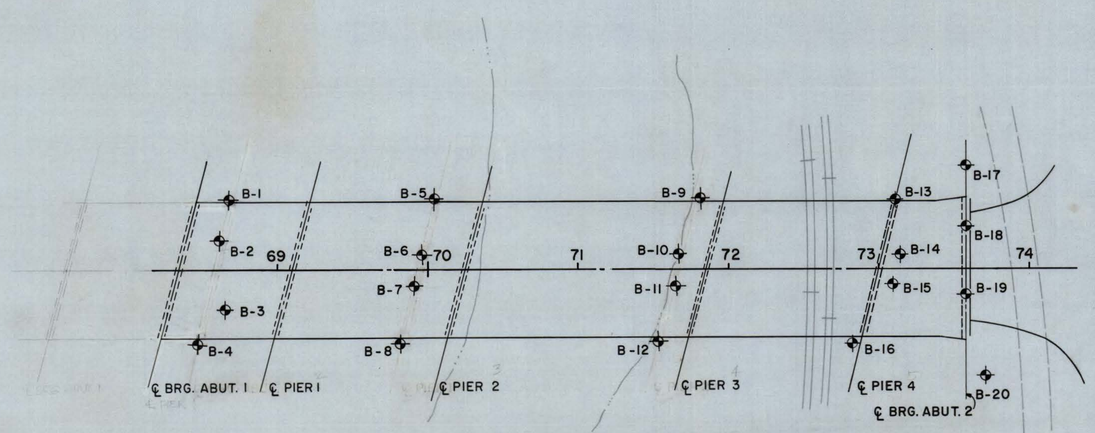
STA. 68+48, RT. 48'

T.S. = 0.0'

GROUND 665.0

Blows	Soil	Elev.	Description
22	MD	662.8	FILL: BLK & BR F-C SAND
8, P, 13	L	658.7	BR FINE SAND, SOME SILT & FINE SAND, FEW ROOTS
P	MD	653.0	BR SILT
10, 7	VST	646.6	BR CLAYEY SILT, SOME FINE SAND, FEW SMS OF SILT
9	L	642.2	BR FINE SAND, LITTLE SILT INTERBEDDED W/VST SILTY CLAY, SOME FINE SAND
7	L	636.8	BR FINE SAND, SOME SILT, TRACE CLAY
8	L	627.6	BR FINE SAND, LITTLE SILT, FEW SMS OF SILTY CLAY, CLAYEY SILT & SILT
8, 12	W MD	622.0	BR F-C SAND, LITTLE F-C GRAVEL, FEW SMS OF CLAYEY SILT & SILT
27	MD	615.0	BR F-C SAND
21	MD	611.6	BR & DK-GY F-C GRAVEL
69	VD	607.5	BR F-C GRAVEL (SS.F.), SOME F-C SAND, LITTLE SILT, F-M C & B
89 6", 82	VD	603.0	GY FINE SAND, SOME SILT, LITTLE FINE GRAVEL (VS SS. F.)
	VD	597.0	GY & BR F-C SAND, SOME F-C GRAVEL (SS.F.), LITTLE CLAYEY SILT, FEW C & B
168 6"	VS	595.3	GY SHALE
92%	MH	591.4	GY FINE SANDSTONE INTERBEDDED W/DK-GY SHALE & SILTSTONE
98%	MH	585.5	GY F-C SANDSTONE — ESTAMATE PILE TIP

NOTE: FOR SOIL KEY AND LEGEND, SEE SOIL AND GEOLOGIC DATA SHEET NO. 28.



