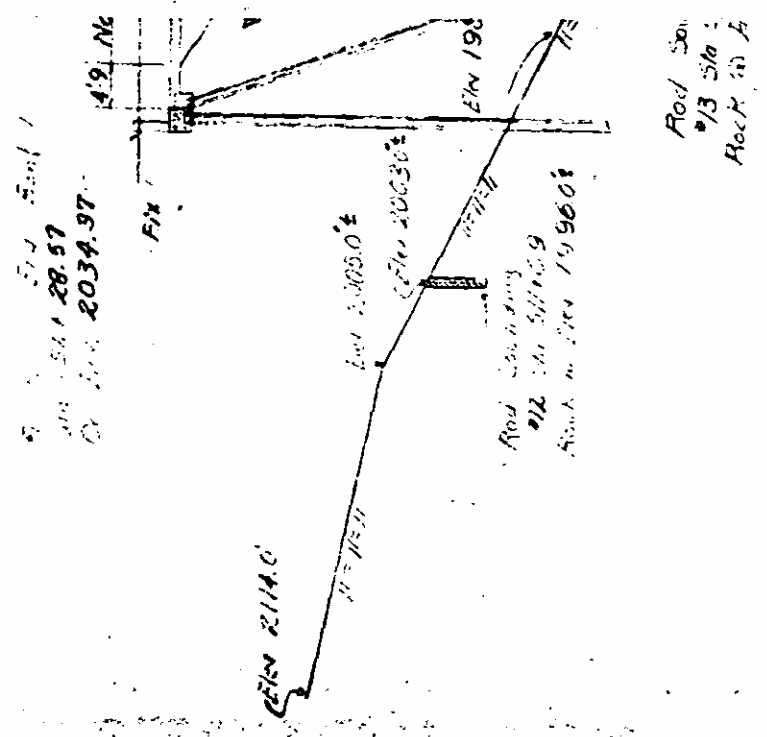


NO. 1
 N.C. 8-19660
 P. A. PROJECT SF-13-1(100)

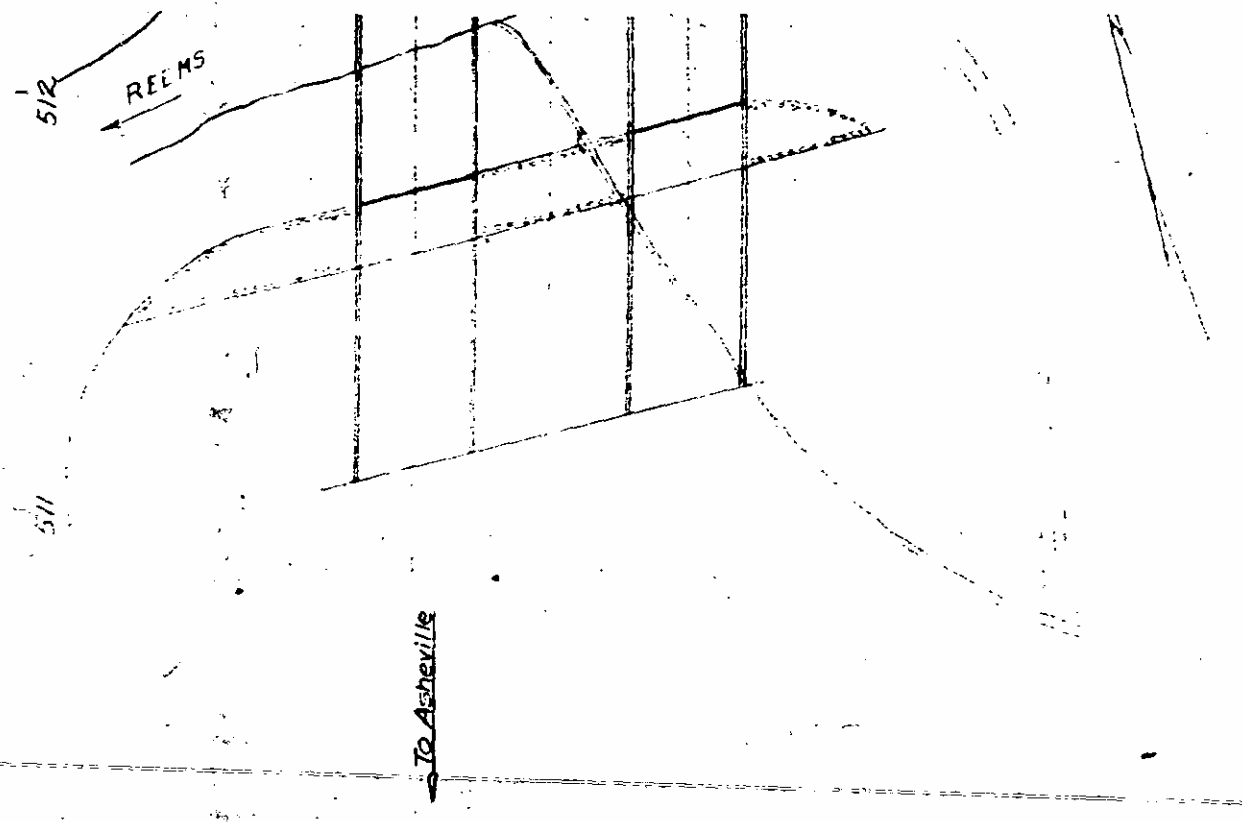
2000
 5
 2050
 5
 2100
 5
 2150
 5
 2200
 5
 2250
 5
 2300
 5
 2350
 5
 2400
 5
 2450
 5
 2500
 5
 2550
 5
 2600
 5
 2650
 5
 2700
 5
 2750
 5
 2800
 5
 2850
 5
 2900
 5
 2950
 5
 3000
 5
 3050
 5
 3100
 5
 3150
 5
 3200
 5
 3250
 5
 3300
 5
 3350
 5
 3400
 5
 3450
 5
 3500
 5
 3550
 5
 3600
 5
 3650
 5
 3700
 5
 3750
 5
 3800
 5
 3850
 5
 3900
 5
 3950
 5
 4000
 5
 4050
 5
 4100
 5
 4150
 5
 4200
 5
 4250
 5
 4300
 5
 4350
 5
 4400
 5
 4450
 5
 4500
 5
 4550
 5
 4600
 5
 4650
 5
 4700
 5
 4750
 5
 4800
 5
 4850
 5
 4900
 5
 4950
 5
 5000
 5
 5050
 5
 5100
 5
 5150
 5
 5200
 5
 5250
 5
 5300
 5
 5350
 5
 5400
 5
 5450
 5
 5500
 5
 5550
 5
 5600
 5
 5650
 5
 5700
 5
 5750
 5
 5800
 5
 5850
 5
 5900
 5
 5950
 5
 6000
 5
 6050
 5
 6100
 5
 6150
 5
 6200
 5
 6250
 5
 6300
 5
 6350
 5
 6400
 5
 6450
 5
 6500
 5
 6550
 5
 6600
 5
 6650
 5
 6700
 5
 6750
 5
 6800
 5
 6850
 5
 6900
 5
 6950
 5
 7000
 5
 7050
 5
 7100
 5
 7150
 5
 7200
 5
 7250
 5
 7300
 5
 7350
 5
 7400
 5
 7450
 5
 7500
 5
 7550
 5
 7600
 5
 7650
 5
 7700
 5
 7750
 5
 7800
 5
 7850
 5
 7900
 5
 7950
 5
 8000
 5
 8050
 5
 8100
 5
 8150
 5
 8200
 5
 8250
 5
 8300
 5
 8350
 5
 8400
 5
 8450
 5
 8500
 5
 8550
 5
 8600
 5
 8650
 5
 8700
 5
 8750
 5
 8800
 5
 8850
 5
 8900
 5
 8950
 5
 9000
 5
 9050
 5
 9100
 5
 9150
 5
 9200
 5
 9250
 5
 9300
 5
 9350
 5
 9400
 5
 9450
 5
 9500
 5
 9550
 5
 9600
 5
 9650
 5
 9700
 5
 9750
 5
 9800
 5
 9850
 5
 9900
 5
 9950
 5
 10000
 5



Road Sta.
 #13 Sta.
 Rock in J

END BENT L

LOCATION



PROJECT No. 8-1906601
 BUNCOMBE COUNTY
 STATION: 512 + 55 C. MED.

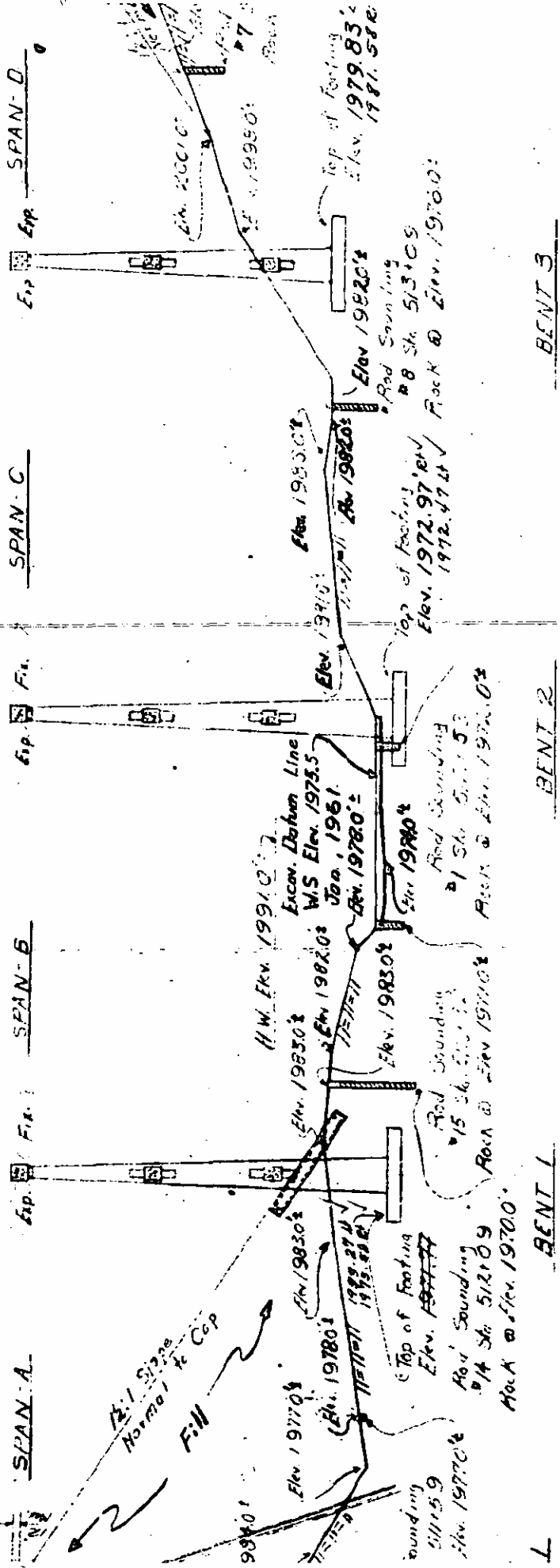
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 GENERAL DRAWING
 DUAL BRIDGES OVER REEMS
 CREEK ON PROPOSED US19&US23
 BETWEEN ASHEVILLE & WEAVERVILLE
 FEB. 1962

