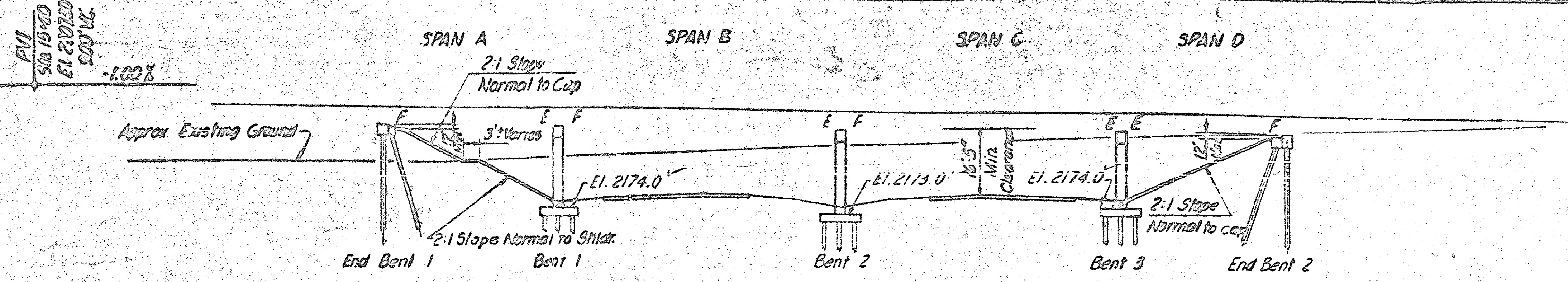
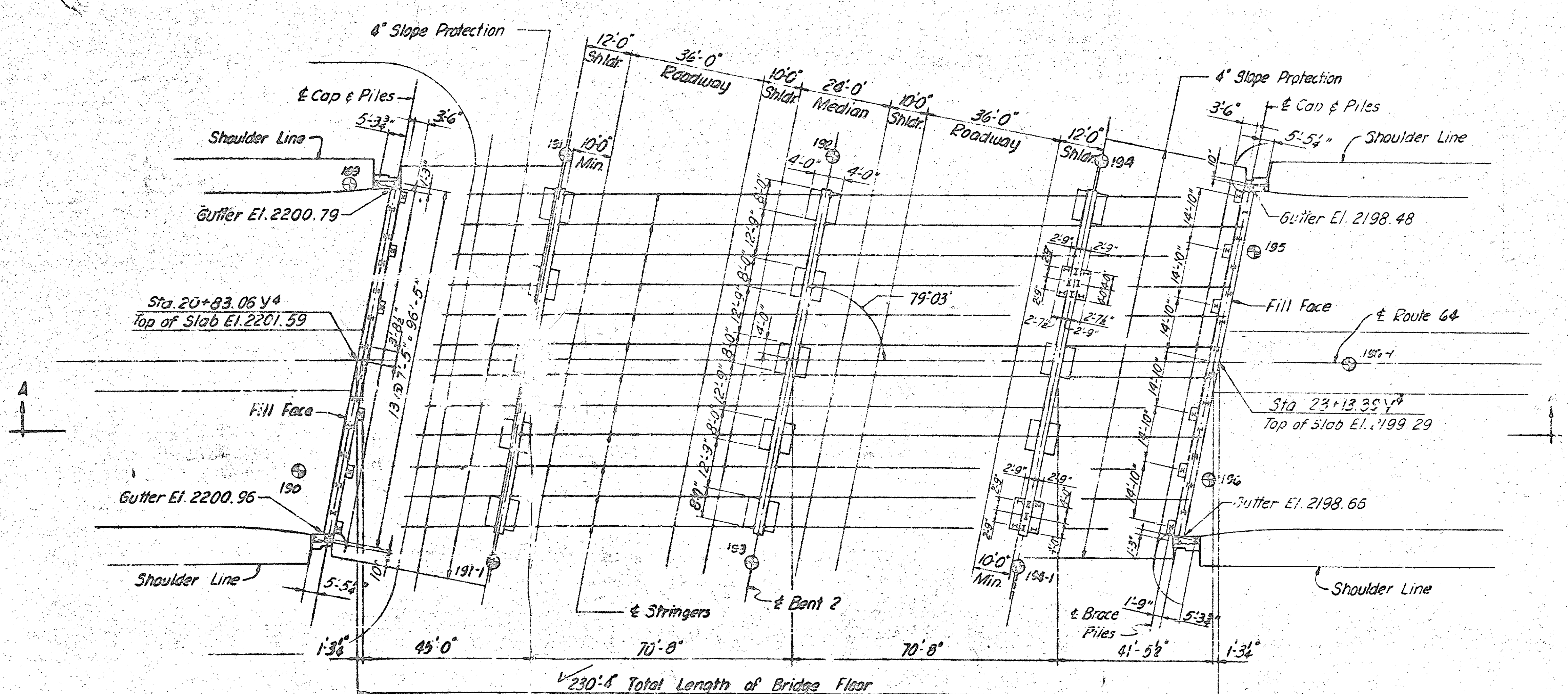
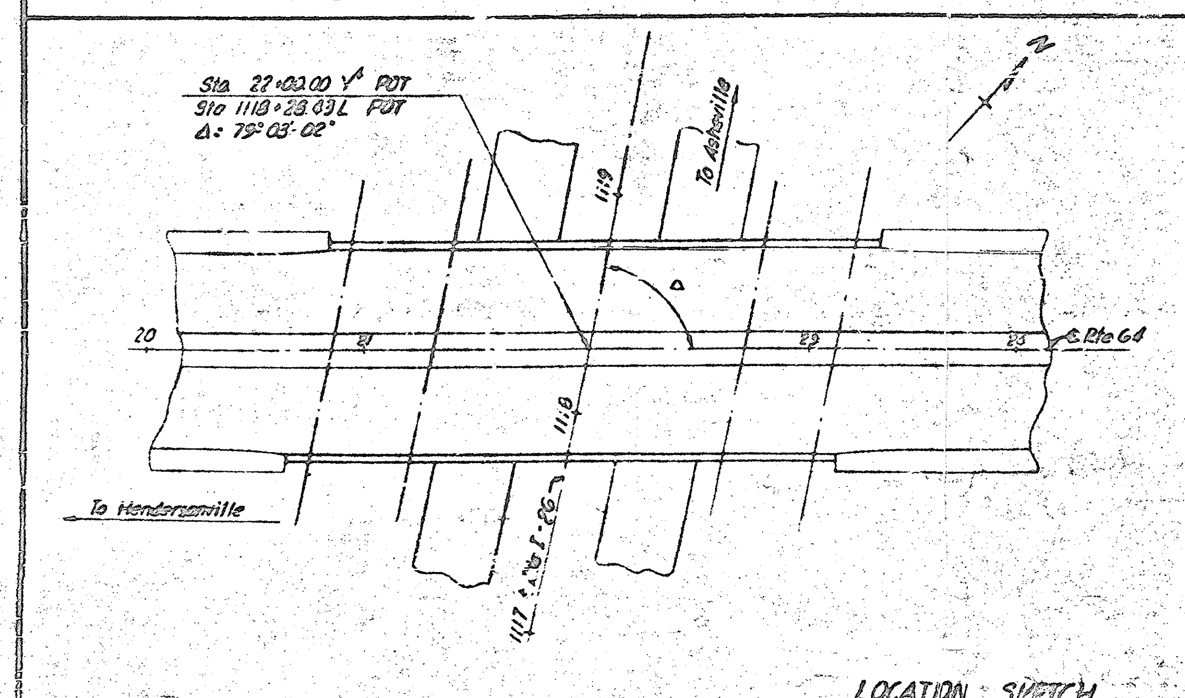


SECTION A-A



PLAN



LOCATION SKETCH

NOTES

Loading: AASHO H20-S16-44 and BPR modified loading for Military Vehicles.