PLAN

SCALE: 1" = 50'

BRIDGE NO.	DWG. NO.
3145	28
DESIGNED BY:	
DETAILED BY:	
CHECKED BY:	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

U.S. 119 OVER TUG FORK
SOIL BORINGS
BRIDGE NO. 3145

SCALE AS SHOWN

RACKOFF ASSOCIATES, INC.
ENGINEERS · CONSULTANTS
COLUMBUS, OHIO

FEDERAL HIGHWAY ADMIN.	STATE DIST. NO.	STATE PROJECT NO.	FEDERAL PROJECT NO.	FISCAL YEAR	COUNTY	SHEET NO.	TOTAL SHEETS
W.VA.	2	330-G-0.00	APD-32359	1978	MINGO	101	130

BORING NO. B-5

STA. 70+06 LT. 47'

T.S. = 0.0'

GROUND 641.5

Elev.	Blows	Type	Level	Description
640	4, 4		VL 636.2	BR, DK-BR, & DK-GY FINE SAND, LITTLE SILT, FEW THIN SMS OF DK-GY ORGANIC CLAYEY SILT, SOME FINE SAND, FEW ROOTS & WOOD FRAG.
630	6, 4		L 629.2	DK-GY MOTTLED W/ BLK & BR SILT
	6	W	L 622.8	BR & DK-GY FINE SAND, LITTLE SILT, TRACE COARSE SAND TO FINE GRAVEL
620	25		MD 617.9	BR F-C GRAVEL (SS.F.)
	67		VD 613.2	BR F-C SAND
610	65		VD 607.7	BR & GY F-C GRAVEL, SOME F-C SAND, LITTLE SILT, FEW TO MANY C & B
	22		MD 604.0	GY F-C GRAVEL
600	35 6"		D 599.3	GY F-C SAND, SOME F-C GRAVEL (SS.F.) LITTLE SILT, FEW C & B
	41		D 591.0	GY F-C GRAVEL (SS.F), LITTLE TO SOME F-C SAND, TRACE SILT, F-M C & B
590	85 6"			GY F-C SANDSTONE — ESTIMATE PILE TIP
	100%		MH 581.0	
580	100%			

BORING NO. B-6

STA. 69+97, LT. 10'

T.S. = 0.0'

GROUND 639.5

Elev.	Blows	Type	Level	Description
	4, P, 3		VL 631.7	BR & DK-GY F-C SAND, LITTLE SILT, FEW SMS OF CLAYEY SILT & SILT PARTLY INTERBEDDED W/ ORGANIC SILT & CLAYEY SILT, FEW DECAYED ROOTS
	6		L 626.1	BR & DK-GY F-C SAND, SOME SILT, FEW ROOTS, FEW SILT SMS, FEW WOOD FRAG.
	4	W	VL 620.6	BR FINE SAND, LITTLE SILT, FEW SMS OF SILT & ORGANIC CLAYEY SILT
	47, 35		D 611.2	BR F-C GRAVEL (SS.F.), SOME F-C SAND, TRACE SILT, F-M C & B
			D 606.0	BR F-C SAND
	27, 25		MD 597.1	GY & BR F-C GRAVEL (SS.F)
	35, 50 2"		D-VD 589.5	GY & BR F-C SAND,
	98%			GY F-C SANDSTONE FEW STREAKS OF SILTSTONE — ESTIMATE PILE TIP
	100%		MH 579.5	

BORING NO. B-7

STA. 69+92, RT. 10'

T.S. = 0.0'

GROUND 640.0

Elev.	Blows	Type	Level	Description
	4, 4, 5		VL-L 627.3	BR, DK-BR, & DK-GY FINE SAND, LITTLE SILT, FEW SMS OF DK-GY SILT
	3, 7	W	L 621.6	BR & DK-GY FINE SAND, LITTLE F-C GRAVEL (COAL & CARB. SHALE FRAG.), LITTLE SILT, FEW SMS OF SILT,
	43, 31		D 612.0	BR F-C GRAVEL (SS.F.), SOME F-C SAND, TRACE SILT, F-M C & B
	24, 17		MD 597.3	GY & BR F-C GRAVEL (SS.F.)
	62, 50 2"		VD 589.5	GY & BR F-C GRAVEL (SS.F.)
	87%			GY F-C SANDSTONE — ESTIMATE PILE TIP
	100%		MH 579.5	