DRAWN BY
 DATE

Normal to Cap

12.58 Graces

NSD



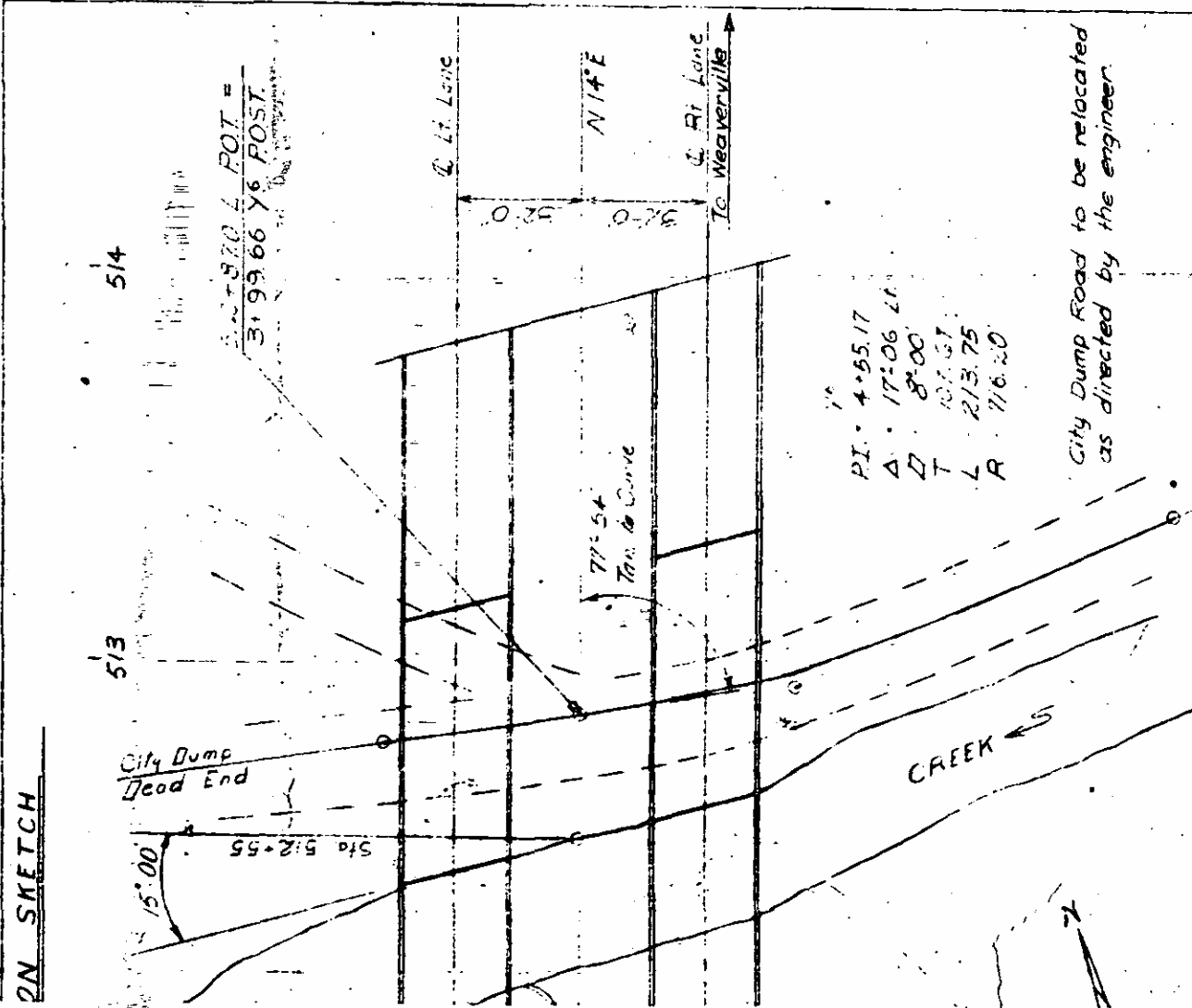
BENT 1

BENT 2

BENT 3

SECTION ALONG C RIGHT LANE
BENTS & END BENTS ON SECTION B-S

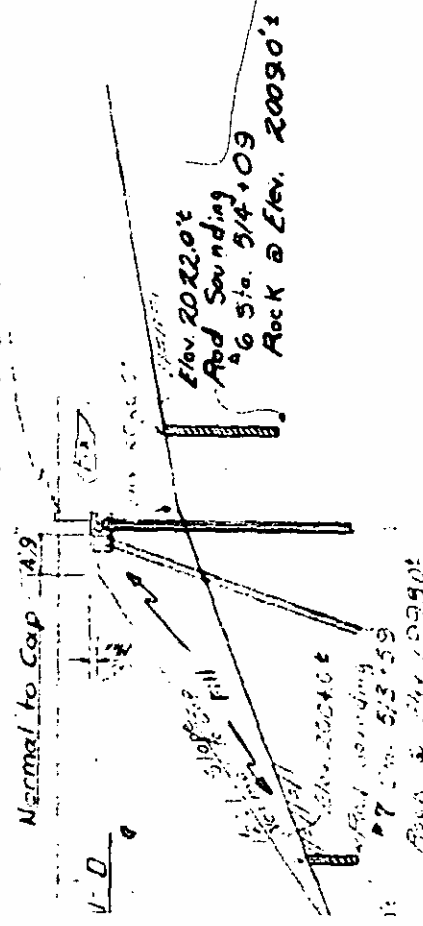
2N SKETCH



	TOTAL BILL OF MATERIAL FOR		FOI
	Class "A" Concrete Cu Yds.	Reinforcing Steel Lbs.	
Superstructure	272.9	64,372	216
End Bent No 1	12.5	2,328	-
Bent No 1	84.8 24.8	17,085	-
Bent No 2	75.9	14,546	-
Bent No 3	77.8	13,852	-
End Bent No 2	12.5	2,328	-
Approach Curbs	5.3	76.91	-
TOTALS	554.45 554.45	114,563 114,463	216

	TOTAL BILL OF MATERIAL FOR		FOI
	Class "A" Concrete Cu Yds.	Reinforcing Steel Lbs.	
Superstructure	272.9	64,372	216
End Bent No 1	12.5	2,328	-
Bent No 1	84.8 24.8	17,234	-
Bent No 2	75.9	14,546	-
Bent No 3	77.8 73.8	13,554	-
End Bent No 2	12.5	2,328	-
Approach Curbs	5.3	76.91	-
TOTALS	554.45 554.45	114,563 114,463	216

City Dump Road to be relocated as directed by the engineer.



NOTES

Assumed Live Load = H20-S16 (44) or Alternate Loading.

... sheet ...

Contracted tumbler load for all bents requires 325 tons per square foot.

Footings to be carried at least 12" into ...

No test piles required. Order length shall be 35 ft. for End Bent 1 & End Bent 2 Left Lane. Order length shall be 50 ft. for End Bent 1 and 25 ft. for End Bent 2 Right Lane.

... for the Bents to be drilled to a ...

... bearing capacity of 27 tons each.

Piles to be driven through ...

... structure.

Excavation for Bent 1, Left & Right Lane, to be measured from the surface of the fill.

Work is not to be started on Bents 1, Right & 14 Left until after the fill at End Bent 1, 42 Right & Left has been placed. Back fill over the bent footings shall be of select material. It shall be placed in layers not to exceed 12" in depth, and shall be power tamped with the tamping being done on the stream side of the columns before tamping on the fill side.

Bench Mark #24 - Nail in base of 30" Poplar 50' Right of Sta. 512+75. Elev. 1982.31

979.83' UV
981.58' UV

END BENT 2

VAL FOR LEFT LANE

No.	Structural Steel	Approx. Lbs.	12 H 53 Steel Piles		Conv. Yds.		Pile Cap. Class 2 Sp. Wts.	Pile Out. Mobil Rail Lin. Ft.	Pile Out. Area
			No.	Lin. Feet	Dry	Wet			
19	11	216,450	11	385	385	175	180	530.83	1757
91	11	216,450	11	385	385	175	180	530.83	3457
91	22	216,450	22	770	770	175	180	530.83	4816

End Bent 1 at 6 ft. lanes

VAL FOR RIGHT LANE

No.	Structural Steel	Approx. Lbs.	12 H 53 Steel Piles		Conv. Yds.		Pile Cap. Class 2 Sp. Wts.	Pile Out. Mobil Rail Lin. Ft.	Pile Out. Area
			No.	Lin. Feet	Dry	Wet			
91	11	216,450	11	385	385	175	180	530.83	3577
91	11	216,450	11	385	385	175	180	530.83	4816

PROJECT NO. ...

... COUNTY

STATION: ...

STATE OF NORTH CAROLINA

STATE HIGHWAY COMMISSION

GENERAL DRAWING

BRIDGE OVER PLUMS CREEK ON PROPOSED US 9 & US 23

STATE	PROJECT NO.
N. C.	8.190660
3	
EA. Proj. SF-13-1(101)	

NOTES

Assumed Live Load - H20 S16 44 or Alternate Loading

Concrete in compression 1100 lbs per sq. in.
 Reinforcing Steel in tension 20000 lbs per sq. in.
 Stress in Extreme Fiber of Structural Steel 20,000 lbs per sq. in.

For other Design Data and General Notes, See sheet S-N

For bars indicated and no bar mark shown, see Concrete Plan for the different spans.

Expansion joints to be kept free of concrete and sealed with AP5 Asphalt Cement.

with 1/2" AP5 Asphalt Cement
 1/4" Exp. Jt. Mat'l. above @ Bl. 3
 Exp. Jt. Mat'l. below @ Bl. 5
 4" Exp. Jt. Mat'l. above @ Bls. 1 & 2
 Exp. Jt. Mat'l. below @ Bls. 1 & 2

ars
 #100, etc
 #5 b bars
 #6 a200, etc
 ars

#6 x 18" Anchor Bolts

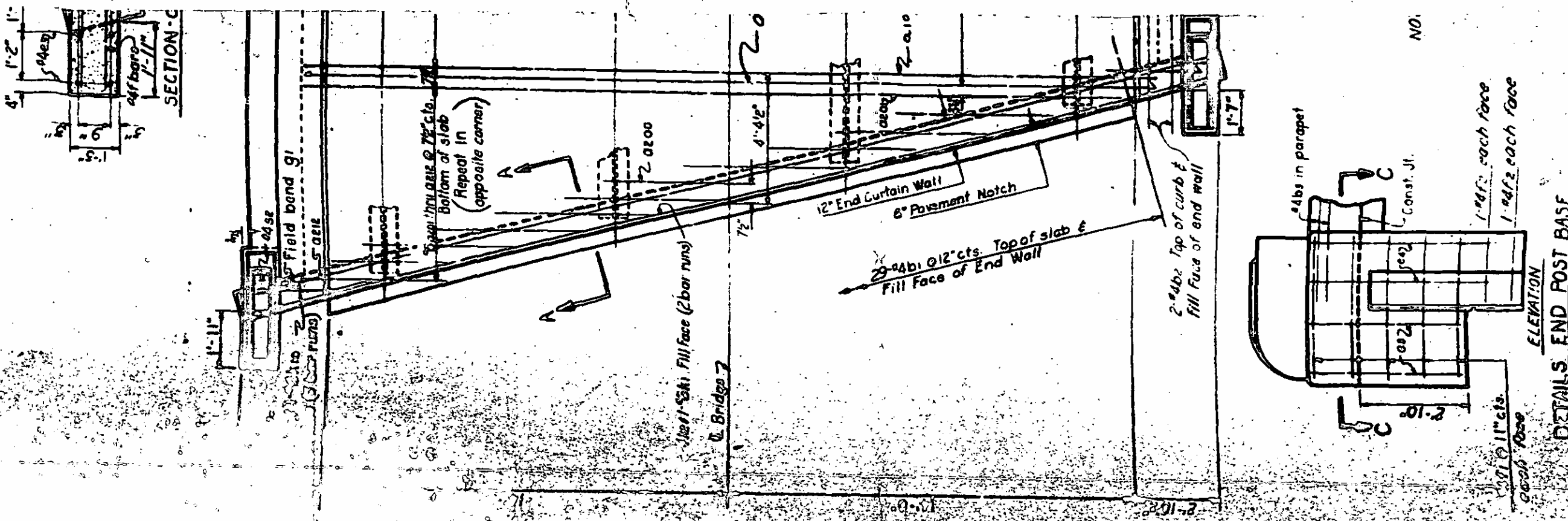
PROJECT NO. 8.1906601
BUNCOMBE COUNTY
STATION: 512 + 55 @ Median

LEFT & RIGHT LANES

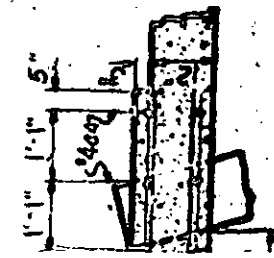
STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 RALEIGH
STANDARD TYPICAL SECTIONS
 28' ROADWAY ~ 18" CURBS ~ 15° R.H. SKEW
 4-STEEL BEAMS ~ H20-S16 L.L.
 I-BAR METAL RAIL-FOR CONVENTIONAL WINGS

AUGUST 1961

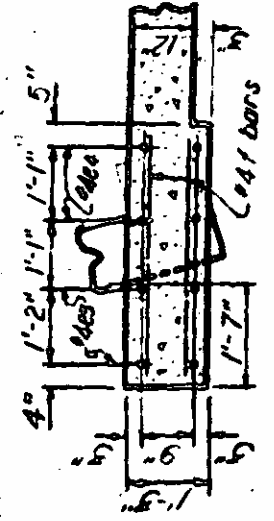
SHEET NO. **S-87**
 TOTAL SHEETS



ELEVATION
DETAILS END POST BASE



C-C LEFT SIDE



SECTION C-C RIGHT SIDE

4 #4bs in parapet
(3 bar runs) See

8 #4bs in curb
(3 bar runs) See

B1 36 WF 160 with Cover R. & Shear Connectors

95" bases @ 7 1/2" cts. Bottom of slab

B2 36 WF 160 with Cover R. & Shear Connectors

67'-6" Fill Face to C Bent

B3 36 WF 160 with Cover R. & Shear Connectors

95" bases @ 7 1/2" cts. Top of slab

B4 36 WF 160 with Cover R. & Shear Connectors

4 #4bs in parapet
(3 bar runs)

PLAN

DEAD LOAD DEFLECTION	
INT.	EXT.
1/8"	1/4"
1 1/8"	1 5/8"
1 3/8"	1 9/16"

Deflection due to weight of beams
Deflection due to superimposed dead load
Total dead load deflection

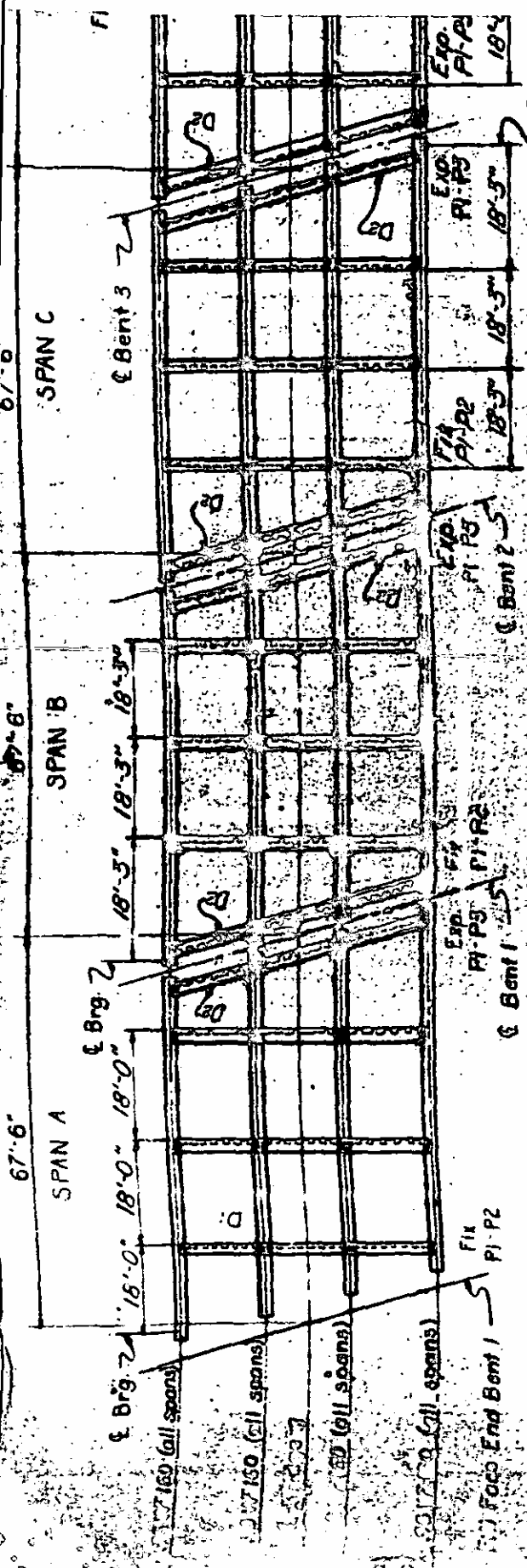
All beams to be shop combined

NOTE: For End Post Details,
see Typical Section
Standard.