Future Surfacing: 20 lbs. per sq. ft.

Roadway Width: 2 roadways at 38'-0" curb to curb.

For other design data and general notes, see General Notes sheet.

Concrete surfaces shall be given a surface finish in accordance with the specifications.

The Contractor will be required to drive one 12BP53 steel test pile in place at Bents 1 & 3. The test piles shall be paid for as linear feet of 12BP53 Steel Piles. The order lengths for all piles shall be given after the test piles have been driven. Test Piles for Bents 1 & 3 shall be 25' long.
All piles at End Bent 1 shall be driven through the roadway fill.

Piles for all Bents and End Bents shall be driven to a minimum bearing capacity of 30 tons.

Work is not to be started on Bents 1, 2, 3 and End Bent until after roadway section has been excavated.

Unclassified Structure Excavation shall be measured from surface of roadway cut.

Traffic on U.S. 64 will be detoured over ramps and adjacent roads during construction of the proposed structure.

~~Benchmark: R.R. Spike in pole at intersection of ... U.S. Rte. 64 - 30' Rt. of ℄ Rte. ... Elevation ...~~

⊕ Indicates 2½" cased hole boring. See Boring Log Sheet

Benchmark: Nail in slope protection @ EB #2, Rt side L Line. Elev. 2179.46.

I certify that this structure was built according to Plans.

_______ RESIDENT ENGINEER

E.W.O. 14-69 - $35.00

Total Bill of Material

	Class "A" Concrete Cu. Yds.	Reinforcing Steel Lbs.	Structural Steel Approx. Lbs.	12BP53 Steel Piles No.	12BP53 Steel Piles Lin. Ft.	Unclass. Str. Excav. Cu. Yds.	4" Conc. Slope Protection Sq. Yds.	Metal Rails Lin. Ft.	4" Conc. Block Slope Protection Sq. Yds.	12 B.P. 53 Steel Piles Cut-off Lin. Ft.
Superstructure	685.0	153,111	[illegible]					467.88		
End Bent #1	39.4	7,391	565,818	22	[illegible]	145.65	[illegible]		~~609~~	53'-4"
Bent #1	195.7	13,683		38	[illegible]	[illegible]	[illegible]			132'-5"
Bent #2	100.1	14,937		38	[illegible]	[illegible]				201'-4"
Bent #3	94.0	13,414		38	[illegible]	~~158~~	495.327			0'-0"
End Bent #2	39.4	7,391		22	[illegible]	192.37	[illegible]		~~558~~	0'-0"
Approach Curbs	3.2	76			[illegible]					
Totals:	1056.8	224,383	[illegible]	158	[illegible]	493.46 ~~404~~	1078.375 ~~1167~~	467.88	~~1167~~	372'-1"

565,818

Revision No. 2. To change length of metal rail.
Revision No. 1. To change Reinforcing Steel Quantities.