BORING NO. B-8

STA. 69+82, RT. 49'

T.S. = 0.0'

GROUND 640.0

Elev.	Blows	Type	Level	Description
640	4, 4, P, 3		VL 631.7	BR & DK-BR FINE SAND, TRACE TO LITTLE SILT, F-M SMS OF SILT & MST-ST ORGANIC CLAYEY SILT, FEW ROOTS & WOOD FRAG., DECAYED VEG.
630	6		L 627.0	DK-GY TO BLK & BR FINE SAND, LITTLE SILT, FEW SMS OF DK-GY & BLK SILT & CLAYEY SILT
	7	W	L 622.2	BR F-C SAND, LITTLE F-C GRAVEL (CARB. SHALE & COAL FRAG.), FEW SMS OF SILT
620	31, 27		D-MD	BR & GY F-C SAND
610	26, 35 6", 28			
	33		590.5 SAND	
590	65 6"		D 590.0	GY F-C SANDSTONE, FEW VERY-THIN STREAKS OF DK-GY SILTSTONE — ESTIMATE PILE TIP
	100%		MH 580.0	
580	100%			

BORING NO. B-9

STA. 71+81, LT. 47'

T.S. = 0.0'

GROUND 626.5

Elev.	Blows	Type	Level	Description
630	4	W	VL 624.4	BR FINE SAND, SOME SILT, FEW ROOTS, FEW SMS OF DK-GY SILT
620	8, 29		L 620.0	BR & GY F-C GRAVEL, SOME F-C SAND, FEW C & B
	12, 27		14-PL MD 609.0	BR & GY F-C GRAVEL (SS.F. & COAL F.), L-S F-C SAND, L-S CLAYEY SILT, F-M C & B
610	81		VST 603.5	GY CLAYEY SILT, SOME F-C SAND, SOME F-C GRAVEL
600	34		D 600.0	GY & BR F-C GRAVEL, LITTLE F-C SAND, LITTLE CLAYEY SILT
	101 4"		VS-MH 597.1	GY SHALE, FEW SMS OF COAL
			595.4	COAL
590	50%		S-MH 590.7	GY & DK-GY SHALE, FEW SLICKEN SIDES PARTLY CARB.
	100%			GY F-C SANDSTONE, FEW THIN SMS OF DK-GY SHALE & SILTSTONE — ESTIMATE PILE TIP
580	100%		MH 583.5	

BORING NO. B-10

STA. 71+68, LT. 10'

T.S. = 0.0'

GROUND 624.5

Elev.	Blows	Type	Level	Description
	2	W	VL 619.3	DK-GY & DK-BR SILT,
			MD 616.1	BR, GY, & DK-GY F-C GRAVEL, LITTLE CLAYEY SILT, FEW C & B, FEW CLAYEY SILT SMS
	24, 21, 46		15-PL VST 602.0	GY MOTTLED W/ BR CLAYEY SILT, L-S F-C SAND, SOME F-C GRAVEL (SS., SHALE, & COAL FRAG.), FEW C & B
	101 6"		VD 598.1	GY & DK-GY F-C SAND, SOME F-C GRAVEL, LITTLE CLAYEY SILT, FEW COAL FRAG., F-M C & B
	100 0"		VS-S 595.5	GY SHALE, FEW SMS OF COAL
	83%		594.1	COAL
			S-MH 591.8	DK-GY CARB. SHALE
			591.2	COAL
			MH 589.1	DK-GY SHALE, FEW SILTSTONE SMS
	100%		MH 585.5	GY F-C SANDSTONE INTERBEDDED W/ DK-GY & GY SHALE & SILTSTONE — ESTIMATE PILE TIP

BORING NO. B-11

STA. 71+65, RT. 11'

T.S. = 0.0'