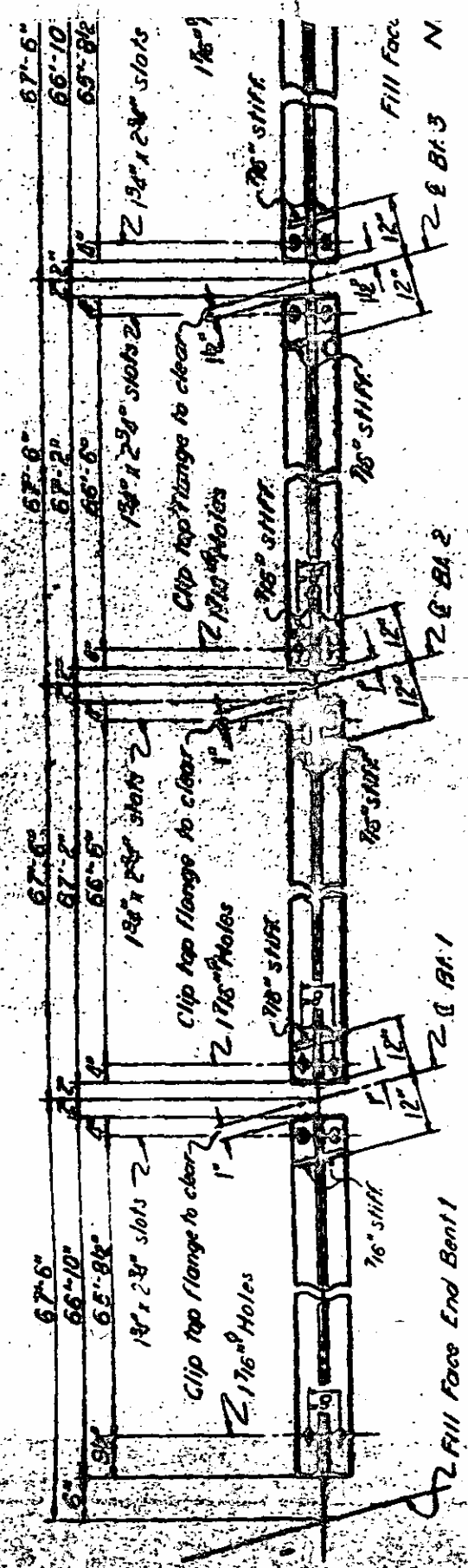
37" #5bs Bottom of slab (2 bar runs)
See typical section for spacing

-0800

0.100



FRAMING PLAN
LEFT OR RIGHT LANE



ANCHOR BOLT HOLES - BEAM LENGTHS - STIFFENERS

No. Studs Per Br.	5' Spacing	6' Spacing	7' Spacing	8' Spacing	9' Spacing	10' Spacing	11' Spacing	12' Spacing	13' Spacing	14' Spacing	15' Spacing
(408)	2'-11"	3'-0"	3'-3"	3'-6"	3'-9"	4'-0"	4'-3"	4'-6"	4'-9"	5'-0"	5'-3"
(364)	6'-6"	6'-3"	6'-0"	5'-9"	5'-6"	5'-3"	5'-0"	4'-9"	4'-6"	4'-3"	4'-0"
(412)	2'-11"	3'-0"	3'-3"	3'-6"	3'-9"	4'-0"	4'-3"	4'-6"	4'-9"	5'-0"	5'-3"
(364)	6'-6"	6'-3"	6'-0"	5'-9"	5'-6"	5'-3"	5'-0"	4'-9"	4'-6"	4'-3"	4'-0"

3/4" x 4" studs See Detail

See Typical Section sheet for 12" holes for reinforcing

Cover Rs. to be centered between bearing

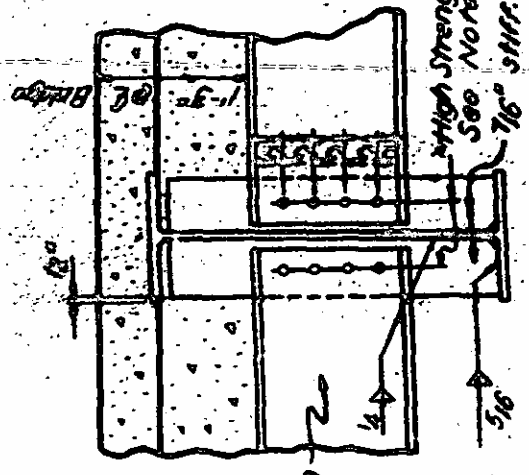
10" x 14" x 48" Intertek Beams	All Spans
10" x 14" x 22" x 6" Intertek Brns	All Spans

Z & Bearing

Z & Bearing

SHEAR STUDS & COVER PLATE LENGTHS

SPANS
Total Deas
All beams to



DETAIL DMAPHABM CONNECTIONS - D2

NOTE: Bent stiffeners on outside of exterior beam and of End Bents. Stiffeners to be vertical and parallel to bent.

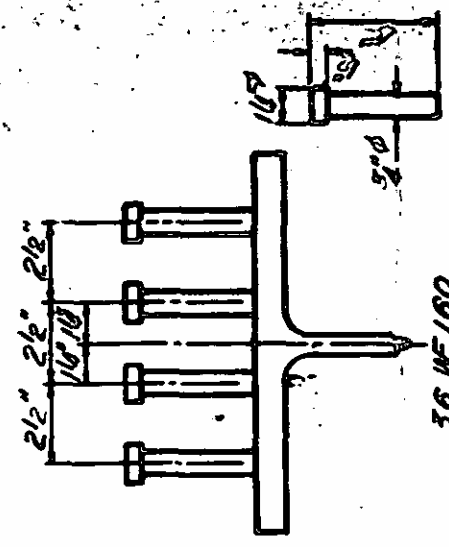
NOTES:
 All beams & cover plates shall be of ASTM A36 grade structural steel. See S-N Specifications.

Field connections of diaphragms to be shall be bolted using S_4 high strength bolts in accordance with the Specifications and the Special Provisions.

See concrete sections for location of web holes in beams.

B11	B12	B13	E12
A	Span B	Span C	Span D
B12	Span A	Span B	Span C
B13	Span A	Span B	Span C
B4	Span A	Span B	Span C

FILL PLATE LAYOUT



DETAIL SHEAR STUDS

PROJECT NO. 819066 01

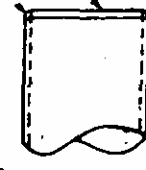
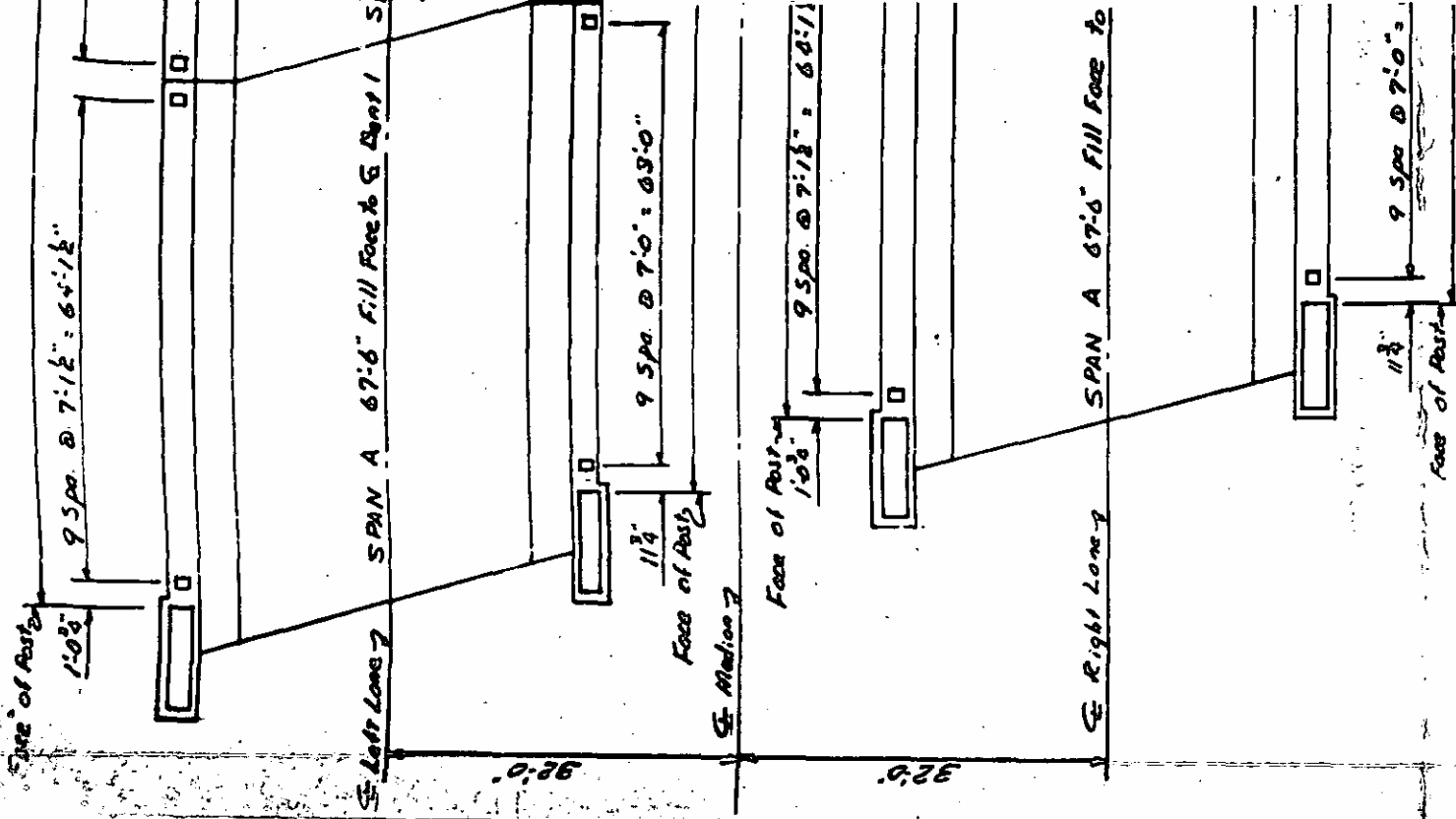
BUNCOMBE COUNTY

STATION: 512 + 55 @ Median

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

STRUCTURAL STEEL DETAILS
 FOR LEFT OR RIGHT LANES

FEBRUARY 1962



DETAIL
 END CLOSURE

ALL STATE DISTRICT NO.	STATE	PROJECT NO.
3	N. C.	819066
C.A. Proj. SF-13-1 (101)		

In the Contractors specifications 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; however, the Contractor will be required to use the same rail material on all structures on the project for which metal rail is designated.

GENERAL 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 1/2".

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.

3/4" 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.

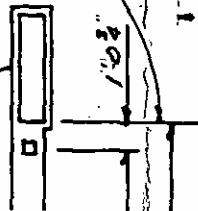
Concrete and reinforcing steel for End Post are included with Superstructure or End Bents

of Post

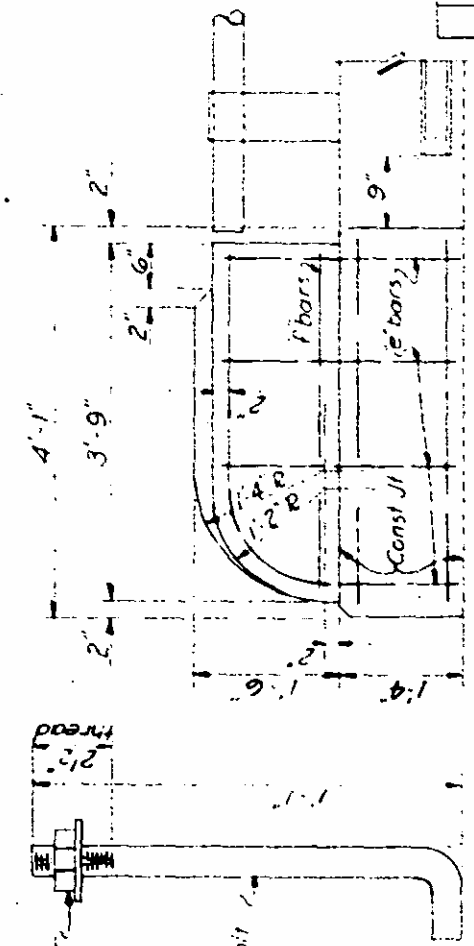
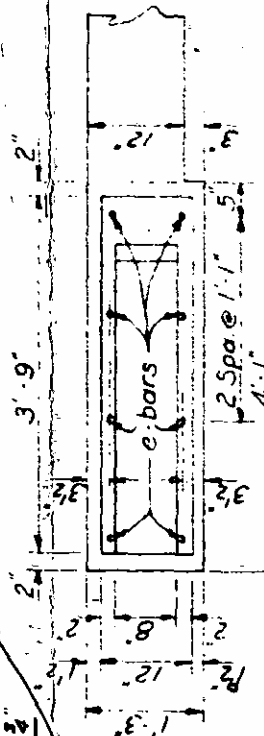
Core of Post
1 1/4"



Face



Face of Post



OF ANCHOR BOLTS

END POST DETAILS

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 3/16" 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 3 1/2" Steel Pipe, ASTM A53 Grade B, Galvanized to ASTM A-123

Closure Plates

Steel, ASTM A-245 Grade C, Galvanized to ASTM A-123

Set Screws

Standard Steel Cap Screws, Galvanized to ASTM A-153

The cut ends 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 speller after which these cleaned areas shall be given two coats of Zinc paint meeting the requirements of Federal Specification MIL-P-26915 (USAF) Type 1.

PROJECT NO. 819066 01

BUNCOMBE COUNTY

STATION: 512+55 & Med.