PROJECT NO. 8.18293

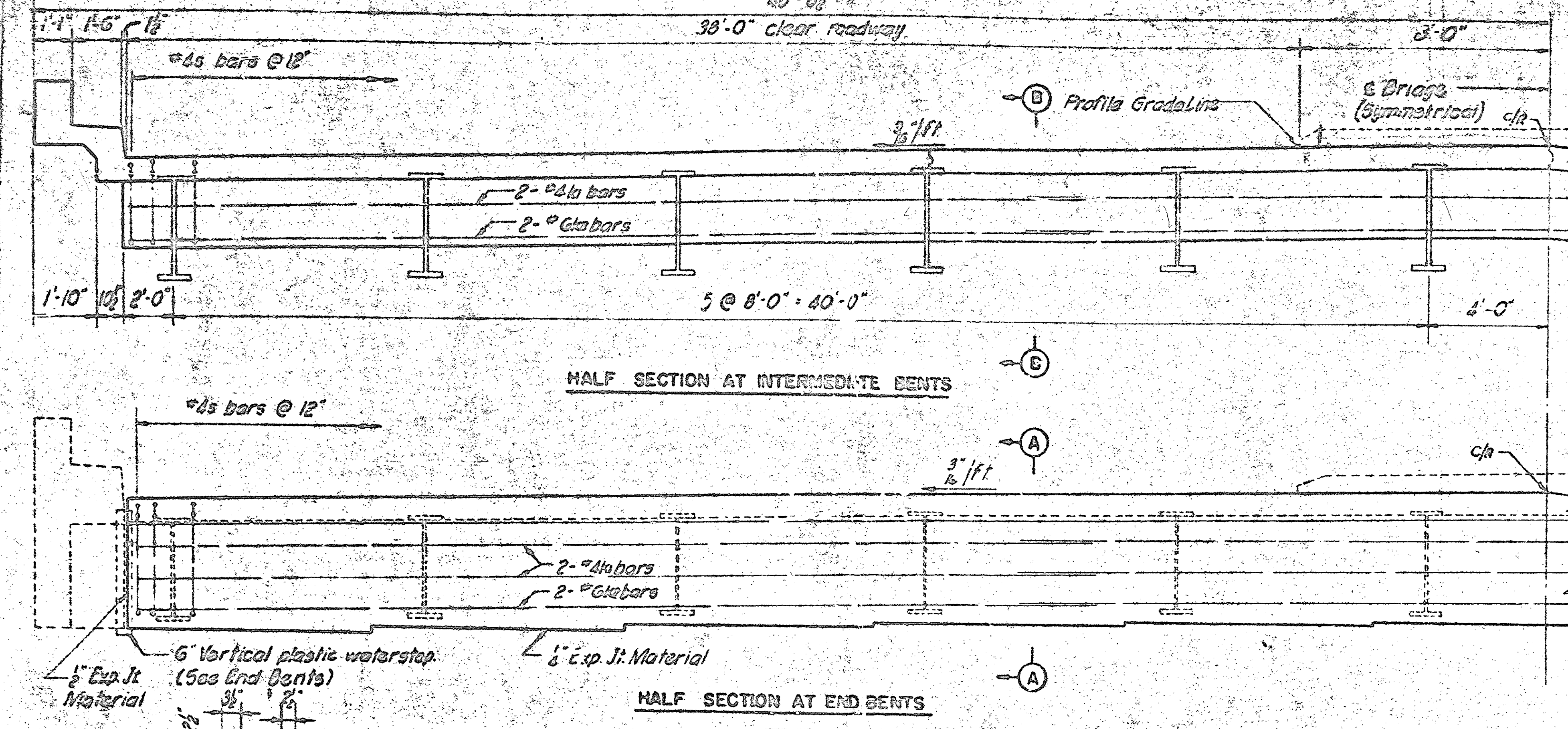
HENDERSON COUNTY

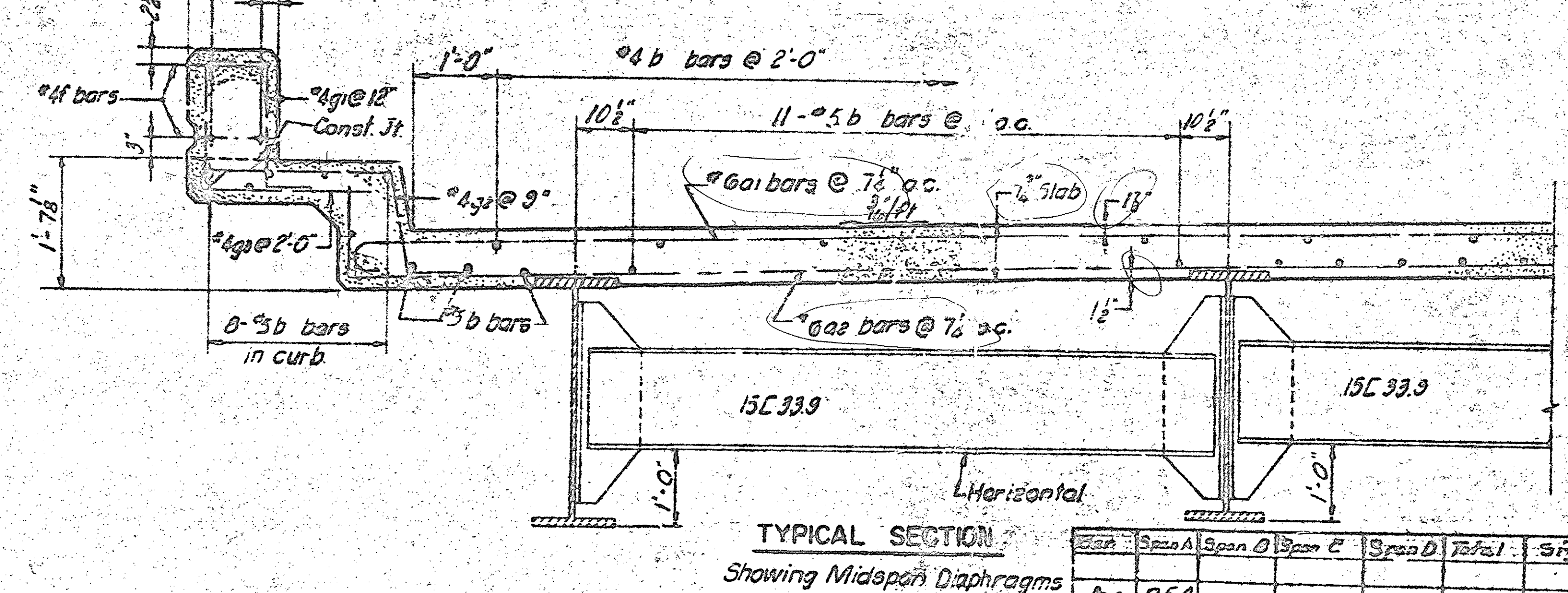
STATION 1118 + 28 L
22 + 00 Y4

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

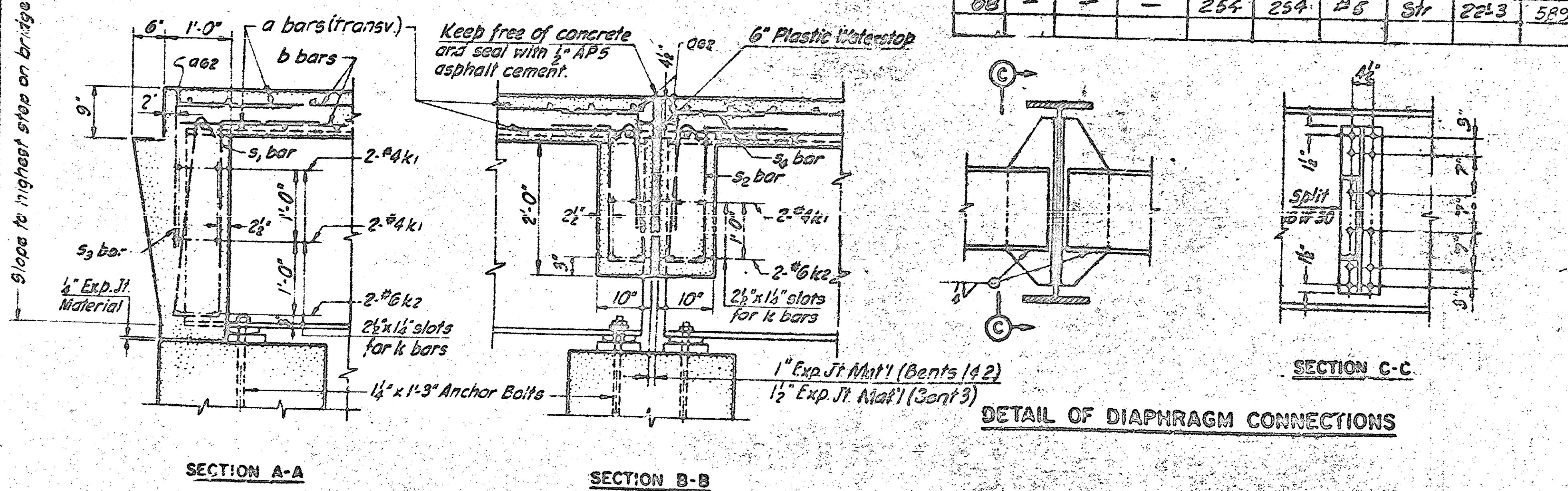
GENERAL DRAWING
BRIDGE OVER PROPOSED
INTERSTATE ROUTE 26
ON U.S. ROUTE 64

64-95-70





Bar	Span A	Span B	Span C	Span D	Total	Size	Type	Length	Weight
b6	254	—	—	—	254	#5	Str.	24'-0	6358
b7	—	381	381	—	762	#5	Str.	24'-9	19,670
b8	—	—	—	254	254	#5	Str	22'-3	5895



Revision No 1: To change "b" bars in bottom of slab ...