GROUND 625.5

Elev.	Blows	Type	Level	Description
	2	W	VL 623.2	BR FINE SAND, SOME SILT, FEW SMS OF ORGANIC CLAYEY SILT & SILT, FEW ROOTS
	5		L 620.7	DK-GY FINE GRAVEL, SOME F-C SAND LITTLE ORGANIC CLAYEY SILT
	33		D 617.0	BR & DK-BR FINE SAND, LITTLE SILT, FEW ROOTS
	25		MD 608.7	GY, BR, & DK-GY F-C GRAVEL (SS.F.), LITTLE F-C SAND, L-S CLAYEY SILT, FEW C & B
	53		ST-VST 602.3	GY CLAYEY SILT, SOME F-C SAND, SOME F-C GRAVEL, FEW C & B
	131 6"		VD 596.5	BR & GY F-C GRAVEL (SS.F.), SOME F-C SAND, SOME SILT, F-M C & B
	167		VS 593.5	GY SHALE, COAL
	83%		S-MH 588.2	GY & DK-GY SHALE INTERBEDDED W/MH GY SHALE & SILTSTONE, COAL, CARB. SHALE — ESTIMATE PILE TIP
	98%		MH 583.5	GY F-C SANDSTONE

BORING NO. B-12

STA. 71+56, LT. 48'

T.S. = 0.0'

GROUND 626.5

Elev.	Blows	Type	Level	Description
630	3		VL 624.2	FILL: BR FINE SAND, SOME SILT, FEW ROOTS & WOOD FRAG.
	3		VL 621.7	DK-GY MOTTLED W/ BR ORGANIC SILT
620		W	L 618.3	BR SILT
	26		MD 616.0	BR & GY F-C GRAVEL
			VH 612.8	GY MOTTLED W/BR CLAYEY SILT, SOME F-C SAND, SOME F-C GRAVEL, FEW C & B
610	22, 24		20-PL ST-VST 603.1	GY CLAYEY SILT
600	101 2"		VD 593.1	BR & GY F-C GRAVEL (SS.F.)
	136			
590	139 6"		VS 589.0	GY SHALE, FEW THIN SMS OF COAL
	87%			GY FINE SANDSTONE INTERBEDDED W/GY & DK-GY SILTSTONE — ESTIMATE PILE TIP
	100%		MH 580.5	
580			MH 580.5	GY F-C SANDSTONE

NOTE: FOR SOIL KEY AND LEGEND, SEE SOIL AND GEOLOGIC DATA SHEET NO. 28 .

BRIDGE NO.	DWG. NO.
3145	29
DESIGNED BY:	
DETAILED BY:	
CHECKED BY:	
DATE:	

REVISION NUMBER	SHEET NUMBER	REVISIONS	DATE	BY

WEST VIRGINIA
DEPARTMENT OF HIGHWAYS

U. S. 119 OVER TUG FORK
SOIL BORINGS
BRIDGE NO. 3145

SCALE: AS SHOWN

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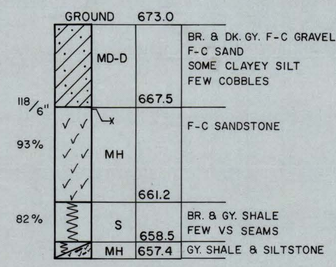
W.VA.	2	330-G-0.00	APD-32359	1978	MINGO	102	130

680 675 670 665 660 655 650 645 640 635

BORING NO. B-13

STA. 73+12 LT 48'

TS. = 0.0'

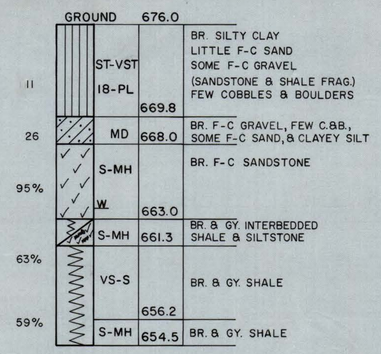


BOTTOM OF FOOTING

BORING NO. B-14

STA. 73+13 LT 10'