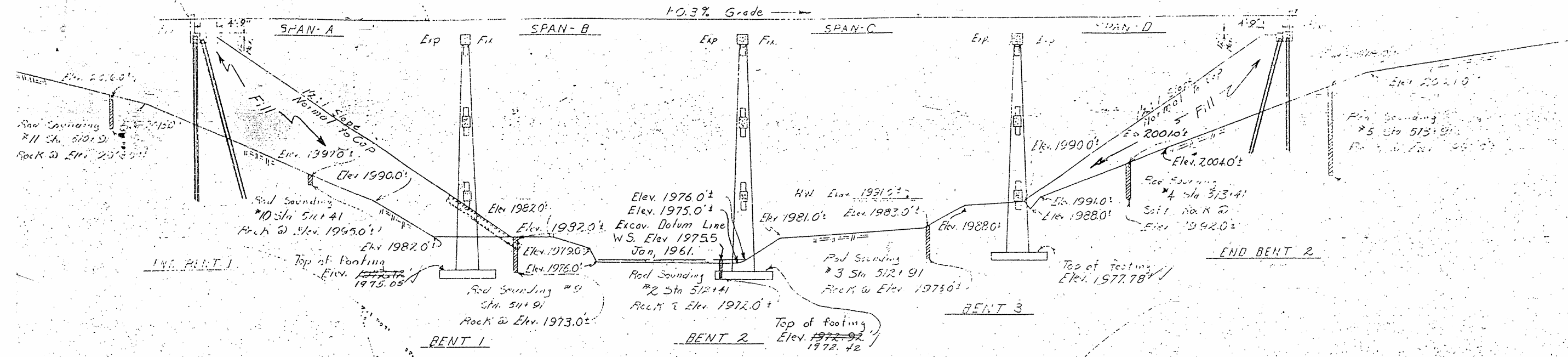
- 3 -

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

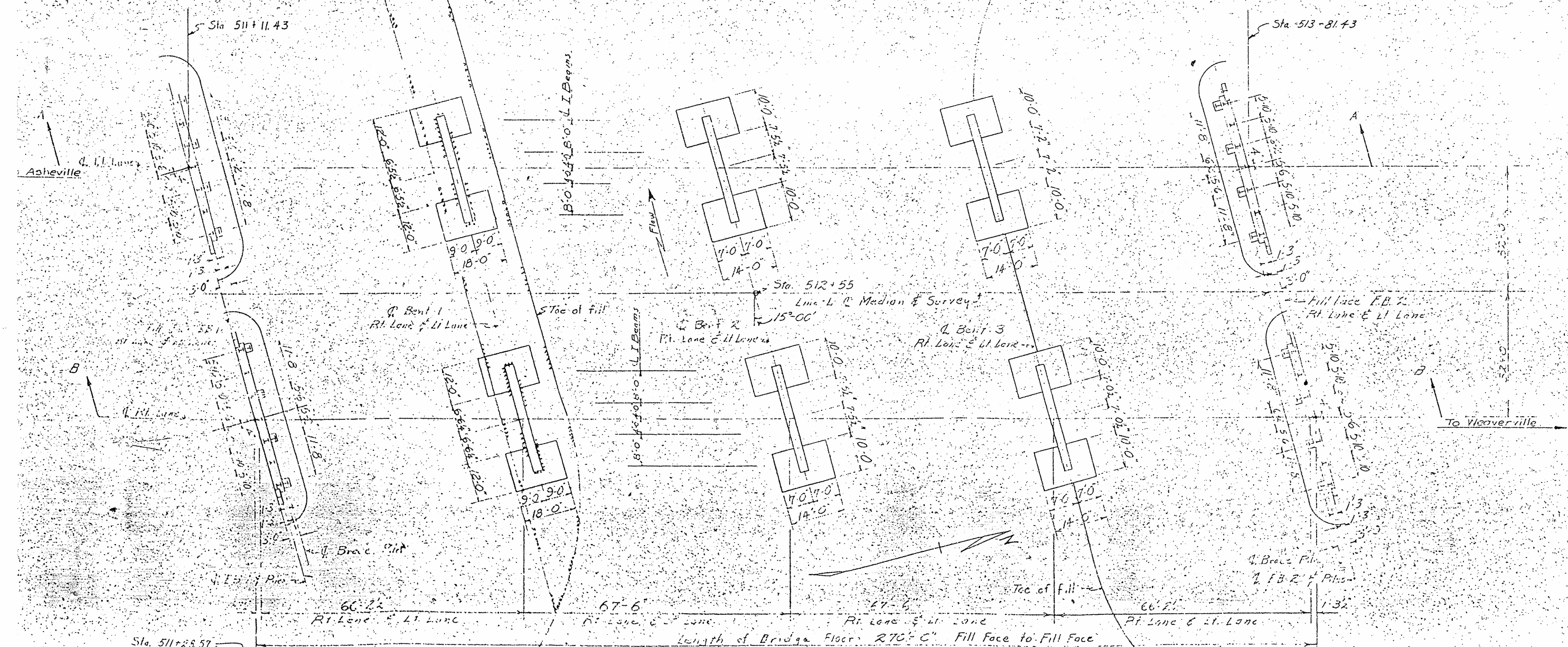
STANDARD
1 BAR
METAL RAIL

October 1962

Sta 511+11.43
Cr. Elev. 2034.41

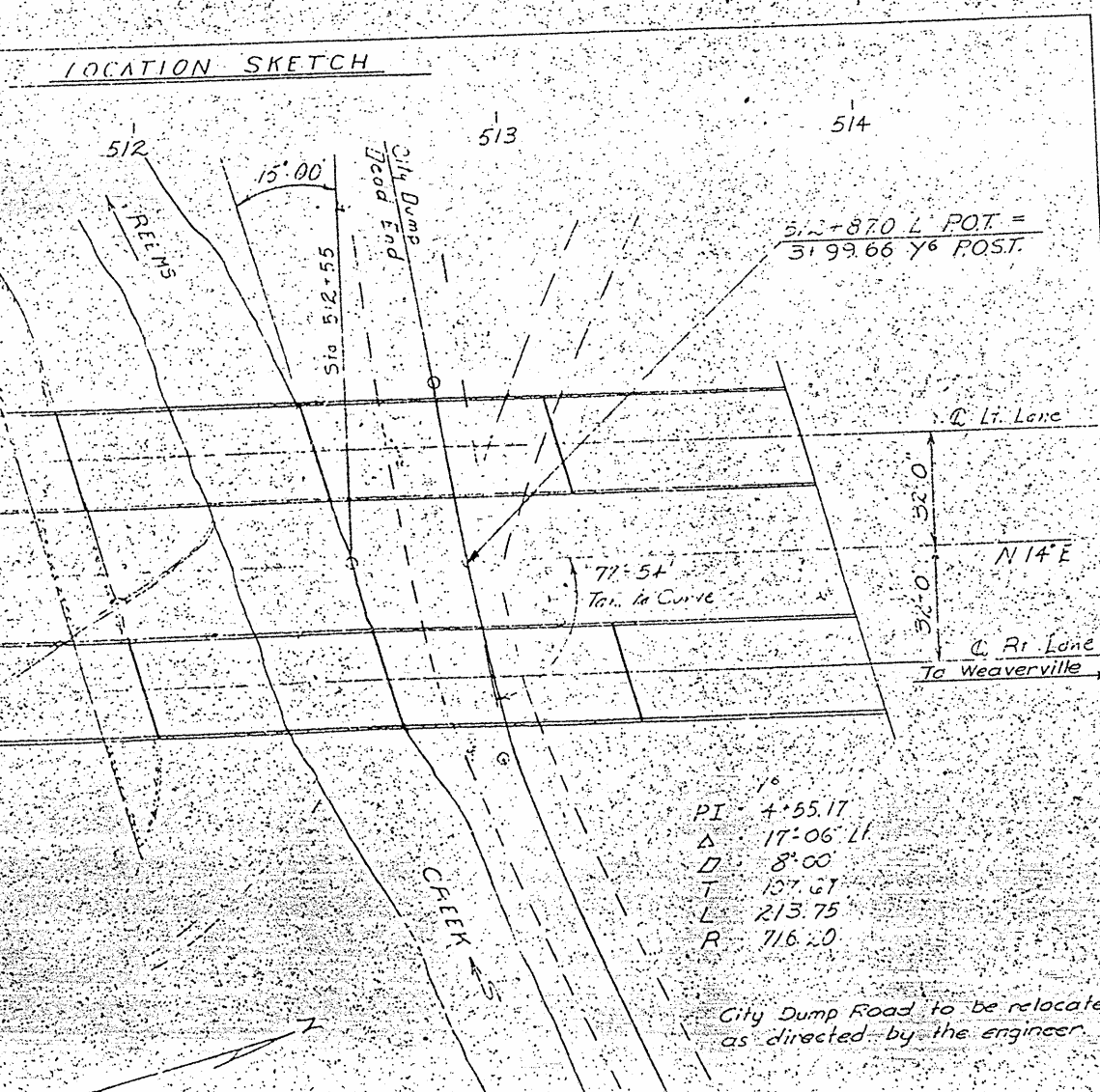
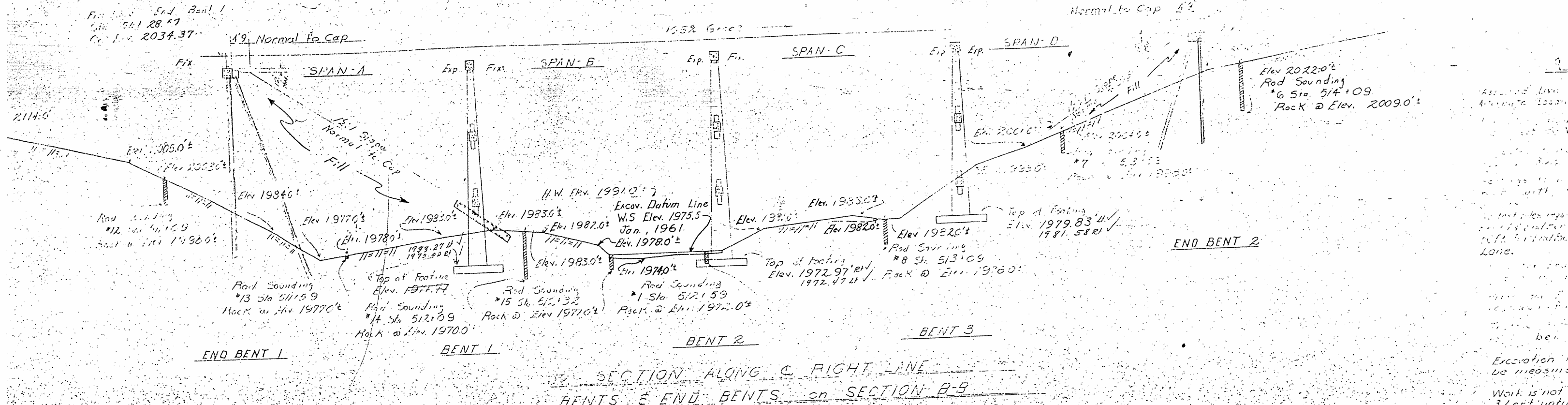


SECTION ALONG C LEFT LANE
BENTS & END BENTS on SECTION-A-A



REVISIONS	NO.	DATE	BY

STATI
GE
CREEK
BTWEL



TOTAL BILL OF MATERIAL FOR LEFT LANE

	Class "A" Concrete Cu Yds.	Reinforcing Steel Lbs.	Structural Steel Approx. Lbs.	12 H 53 Steel Piles		Excav. Cu Yds.		Pile Cap Conc. Sp. Yds.	Pile Metal Pile Out Lin. Ft.
				No.	Lin. Feet	Dry	Wet		
Superstructure	272.9	64,372	216,450						530.83
End Bent No. 1	12.5	2,328		11	385	334.65	71.95	270	180
Bent No. 1	91.2	9,532	17,085			41.02	38.85		
Bent No. 2	75.9	8,174	14,546			20	3.8		
Bent No. 3	77.2	7,761	13,852			23.79	3.8		
End Bent No. 2	12.5	2,328		11	385	354.41			36.97
Approach Curbs	3.3	377	7691						
TOTALS	556.34	114,602	216,450	22	770	1,628.15	166.99	270	180

703.23

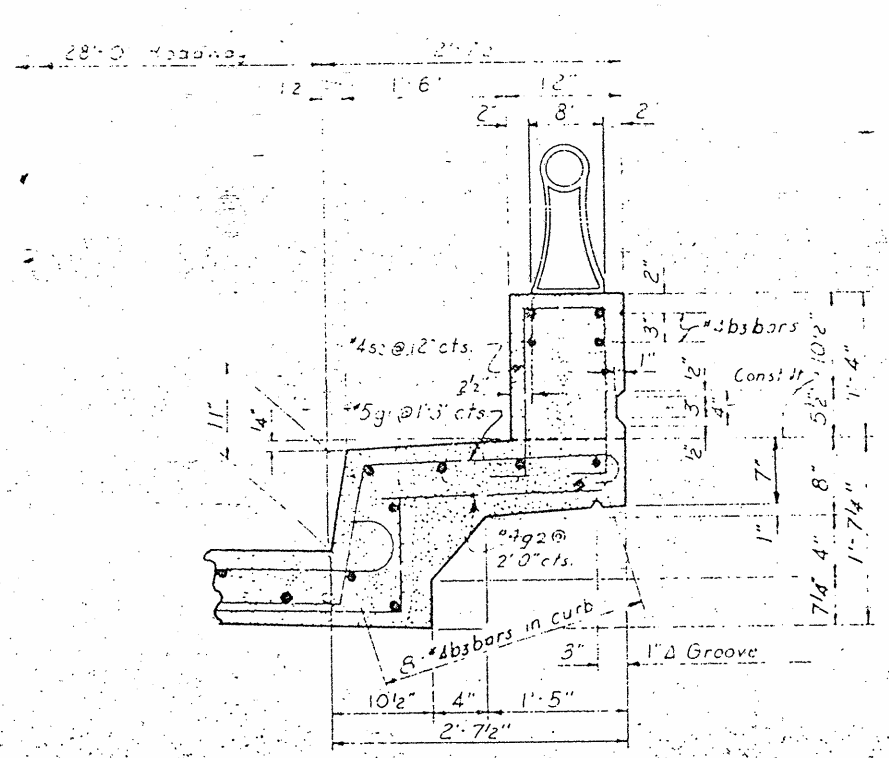
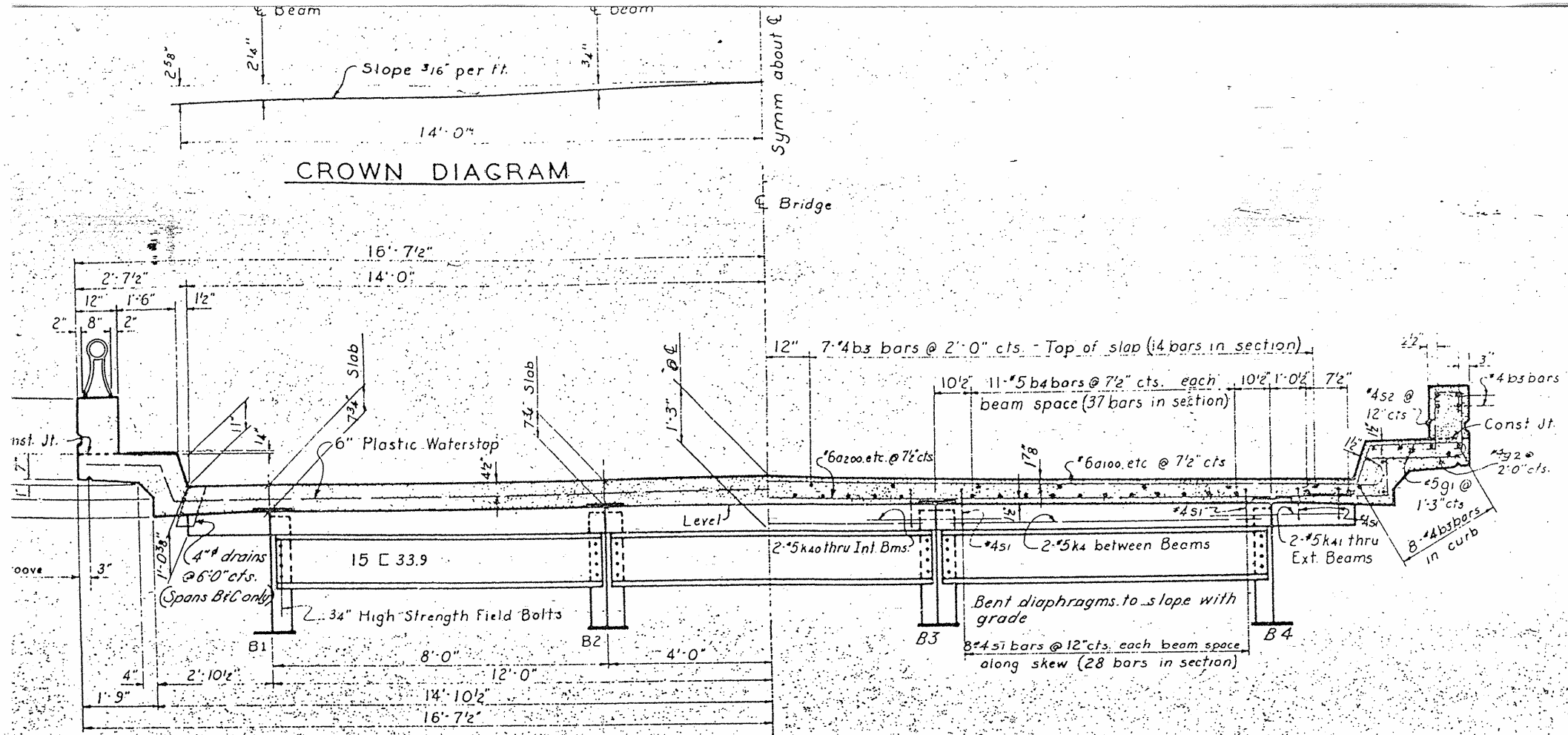
TOTAL BILL OF MATERIAL FOR RIGHT LANE