Note: For Superstructure quantities, see Framing Plan Sheet

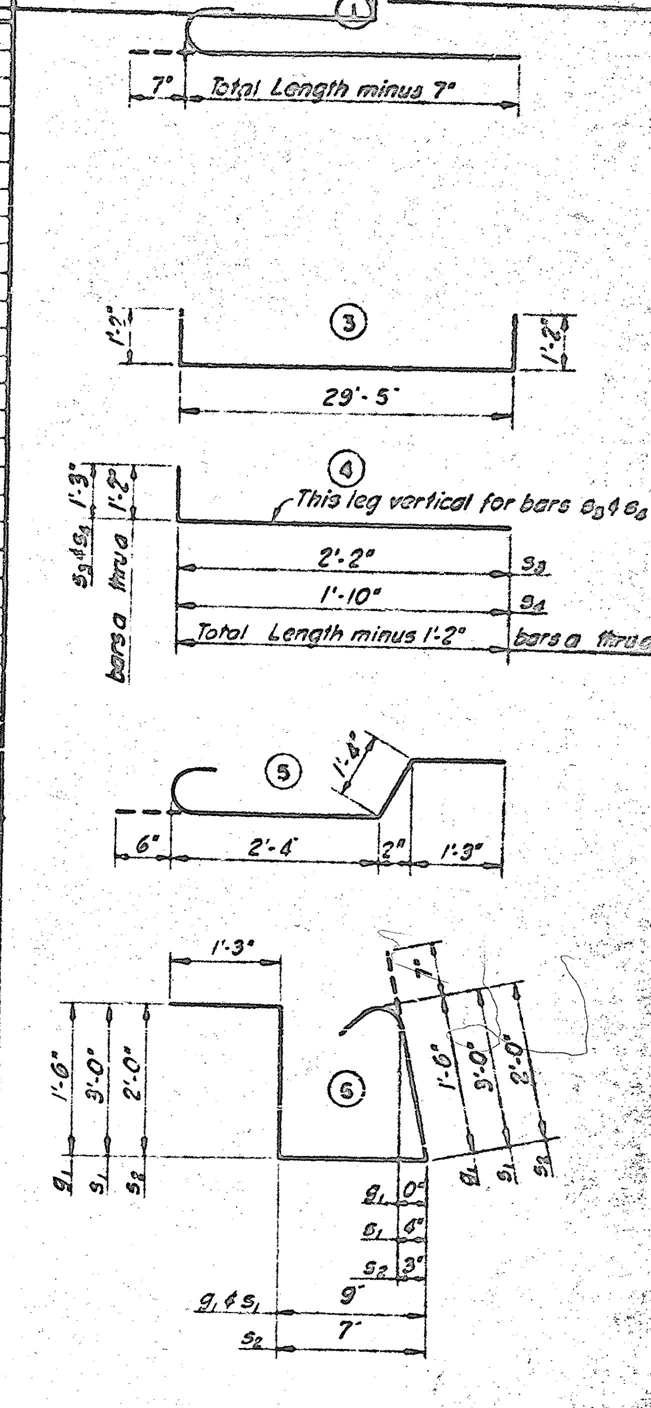
BILL OF MATERIALS — 4 SPANS

BAR	NUMBER OF BARS: SPAN A	SPAN B	SPAN C	SPAN D	TOTAL	SIZE	TYPE	LENGTH	WEIGHT
a1	126	210	210	115	661	6	1	32-9	32019
a2	124	208	208	113	653		4	29-9	29179
a3	2	2	2	2	8		1	12-1	145
a4								15-3	183
a5								18-5	221
a6								21-7	259
a7								24-9	297
a8								27-11	335
a9								31-1	373
a10							1	32-3	388
a11							4	15-10	190
a12								19-0	228
a13								22-2	266
a14								25-4	304
a15								28-6	342
a16	2	2	2	2	8			29-9	357
a17	4	4	4	4	16		4	29-9	715
a18	2	2	2	2	8		str.	5-6	66
a19								8-8	104
a20								11-9	141
a21								14-10	178
a22								18-0	216
a23								21-1	253
a24								24-3	291
a25								27-5	329
a27								2-0	24
a28								5-0	60
a29								8-1	97
a30								11-3	135
a31								14-4	172
a32								17-5	209
a33								20-7	247
a34	2	2	2	2	8			23-9	285
a36	5	-	-	5	10			30-10	463
a37	5	-	-	5	10			26-11	404
a38	63	102	102	57	324			33-11	16 506
a39	62	101	101	56	320			40-0	19 226
a40	2	2	2	2	8			4-9	57
a41								7-0	84
a42								10-2	122
a43								13-3	159
a44								16-5	197
a45								19-7	235
a46								22-3	273
a47								25-10	310
a48								28-11	347
a49								32-0	385
a50								34-0	409
a51								9-3	111
a52								12-4	148
a53								15-5	185
a54								18-6	222
a55								21-8	260
a56								24-10	298
a57								28-0	336
a58								31-2	375
a59								34-5	414
a60								36-7	440
a61	2	2	2	2	8			39-9	478
a62	6	6	6	6	24		str.	31-10	1148
a63	2	4	4	2	12	6	FIELD BEND	2-7	47
b1	92	-	-	-	92	4	str.	23-11	1470
b2	32	-	-	-	32			22-6	481
b3	-	186	186	-	372			24-3	6026
b4	-	-	-	92	92			21-10	1342
b5	-	-	-	32	32	4		20-8	442
f1	16	-	-	-	16			22-6	240
f2	-	24	24	-	48			24-3	778
f3	-	-	-	16	16		str.	20-8	221
g1	90	142	142	82	456		6	5-7	1701
g2	120	190	190	109	609		5	5-5	2204
g3	46	72	72	42	232		str.	2-4	362
k1	18	[illegible]	12	18	60	4	str.	31-10	1276
k2	12	12	12	12	60	6	str.	31-10	2869
s1	79	-	-	79	158	4	6	8-7	906
s2	79	158	158	79	474		6	6-5	2032
s3	94	-	-	94	188		4	3-5	429
s4	94	188	188	94	564	4	4	3-4	1162

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
		414	569

FED. ROAD DIV. NO.	STATE	PROJECT
3	N. C.	8.10293

FED. A.. PROJ. I-26-1(23)12



BENT BAR TYPES

(All dimensions are out-to-out of bar)