TS. = 0.0'

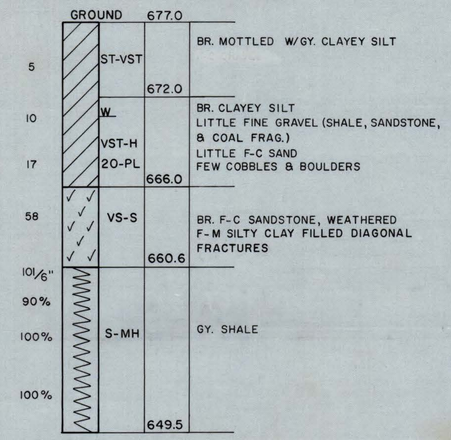


BOTTOM OF FOOTING.

BORING NO. B-15

STA. 73+08 RT 10'

TS. = 0.0'

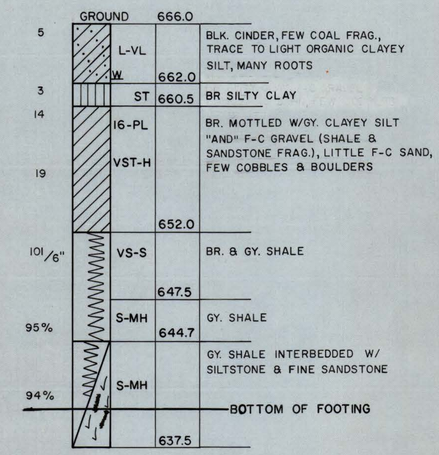


BOTTOM OF FOOTING

BORING NO. B-16

STA. 72+81 RT 49'

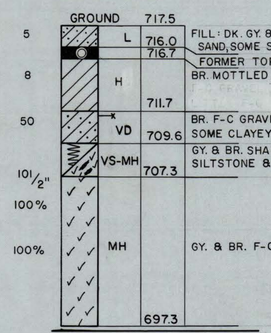
TS. = 0.0'



BORING NO. B-17

STA. 73+59 LT 69'

TS. = 0.0'

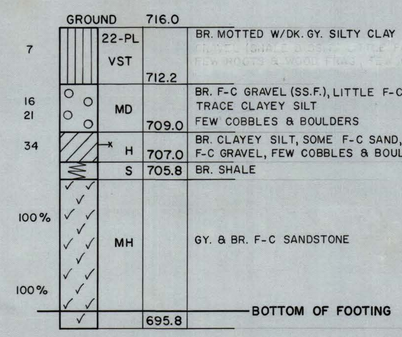


BOTTOM OF FOOTING

BORING NO. B-18

STA. 73+59 LT. 29'

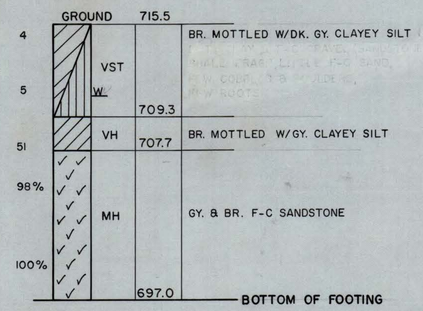
TS. = 0.0'



BORING NO. B-19

STA. 73+59 RT 16'

TS. = 0.0'

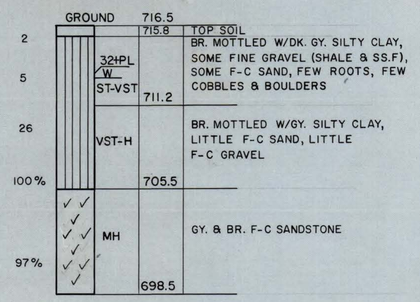


BOTTOM OF FOOTING

BORING NO. B-20

STA. 73+70 RT 71'

TS. = 0.7



BOTTOM OF FOOTING

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3145	30

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