	Class "A" Concrete Cu Yds.	Reinforcing Steel Lbs.	Structural Steel Approx. Lbs.	12 H 53 Steel Piles		Excav. Cu Yds.		Pile Cap Conc. Sp. Yds.	Pile Metal Pile Out Lin. Ft.
				No.	Lin. Feet	Dry	Wet		
Superstructure	272.9	64,372	216,450						530.83
End Bent No. 1	12.5	2,328		11	550	331.47	88.85	270	180
Bent No. 1	92.8	9,618	17,234			340	110		
Bent No. 2	75.9	8,174	14,546			51.325	8.15		
Bent No. 3	69.3	7,383	13,554			27.63	3.8		
End Bent No. 2	12.5	2,328		11	275	257.7			35.77
TOTALS	556.34	114,602	216,450	22	770	1,628.15	166.99	270	180

703.23

Excavation to be measured
Work is not to be left until right & left
material is in excess to
tamped with the stream
tamping on
Bench Mark
50' Right of

ST
17.21



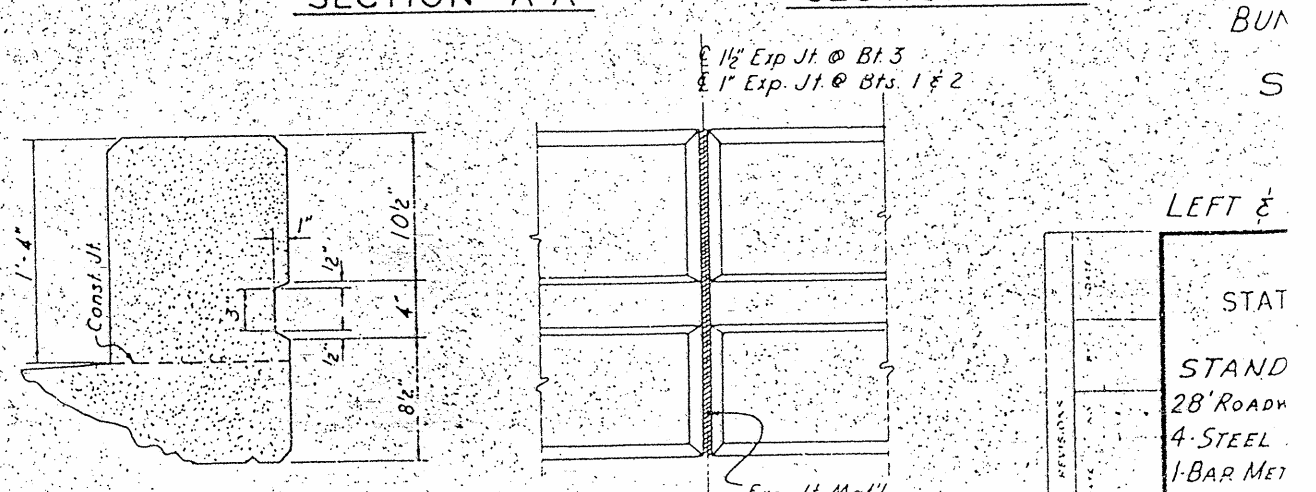
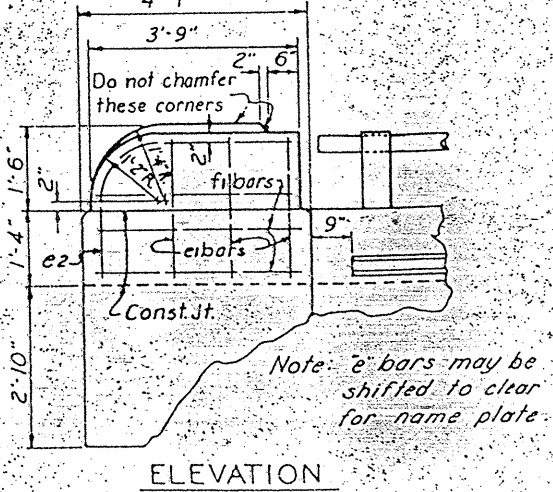
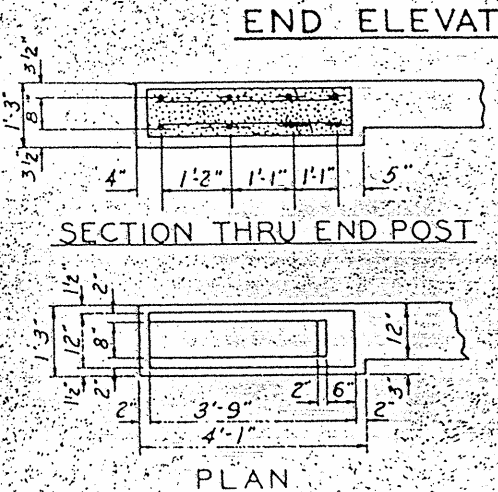
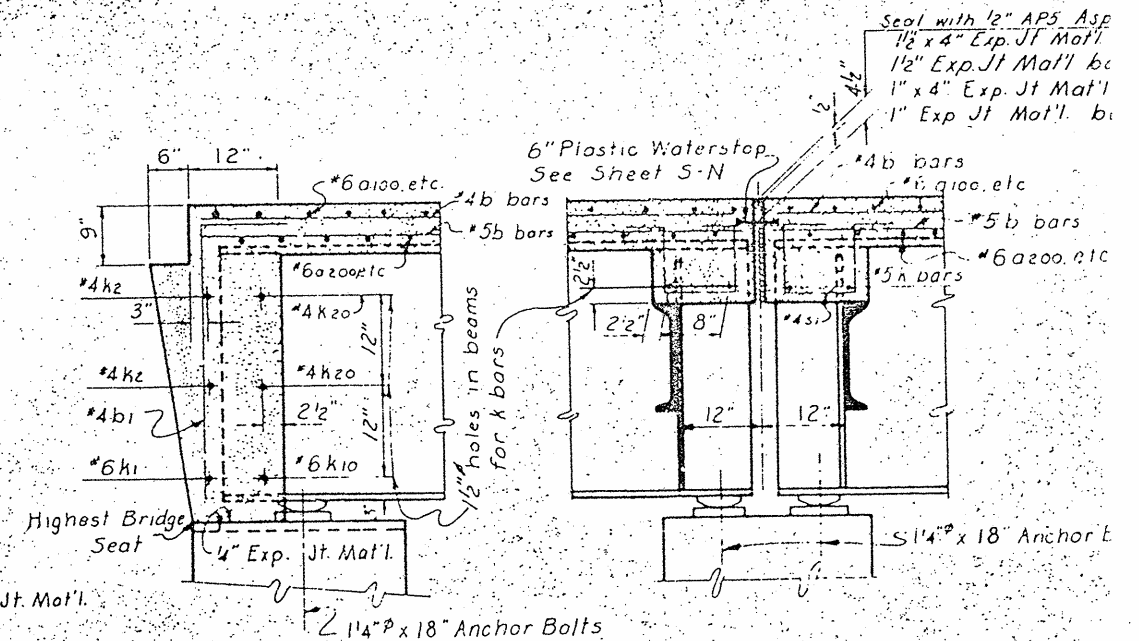
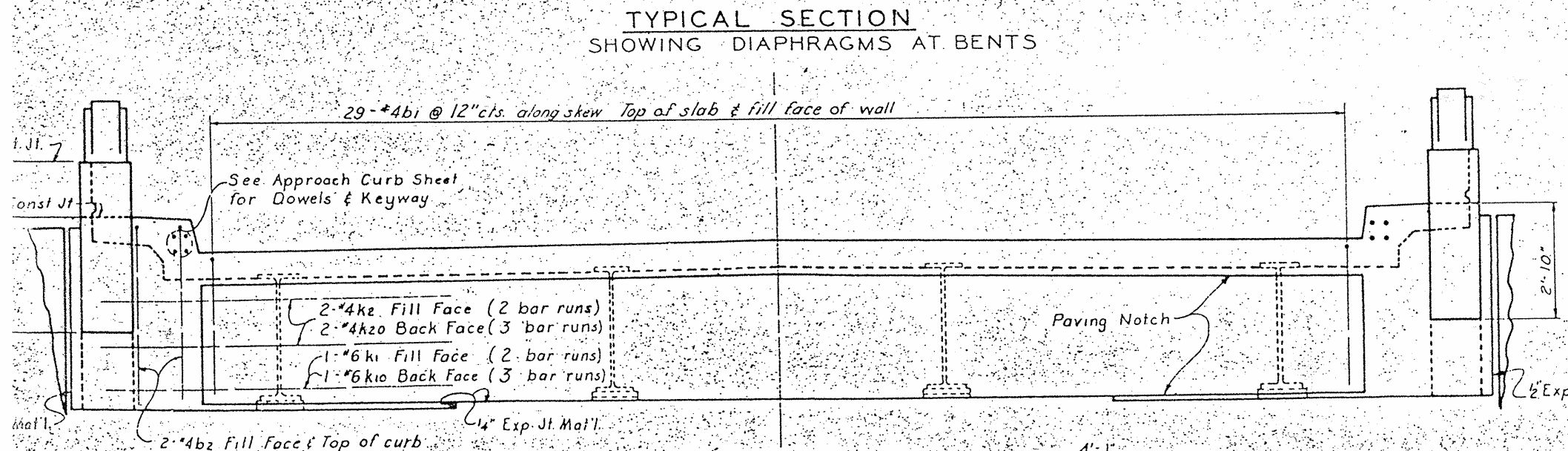
Assumed Live

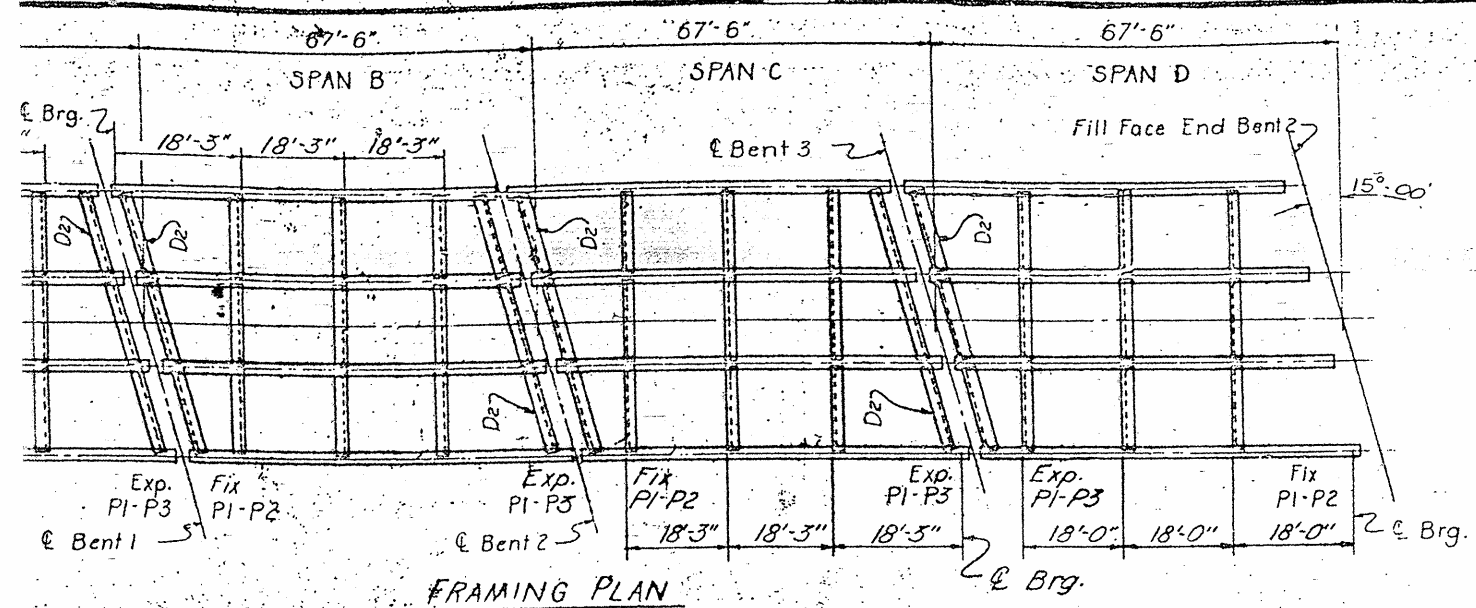
Concrete in Reinforcing Stress in Extr. Struc