PROJECT NO. 8.10293

HENDERSON COUNTY

STATION 1118+28L / 22+00Y4

STATE OF NORTH CAROLINA

STATE HIGHWAY COMMISSION

RALEIGH

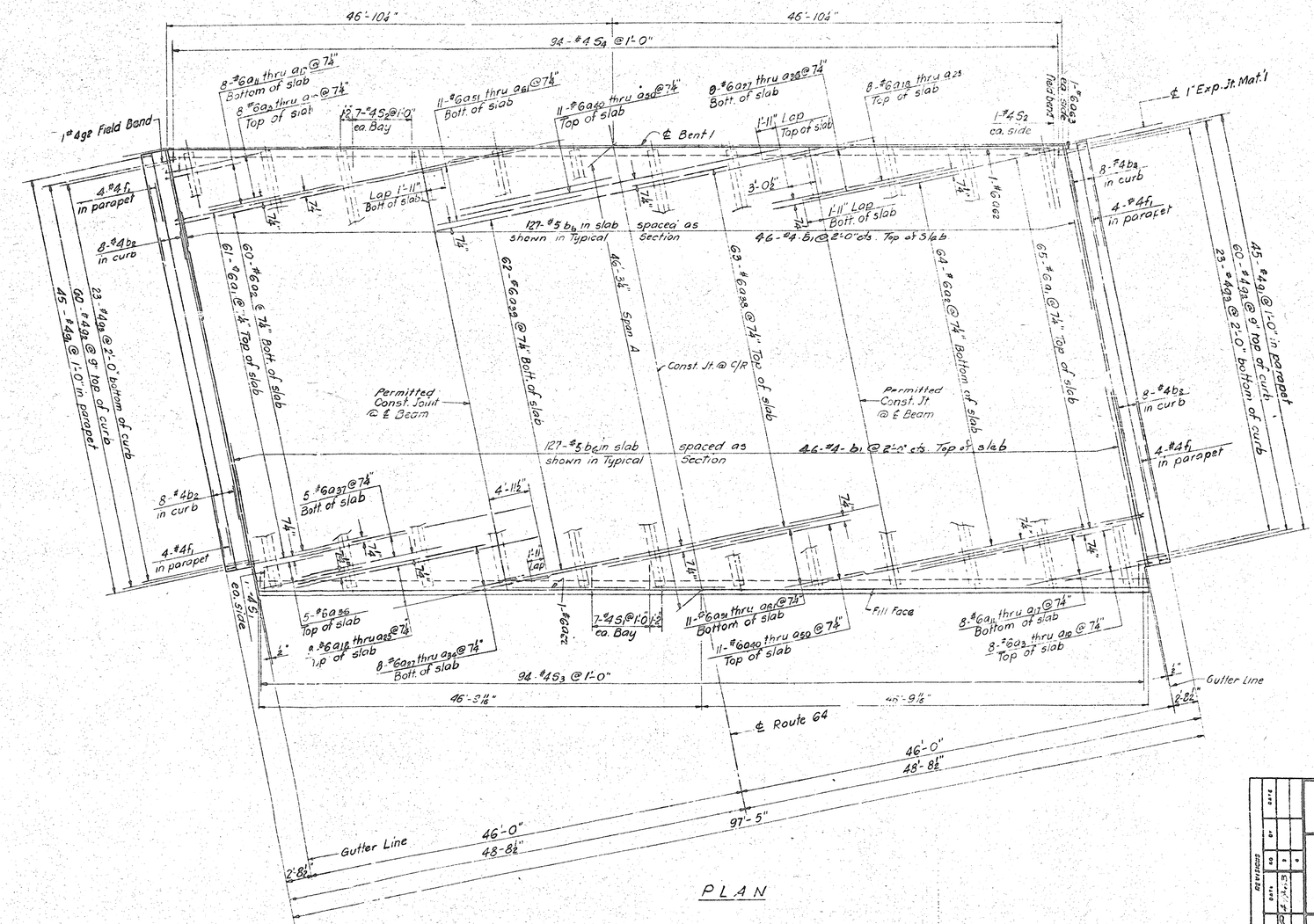
SUPERSTRUCTURE CROSS SECTIONS

REVISIONS			
NO.	BY	DATE	
1	CDP	4-1963	

STATE	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.		115	539
F. A. PROJ. NO.			

F. A. PROJ. NO.	STATE	STATE PROJECT NO.
D	N. C.	8.18293

FED AID PROJ 1-80-(12)



PROJECT NO. 8.18293

HENDERSON COUNTY

STATION 1118+28L
22+00Y4

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SUPERSTRUCTURE
SPAN "A"

REVISIONS				DATE
NO.	BY	NO.	BY	
1		3		
2		4		

Revision No. 1: To change "b" bars in bottom of slab.

FED. ROAD DIST. NO.	STATE	PROJECT NO.
9	N. C.	8.10239
FED. AID PROJ. NO.		

U. S. ROUTE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
—		413	569
N. C.			
F. A. PROJ. NO.			

1-#6@23 ea side - field bend

46'-10½" | 46'-10½"

94-#4S4 @ 1'-0"

8-#6@11 thru @17 @ 7½" Bottom of slab

8-#6@13 thru @18 @ 7½" Top of slab

11-#6@10 thru @20 @ 7½" Top of slab

11-#6@21 thru @31 @ 7½" Bott. of slab

6"-7-#5S @ 1'-0" ea. Bay

℄ Bent

8-#6@21 thru @35 @ 7½" Bottom of slab

8-#6@18 thru @25 @ 7½" Top of slab

1-#4S2 ea. side

℄ 1" Exp. Jt. Mat'l - Span B
℄ 1½" Exp. Jt. Mat'l - Span C

4-#4f2 in parapet

8-#4b3 in curb

#6@23

1'-11" Lap Bott. of slab

1'-11 Lap

7½"

3'-0½" Top of slab

Lap 1'-11

46-#4-b3 @ 2'-0" c's - Top of slab

127-#5b7 in slab spaced as shown in typical section

105-#6@11 @ 7½" Top of slab

104-#6@23 @ 7½" Bottom of slab

36-#4@3 @ 2'-0" bottom of curb

95-#4@2 @ 3" top of curb

71-#4@3 @ 1'-0" in parapet

101-#6@23 @ 7½" Bottom of slab

70'-8" Span B or C ℄ Route U.S. 64

102-#6@23 @ 7½" Top of slab

Permitted Const. Jt.

Const. Jt.

Permitted Const. Jt.

1-#4S2 ea. side

1-#6@23 ea side

8-#6@11 thru @23 @ 7½" Top of slab

8-#6@21 thru @28 @ 7½" Bottom of slab

℄ 1" Exp. Jt. Mat'l

11-#6@11 thru @21 @ 7½" Top of slab

11-#6@21 thru @31 @ 7½" Bottom of slab

8-#6@11 thru @17 @ 7½" Bottom of slab

8-#6@13 thru @19 @ 7½" Top of slab

1-#4@2 Field bend

1-#6@23 ea side Field bend

94-#4S4 @ 1'-0"

46'-10½" | 46'-10½"

PLAN

Revision No. 1: To change "b" bars in bottom of slab

PROJECT NO. 8.10239

HENDERSON COUNTY

STATION 1118+28L
22+00Y4

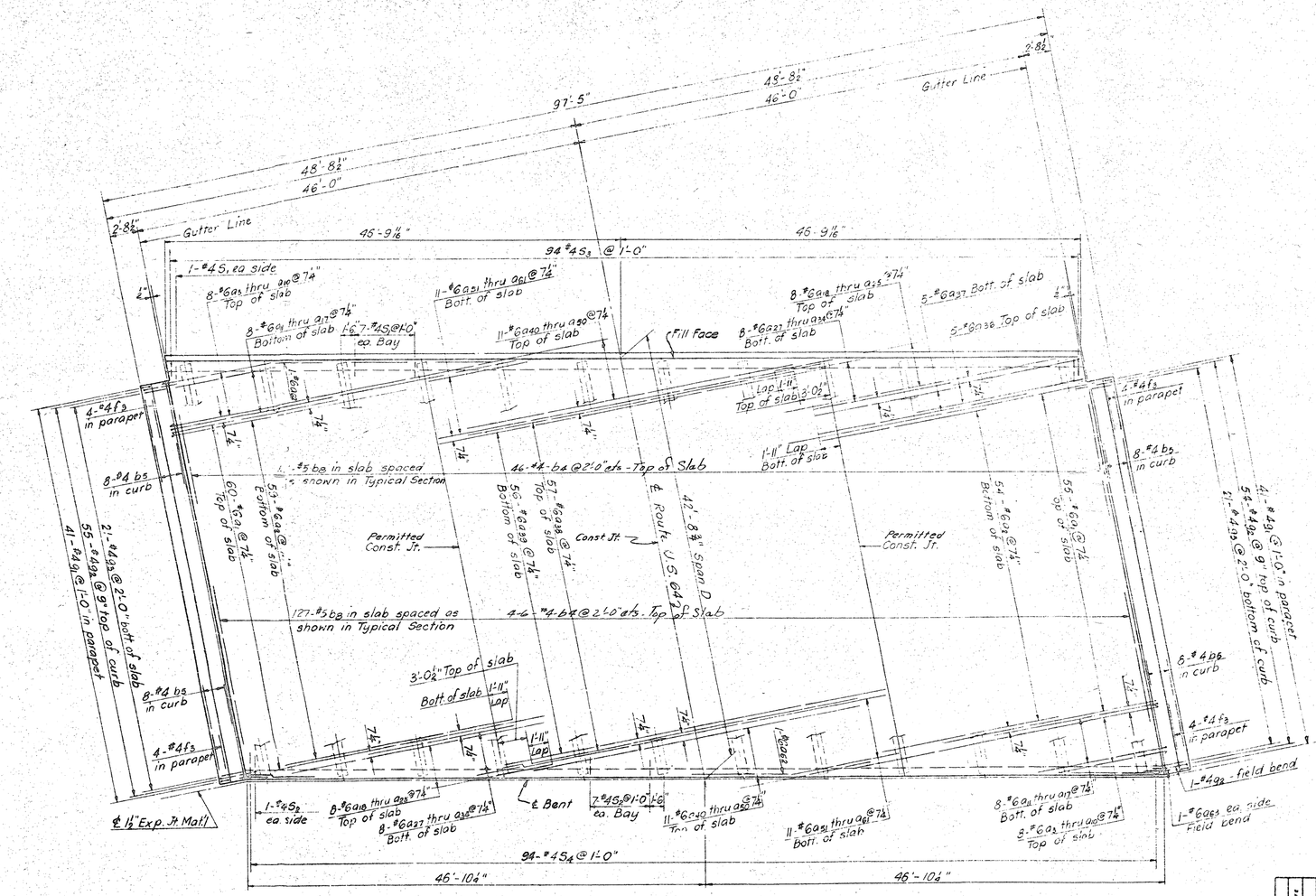
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SUPERSTRUCTURE
SPANS "B" or "C"

REVISIONS	BY	DATE	NO.
			1
			2
			3
			4
			5
			6

PROJECT NO.	COUNTY	FEDERAL AID NO.
B-18293	HENDERSON	
FED. AID PROJ. NO.		

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.		117	569
F. A. PROJ. NO.			



PLAN

PROJECT NO. B-18293

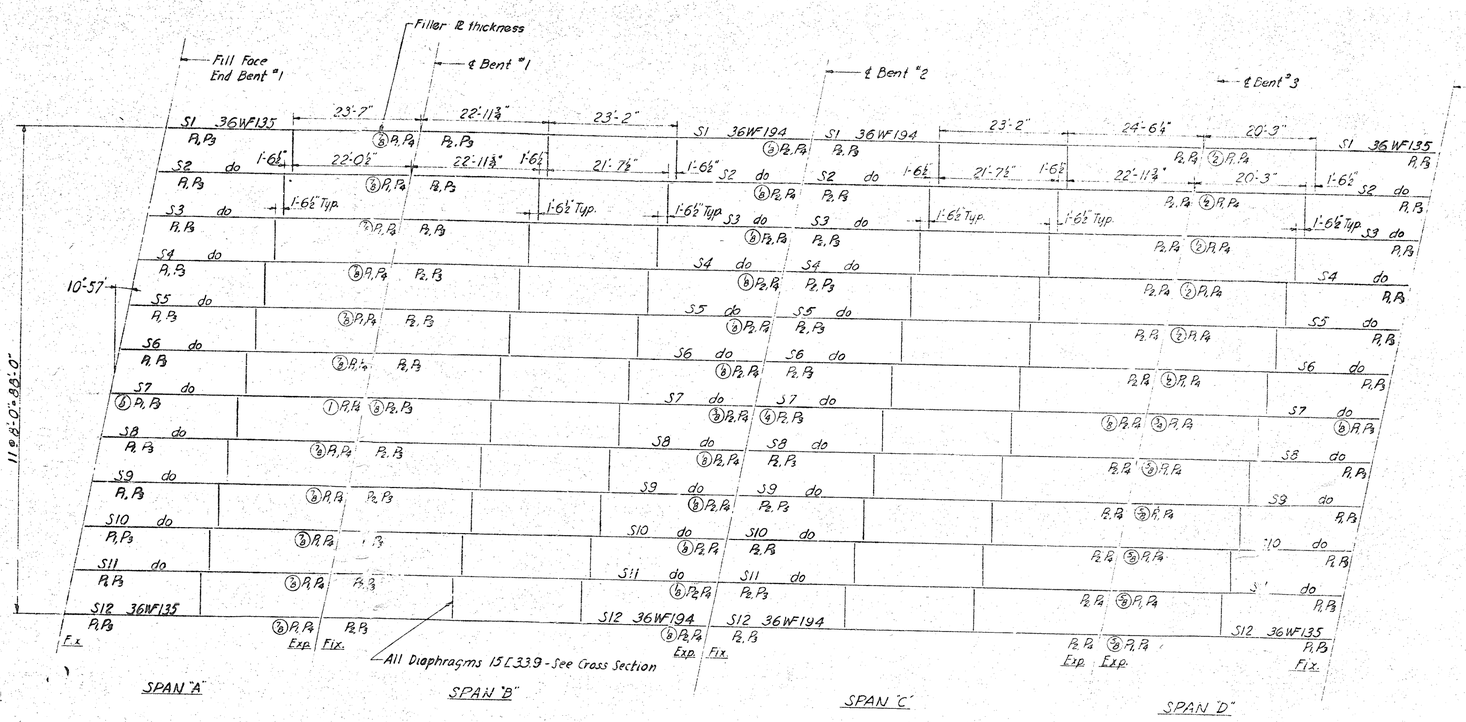
HENDERSON COUNTY

STATION 118+28L
22+00Y4

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SUPERSTRUCTURE
SPAN "D"

Revision No. 1 To change 5" bars in bottom of slab to #6



FRAMING PLAN

Note: Diaphragm Spacing measured along Beam Grade.