For other Des. Sheet 5-N

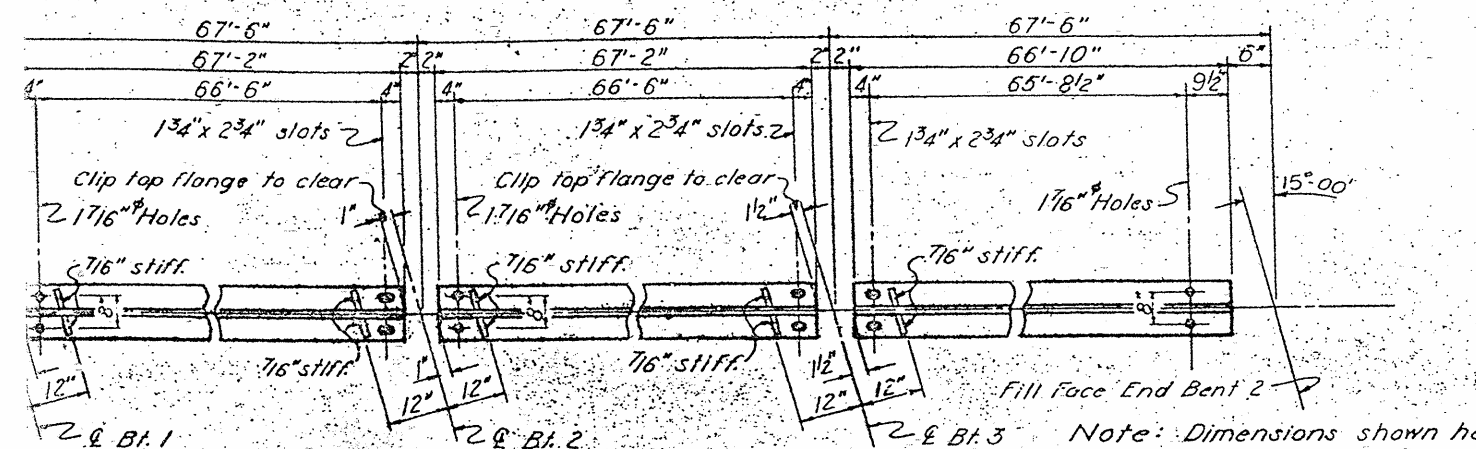
For standards see Concrete

Expansion joint and sealed w



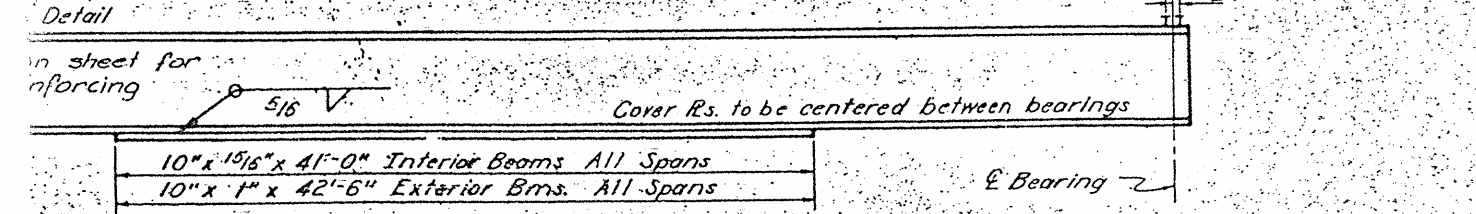


FRAMING PLAN
LEFT OR RIGHT LANE



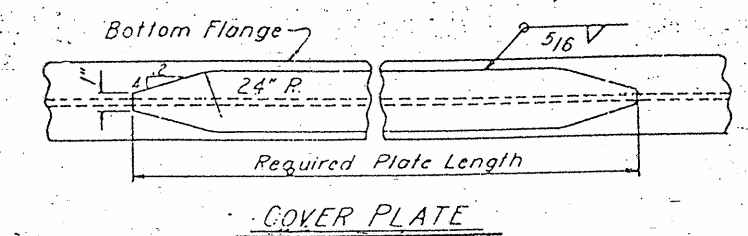
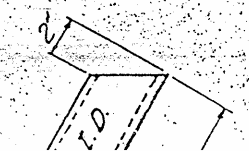
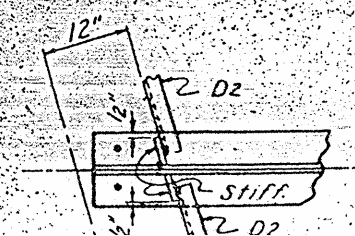
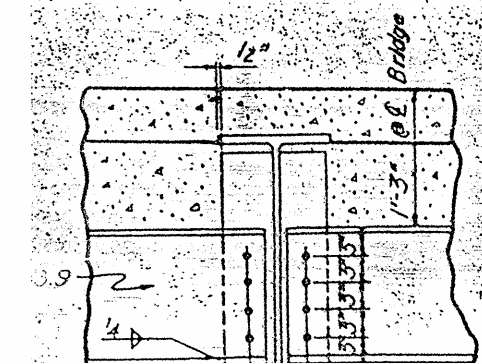
ANCHOR BOLT HOLES - BEAM LENGTHS - STIFFENERS

7/8" 7 spa @ 9"	4 spa @ 10 1/2 @ 12"	3 @ 1 2 1/2 @ 12"	4 spa @ 10 1/2 @ 9"	8 spa @ 7 1/2 @ 6"	5 spa @ 5"	Int.	SPANS A-L, A-R, D-L, & D-R		
1'-0" = 5'-3"	= 3'-6"	= 6'-0"	= 5'-8 1/2"	= 6'-0"	= 3'-6"	= 5'-3"		= 5'-0"	= 9'-0"
9" 5 spa @ 10 1/2 @ 12"	8 spa @ 1' 2 1/8" @ 9' 7 1/2"	7 spa @ 12"	5 spa @ 10 1/2 @ 9"	10 spa @ 7 1/2 @ 6"	13 spa @ 6"	Ext.	SPANS B-L, B-R, C-L, & C-R		
7'-9" = 4'-4 1/2"	= 7'-0"	= 7'-0"	= 4'-4 1/2"	= 3'-9"	= 6'-3"	= 6'-6"			
7/8" 7 spa @ 9"	5 spa @ 10 1/2 @ 12"	4 @ 1 2 1/2 @ 12"	5 spa @ 10 1/2 @ 9"	8 spa @ 7 1/2 @ 6"	5 spa @ 5"	Int.	SPANS B-L, B-R, C-L, & C-R		
1'-0" = 5'-3"	= 4'-4 1/2"	= 5'-0"	= 4'-9"	= 5'-0"	= 4'-4 1/2"	= 5'-3"		= 5'-0"	= 9'-0"
9" 5 spa @ 10 1/2 @ 12"	3 @ 1'-3"	2 @ 1'-5 1/2 @ 1'-3"	7 spa @ 12"	5 spa @ 10 1/2 @ 9"	10 spa @ 7 1/2 @ 6"	Ext.			
7'-9" = 4'-4 1/2"	= 7'-0"	= 3'-9"	= 2'-11"	= 3'-9"	= 7'-0"	= 4'-4 1/2"	= 3'-9"	= 6'-3"	= 6'-6"

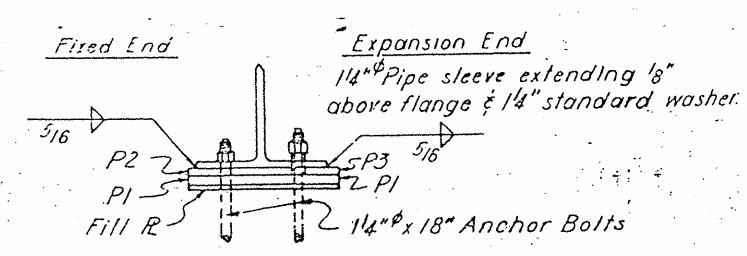


SHEAR STUDS & COVER PLATE LENGTHS

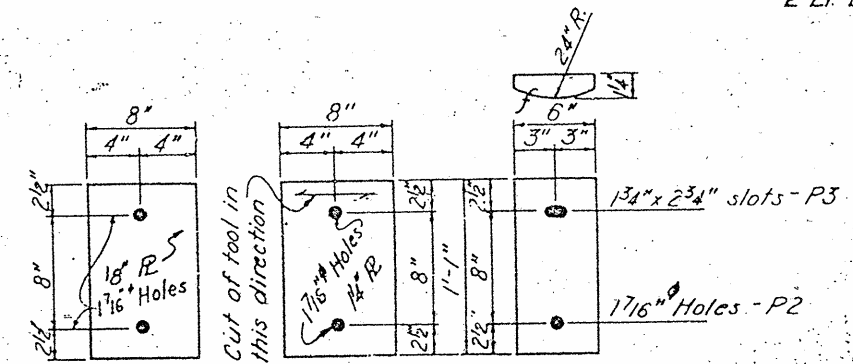
SPANS A, B, C, & D LEFT & RIGHT LANES		
Total Dead Load Deflection	Int. 1 3/8"	Ext. 1 9/16"
All beams to be shop camber as follows:	1 3/8"	1 9/16"



COVER PLATE

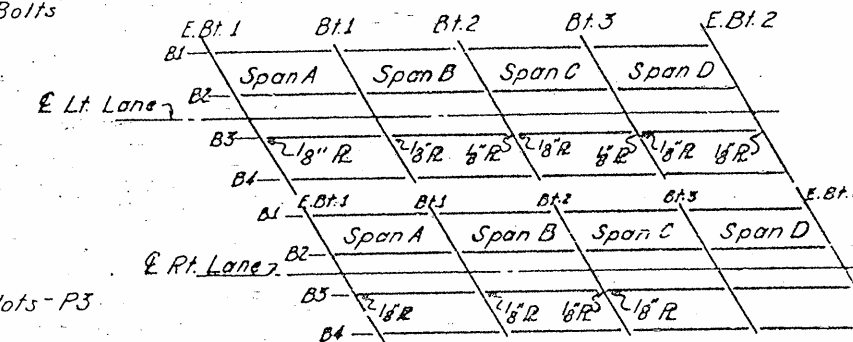


SECTION THRU BEARING

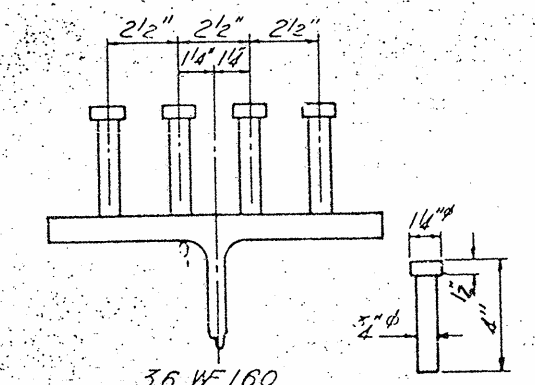


DETAIL BEARING RS.

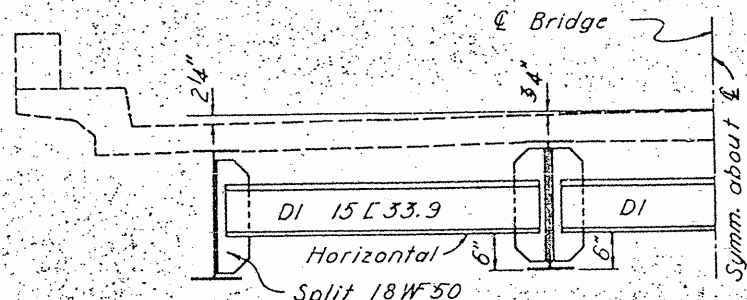
Required: (For One Lane)
 P1 32-8" x 1 1/4" x 1'-1" Plane finish to 1/4"
 P2 16-6" x 1 1/4" x 1'-1" As detailed
 P3 16-6" x 1 1/4" x 1'-1" As detailed
 64 1 1/4" x 18" Anchor Bolts with hex nuts
 Fill Rs. may be combined with masonry plates