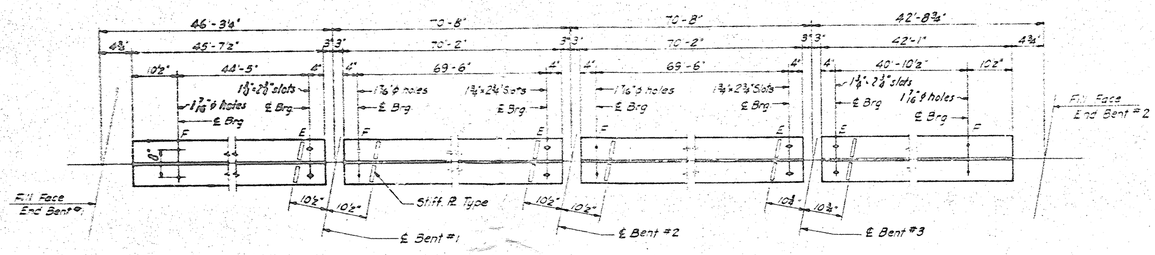
Total Superstructure Quantities		
Class "A" Concrete	685.0	Cu Yds.
Reinforcing Steel	168,111	lbs.
Structural Steel	566,300	lbs.
Single Bar Metal Railing	467.88	Lin. Ft.

Revision No 2. To change length of metal rail.
Rev. No 1. To change reinf. steel quantity

PROJECT NO. 8.18293
Henderson COUNTY
STATION 1118+28 L
22+00 4

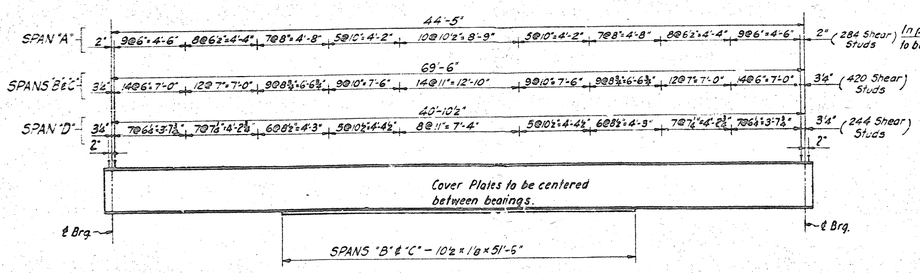
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

STRUCTURAL STEEL



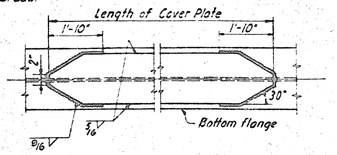
PLAN OF BOTTOM FLANGE

Note All dimensions are horizontal.

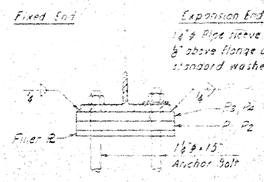


SHEAR STUD SPACING AND COVER PLATE LENGTH

Note: All dimensions along Beam Grade.

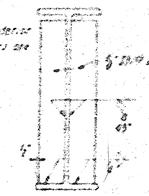


COVER PLATE DETAIL

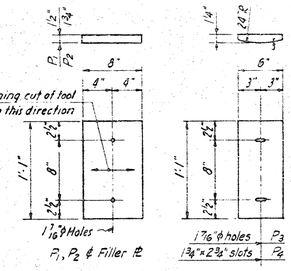


SECTION THRU BEARING

Note: Omit stiffeners on outside of exterior beams @ at End Bents. Stiffeners are to be vertical.



STIFFENER DETAIL

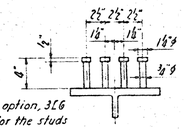


BEARING PLATE DETAILS

For Filler ℞ Thickness see Framing Plan

In planing cut of tool to be in this direction

Note:
At the Contractor's option, 3L6 may be substituted for the studs shown. See Sheet S-N



SHEAR STUD DETAILS

DEFLECTION TABLE

	SPAN "A"		SPAN "B"		SPAN "C"		SPAN "D"	
	S @ S2	Others	S @ S2	Others	S @ S2	Others	S @ S2	Others
Steel	1/16	1/16	5/16	5/16	5/16	5/16	1/16	1/16
Concrete	7/16	5/16	1/4	1/4	1/16	1/16	5/16	1/16
Total D. Defl.	1/2	3/8	9/16	9/16	5/16	5/16	2/3	5/16
vertical Curve	–	–	–	–	–	–	–	–
Total Camber	1/2	3/8	9/16	9/16	5/16	5/16	2/3	5/16

NOTE: All beams, cover plates and channel shear connectors shall be of either ASTM A-36 or A-373 grade structural steel. See Sheet S-N
Stress in extreme fiber of structural steel = 18,000 lbs per sq in.

A373 (33KSI) used in Rating

PROJECT NO. 8.18293
HENDERSON COUNTY
STATION 118+28 L
22+00 Y4

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

STRUCTURAL STEEL

REVISIONS
NO. BY DATE
NO. BY DATE
NO. BY DATE
NO. BY DATE

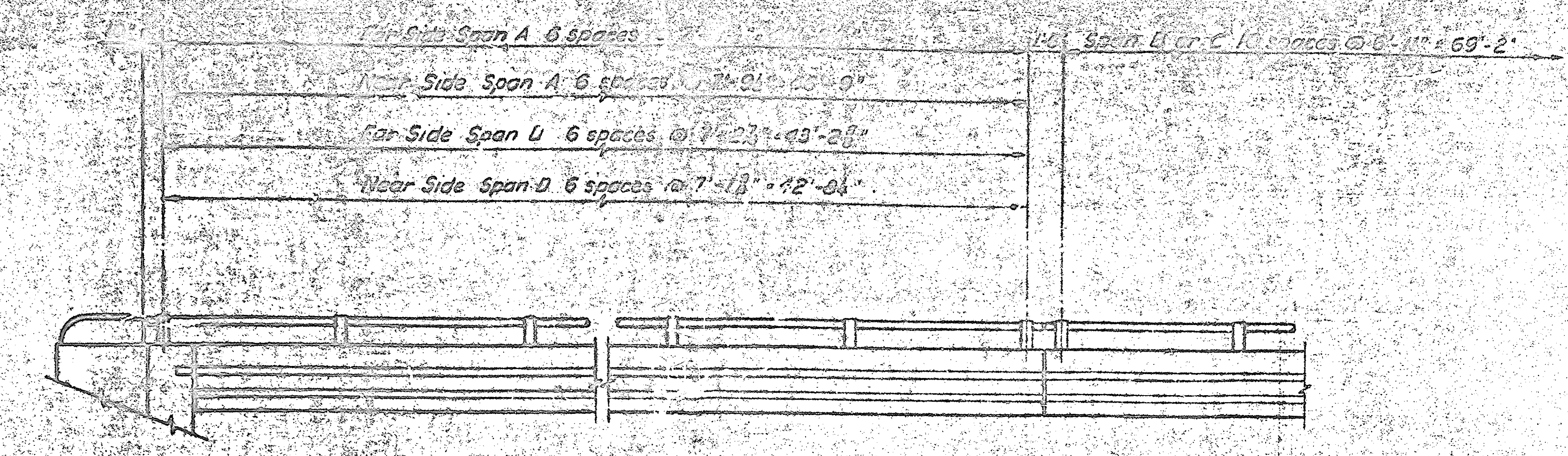
S-7
12

STATE	SHEETS	PROJECT NO.
3	N. C.	8.18293

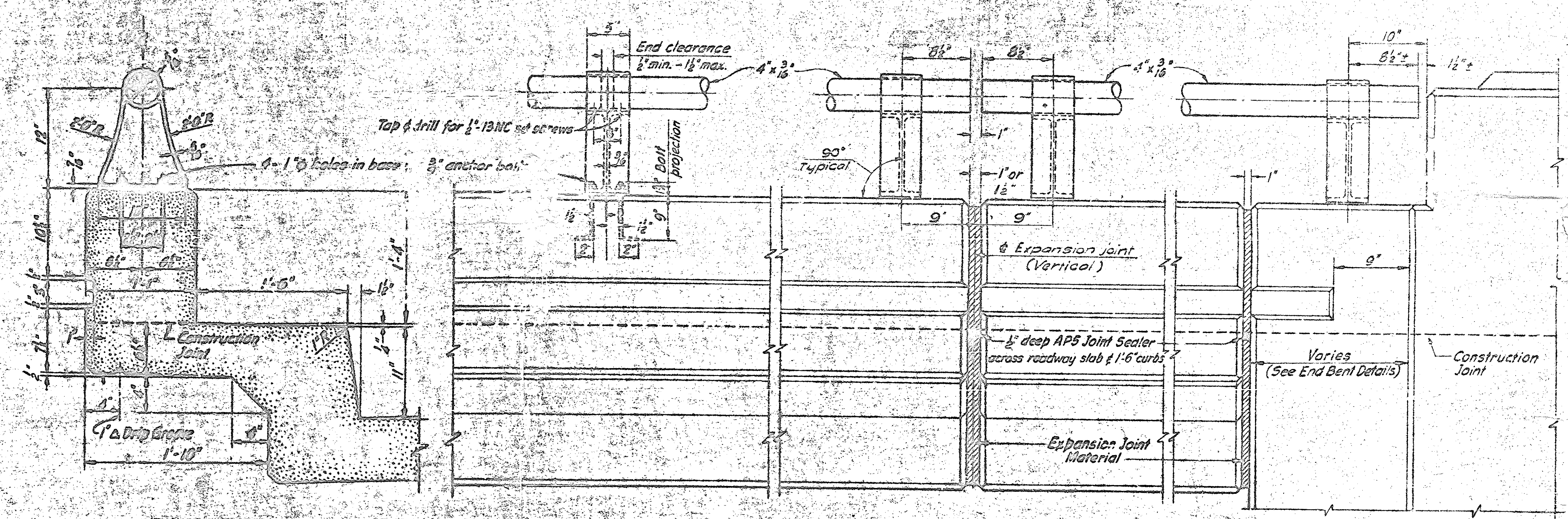
FED. AID PROJ. I-26-1(11)13

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N. C.		424	569

F. A. PROJ. NO.



PARAPET AND RAILING ELEVATION



TYPICAL SECTION

ELEVATION

JOINT DETAILS AT BENTS

JOINT DETAILS AT END BENTS

NOTES:

Unless noted on the plans, maximum length of rail section to be two panels plus "stick thru".

End of rail to clear face of concrete End Post by 1½"±.

For double panel runs of rail, set screws shall be set tight at center post and snug at ends to allow for expansion.

For single panel runs, set screw to be tight at one end and snug at other end.

¾" Ø Anchor bolts - hex. nuts and washers to be steel galvanized in accordance with ASTM A-153 and painted with 2 coats of aluminum paint after erection.

Cast posts to be as shown or an approved equal.

Certified Mill reports are required for rails and posts. Shop inspection is not required.

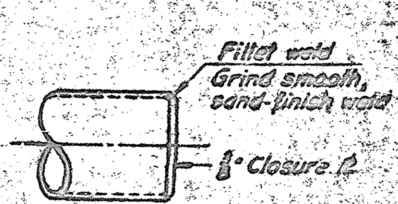
Metal Rail Posts to be set normal to curb grade.

Method of measurement for Metal Rails:

Unless otherwise stated, the length of Metal rails to be paid for shall be the continuous horizontal length measured from end to end of rail, excepting concrete posts, but without deductions for spaces between rail sections.

PARAPET AND RAILING DETAILS

At the Contractor's option metal rail may be either Aluminum or Galvanized Steel in accordance with the requirements of the general notes and the following specifications for the alternate materials [illegible] the contractor will be required to use the same rail material on all structures on the project for which metal rail is designated.



DETAIL END CLOSURE

ALUMINUM RAILS

Aluminum alloys are to be as follows:

Cast Rail Posts	A356-T6
Round Tubular Rail	6061-T6 or 6062-T6
Set Screws	2024-T4
Closure Plates	6061-T6 or 6062-T6

Round Tubular Rails are to be of 4" O.D. with ⅛" minimum wall thickness.

The base of rail posts or any other aluminum surface in contact with concrete shall be thoroughly coated with an aluminum impregnated caulking compound of approved quality.

GALVANIZED STEEL RAILS

Material and galvanizing are to conform to the following specifications:

Cast Rail Post	Malleable cast iron, ASTM A47 Grade 35018, Galvanized to ASTM A123.
or	Cast Steel AASHO M192-60 Class 70, Galvanized to ASTM A-123.
4" O.D. Rail	Standard 3½" Steel Pipe, ASTM A53 Galvanized
Closure Plates	Steel ASTM A-285 Grade C, Galvanized to ASTM A-123.
Set Screws	Standard Steel Cap Screws, Galvanized to ASTM A-153.

The end of galvanized pipe railing the end closure plate weld after grinding smooth and areas adjacent to the weld where spelter coating has been burned by welding shall be thoroughly cleaned by wire brushing to remove all traces of welding flux and loose or cracked spelter after which these cleaned areas shall be given two coats of Zinc paint meeting the requirements of Federal Specification MIL-P26915 (USAF) Type I.

PROJECT NO. 8.18293

Henderson COUNTY

STATION 1118+28 L
22+00 Y4

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

PARAPET AND RAILING DETAILS

REVISIONS