FILL PLATE LAYOUT

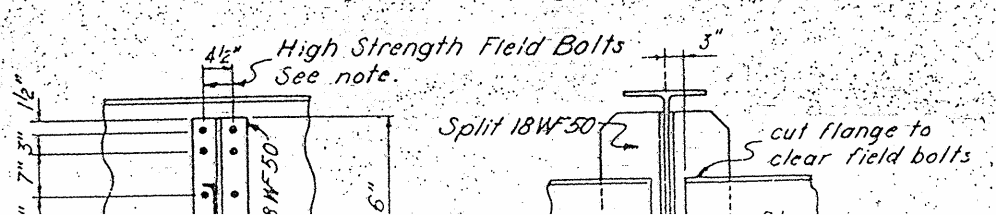


DETAIL SHEAR STUDS

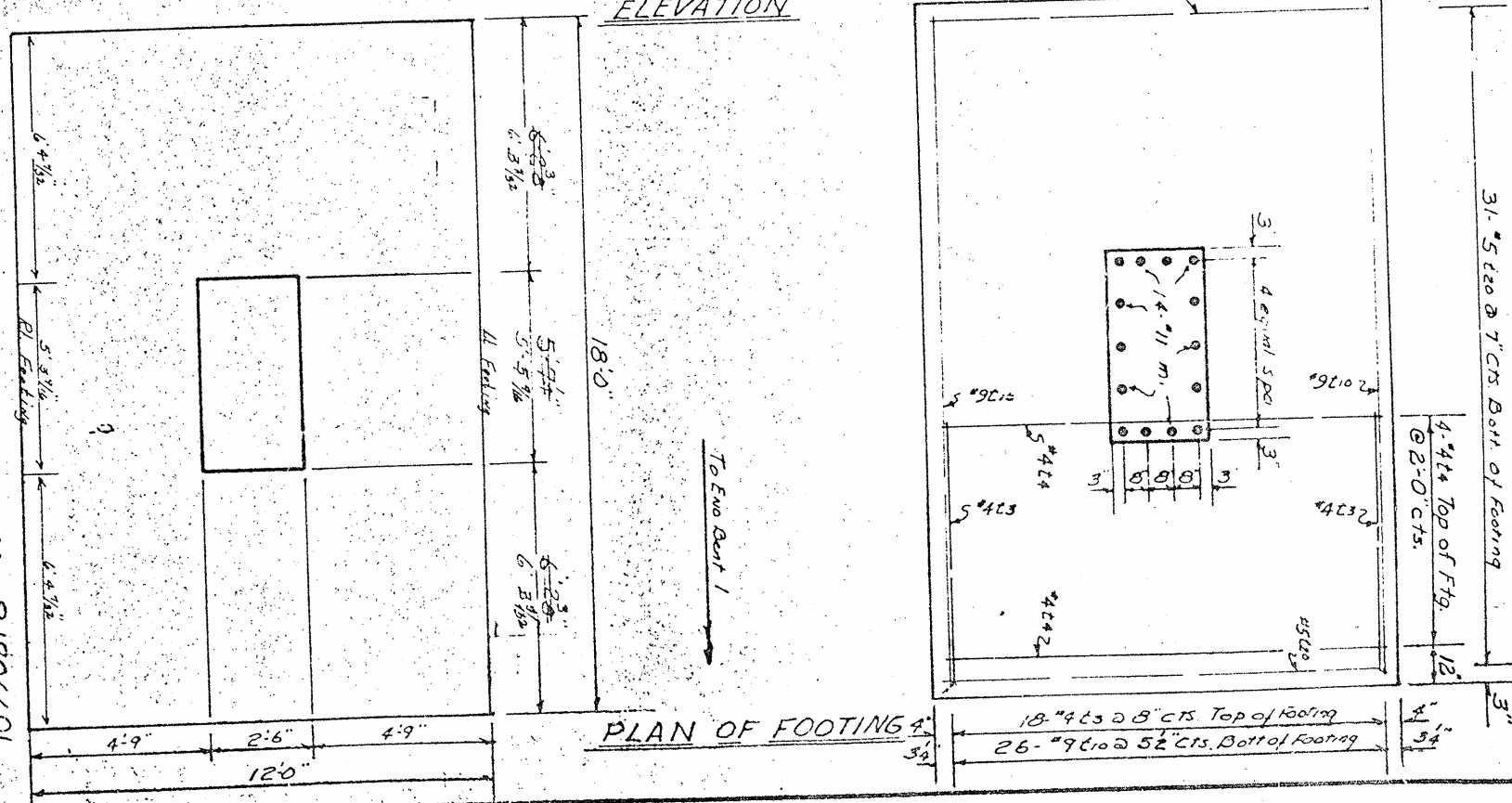
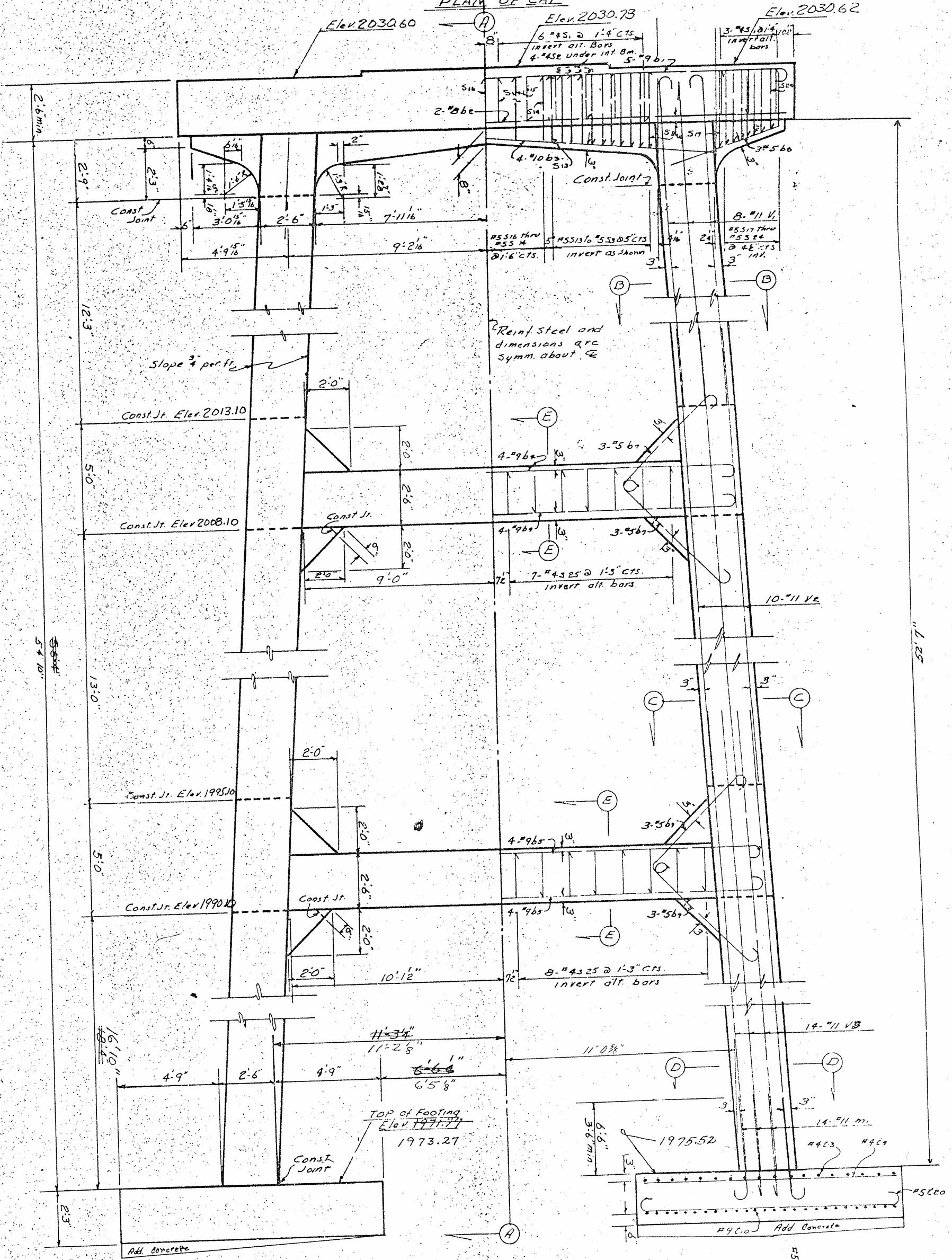
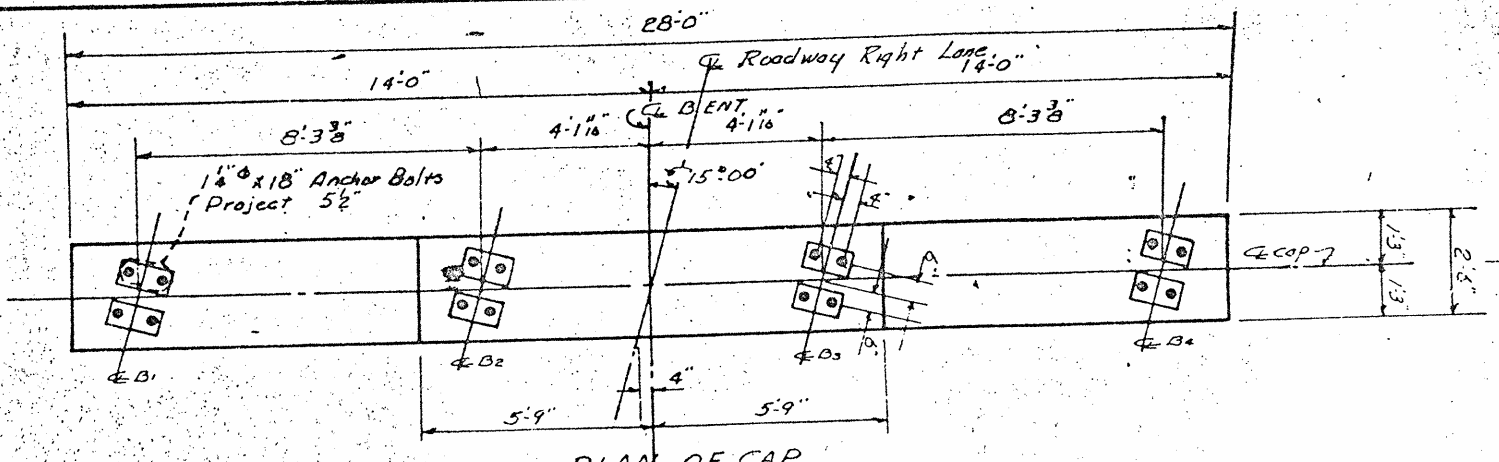


HALF TYPICAL SECTION

Showing Intermediate Diaphragm - DI



PROJECT No. 8.1906601
 BUNCOMBE COUNTY
 STATION: 512+55 @ Me



DRAWN BY: J. G. ... DATE: 12-1-1962
 CHECKED BY: ... DATE: 12-1-1962

NO.		BY		DATE		REV.	
1							
2							
3							
4							

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 RALEIGH, N.C.
SUBSTRUCTURE
RIGHT LANE
DENT NO. 1

PROJECT NO. B1906601
 BUNCOMBE COUNTY
 STATION: 512+55 C.M.E.D.
 Sheet 1 of 2

P.L.O. NO.	DATE	PROJECT NO.
3	12/1/62	B1906601

BILL OF MATERIAL
BENT NO 1 R. LANE

BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
1	3	#7	1	2.0	10
2	4	#5	11	2.0	5
3	4	#10	4	7.7	344
4	3	#9	1	24.4	166
5	3	#4	1	21.0	51
6	3	#5	3	2.0	5
7	14	#5	1	2.0	75
8	18	#5	1	2.0	87
9	3	#4	3	2.0	16
10	2	#5	5	4.0	31
11	2	#5	5	7.7	20
12	2	#5	5	7.7	20
13	2	#5	5	7.7	20
14	2	#5	5	7.7	20
15	2	#5	5	7.7	20
16	2	#5	5	7.7	20
17	2	#5	5	7.7	20
18	2	#5	5	7.7	20
19	2	#5	5	7.7	20
20	2	#5	5	7.7	20
21	2	#5	5	7.7	20
22	2	#5	5	7.7	20
23	2	#5	5	7.7	20
24	2	#5	5	7.7	20
25	2	#5	5	7.7	20
26	2	#5	5	7.7	20
27	2	#5	5	7.7	20
28	2	#5	5	7.7	20
29	2	#5	5	7.7	20
30	2	#5	5	7.7	20
31	2	#5	5	7.7	20
32	2	#5	5	7.7	20
33	2	#5	5	7.7	20
34	2	#5	5	7.7	20
35	2	#5	5	7.7	20
36	2	#5	5	7.7	20
37	2	#5	5	7.7	20
38	2	#5	5	7.7	20
39	2	#5	5	7.7	20
40	2	#5	5	7.7	20
41	2	#5	5	7.7	20
42	2	#5	5	7.7	20
43	2	#5	5	7.7	20
44	2	#5	5	7.7	20
45	2	#5	5	7.7	20
46	2	#5	5	7.7	20
47	2	#5	5	7.7	20
48	2	#5	5	7.7	20
49	2	#5	5	7.7	20
50	2	#5	5	7.7	20
51	2	#5	5	7.7	20
52	2	#5	5	7.7	20
53	2	#5	5	7.7	20
54	2	#5	5	7.7	20
55	2	#5	5	7.7	20
56	2	#5	5	7.7	20
57	2	#5	5	7.7	20
58	2	#5	5	7.7	20
59	2	#5	5	7.7	20
60	2	#5	5	7.7	20
61	2	#5	5	7.7	20
62	2	#5	5	7.7	20
63	2	#5	5	7.7	20
64	2	#5	5	7.7	20
65	2	#5	5	7.7	20
66	2	#5	5	7.7	20
67	2	#5	5	7.7	20
68	2	#5	5	7.7	20
69	2	#5	5	7.7	20
70	2	#5	5	7.7	20
71	2	#5	5	7.7	20
72	2	#5	5	7.7	20
73	2	#5	5	7.7	20
74	2	#5	5	7.7	20
75	2	#5	5	7.7	20
76	2	#5	5	7.7	20
77	2	#5	5	7.7	20
78	2	#5	5	7.7	20
79	2	#5	5	7.7	20
80	2	#5	5	7.7	20
81	2	#5	5	7.7	20
82	2	#5	5	7.7	20
83	2	#5	5	7.7	20
84	2	#5	5	7.7	20
85	2	#5	5	7.7	20
86	2	#5	5	7.7	20
87	2	#5	5	7.7	20
88	2	#5	5	7.7	20
89	2	#5	5	7.7	20
90	2	#5	5	7.7	20
91	2	#5	5	7.7	20
92	2	#5	5	7.7	20
93	2	#5	5	7.7	20
94	2	#5	5	7.7	20
95	2	#5	5	7.7	20
96	2	#5	5	7.7	20
97	2	#5	5	7.7	20
98	2	#5	5	7.7	20
99	2	#5	5	7.7	20
100	2	#5	5	7.7	20
101	2	#5	5	7.7	20
102	2	#5	5	7.7	20
103	2	#5	5	7.7	20
104	2	#5	5	7.7	20
105	2	#5	5	7.7	20
106	2	#5	5	7.7	20
107	2	#5	5	7.7	20
108	2	#5	5	7.7	20
109	2	#5	5	7.7	20
110	2	#5	5	7.7	20
111	2	#5	5	7.7	20
112	2	#5	5	7.7	20
113	2	#5	5	7.7	20
114	2	#5	5	7.7	20
115	2	#5	5	7.7	20
116	2	#5	5	7.7	20
117	2	#5	5	7.7	20
118	2	#5	5	7.7	20
119	2	#5	5	7.7	20
120	2	#5	5	7.7	20
121	2	#5	5	7.7	20
122	2	#5	5	7.7	20
123	2	#5	5	7.7	20
124	2	#5	5	7.7	20
125	2	#5	5	7.7	20
126	2	#5	5	7.7	20
127	2	#5	5	7.7	20
128	2	#5	5	7.7	20
129	2	#5	5	7.7	20
130	2	#5	5	7.7	20
131	2	#5	5	7.7	20
132	2	#5	5	7.7	20
133	2	#5	5	7.7	20
134	2	#5	5	7.7	20
135	2	#5	5	7.7	20
136	2	#5	5	7.7	20
137	2	#5	5	7.7	20
138	2	#5	5	7.7	20
139	2	#5	5	7.7	20
140	2	#5	5	7.7	20
141	2	#5	5	7.7	20
142	2	#5	5	7.7	20
143	2	#5	5	7.7	20
144	2	#5	5	7.7	20
145	2	#5	5	7.7	20
146	2	#5	5	7.7	20
147	2	#5	5	7.7	20
148	2	#5	5	7.7	20
149	2	#5	5	7.7	20
150	2	#5	5	7.7	20
151	2	#5	5	7.7	20
152	2	#5	5	7.7	20
153	2	#5	5	7.7	20
154	2	#5	5	7.7	20
155	2	#5	5	7.7	20
156	2	#5	5	7.7	20
157	2	#5	5	7.7	20
158	2	#5	5	7.7	20
159	2	#5	5	7.7	20
160	2	#5	5	7.7	20
161	2	#5	5	7.7	20
162	2	#5	5	7.7	20
163	2	#5	5	7.7	20
164	2	#5	5	7.7	20
165	2	#5	5	7.7	20
166	2	#5	5	7.7	20
167	2	#5	5	7.7	20
168	2	#5	5	7.7	20
169	2	#5	5	7.7	20
170	2	#5	5	7.7	20
171	2	#5	5	7.7	20
172	2	#5	5	7.7	20
173	2	#5	5	7.7	20
174	2	#5	5	7.7	20
175	2	#5	5	7.7	20
176	2	#5	5	7.7	20
177	2	#5	5	7.7	20
178	2	#5	5	7.7	20
179	2	#5	5	7.7	20
180	2	#5	5	7.7	20
181	2	#5	5	7.7	20
182	2	#5	5	7.7	20
183	2	#5	5	7.7	20
184	2	#5	5	7.7	20
185	2	#5	5	7.7	20
186	2	#5	5	7.7	20
187	2	#5	5	7.7	20
188	2	#5	5	7.7	20
189	2	#5	5	7.7	20
190	2	#5	5	7.7	20
191	2	#5	5	7.7	20
192	2	#5	5	7.7	20
193	2	#5	5	7.7	20
194	2	#5	5	7.7	20
195	2	#5	5	7.7	20
196	2	#5	5	7.7	20
197	2	#5	5	7.7	20
198	2	#5	5	7.7	20
199	2	#5	5	7.7	20
200	2	#5	5	7.7	20

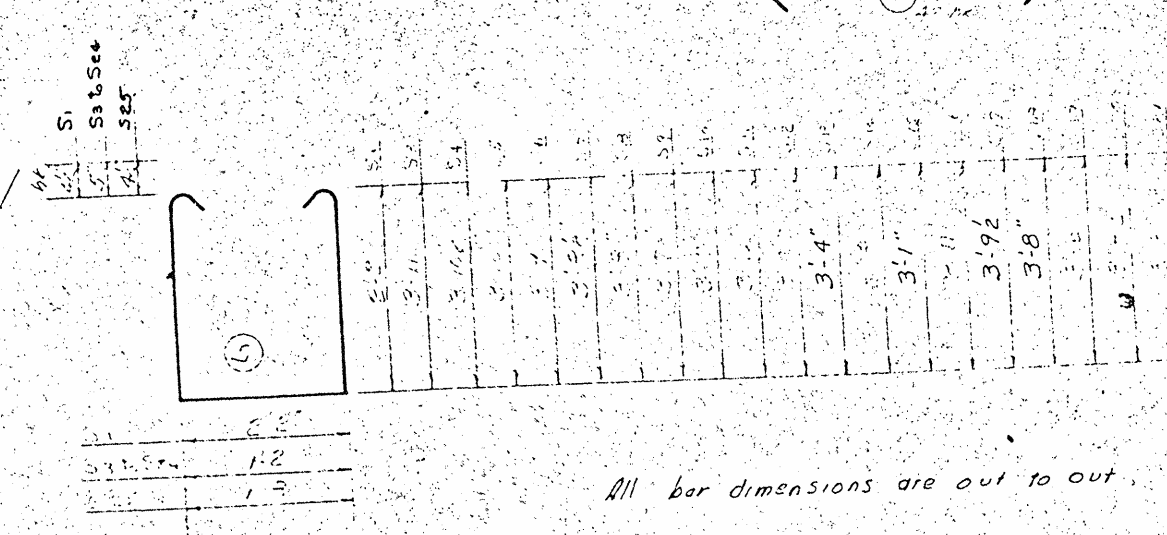
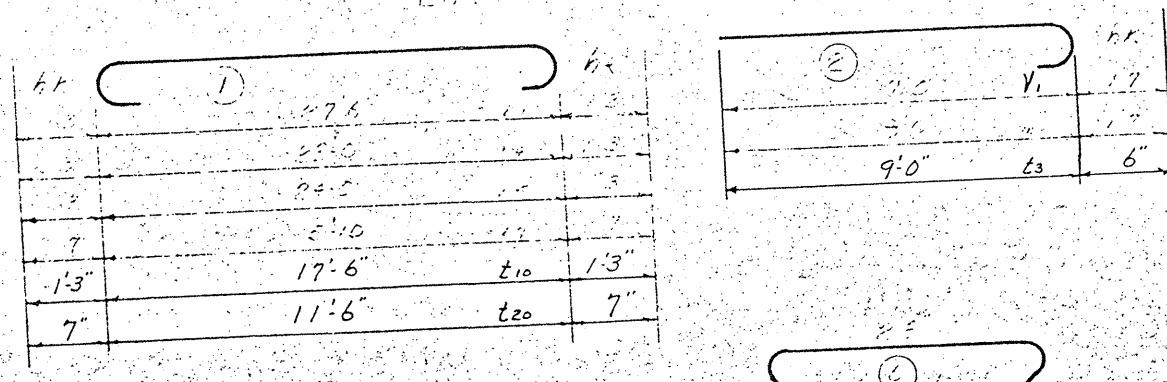
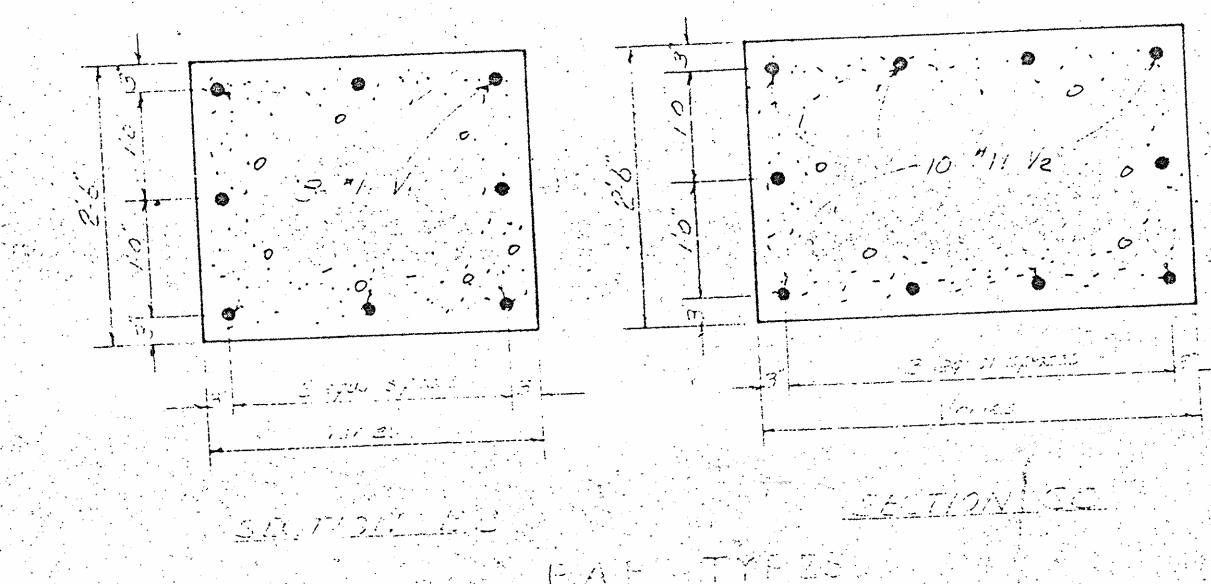
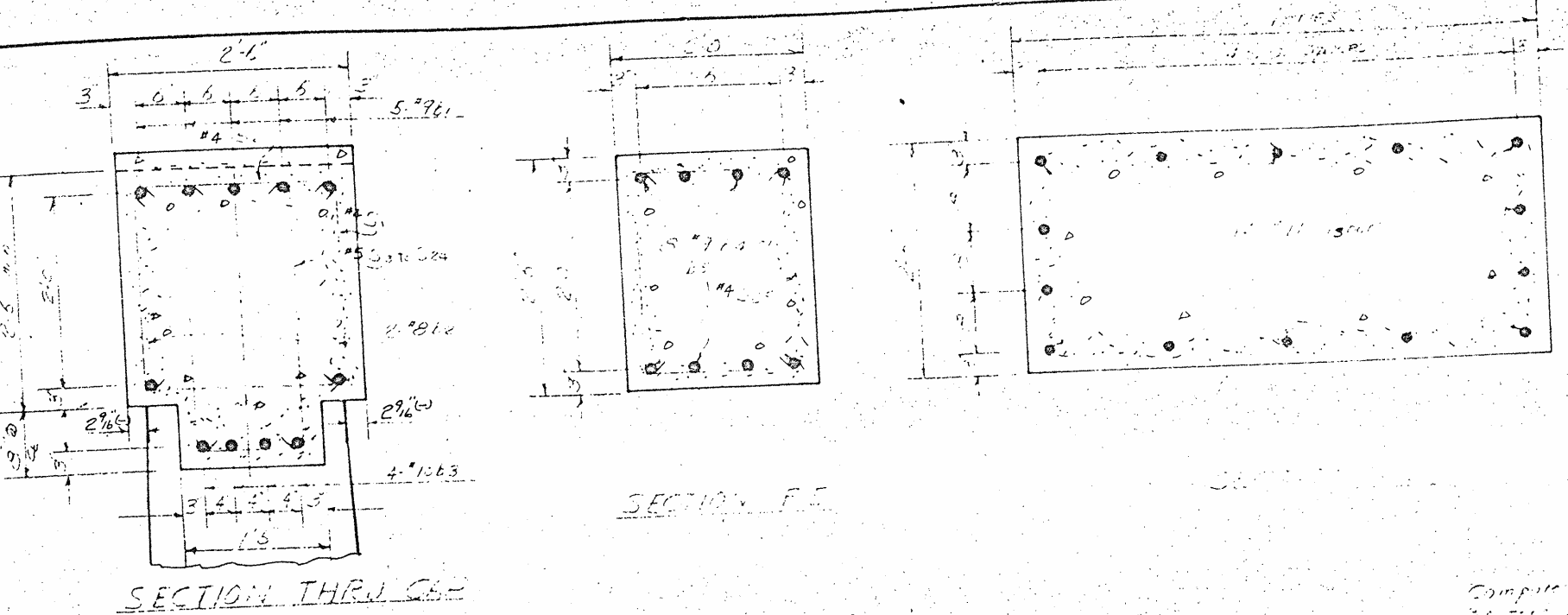
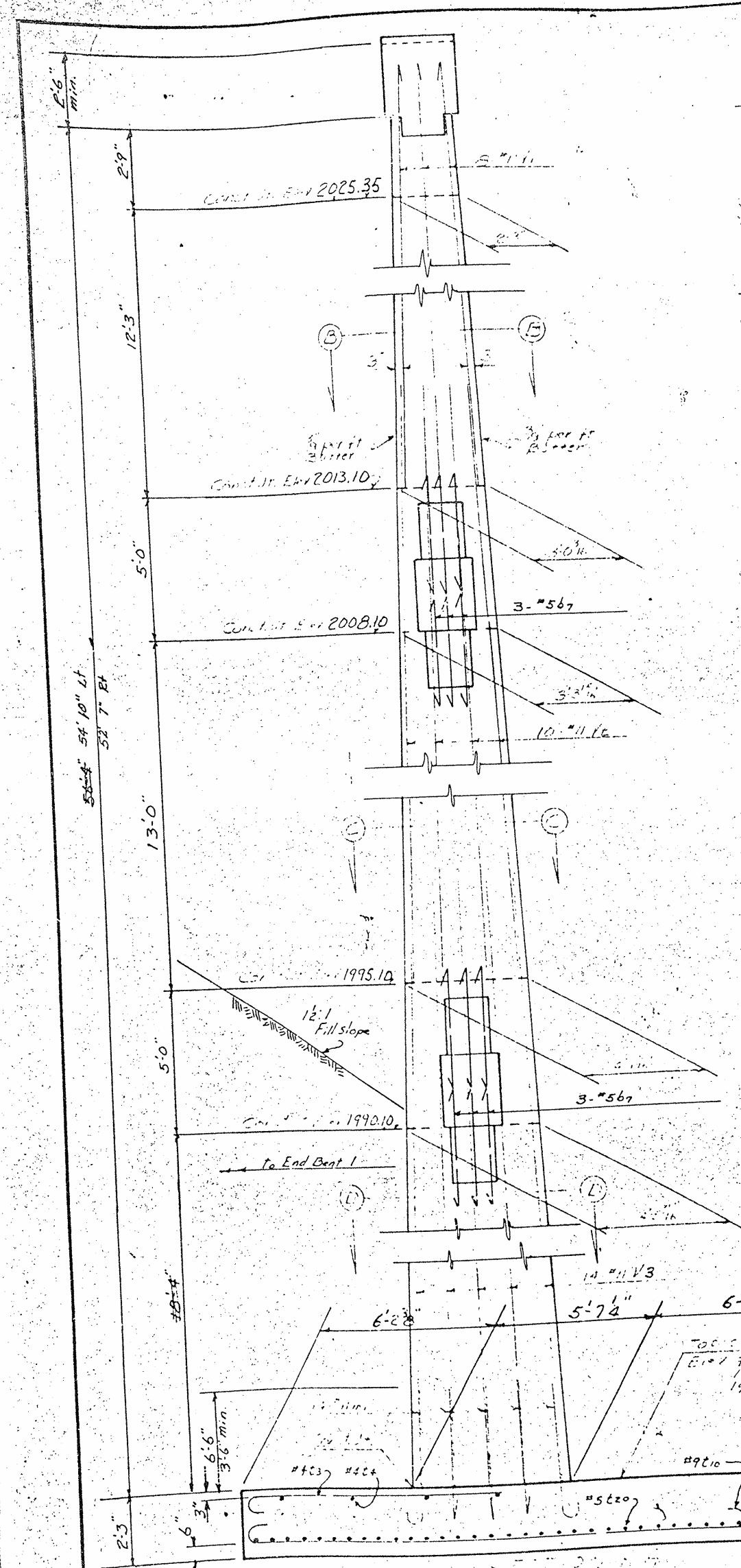
Class 'A' Concrete 96.8 CY 92.2
Reinf Steel Lbs 11234
Dry Excavation 331.42 CY 340
Wet Excavation 88.5 CY 140

PROJECT No. 8.1906601
BUNCOMBE COUNTY
STATION: 512+55 E Med.
Sheet 2 of 2

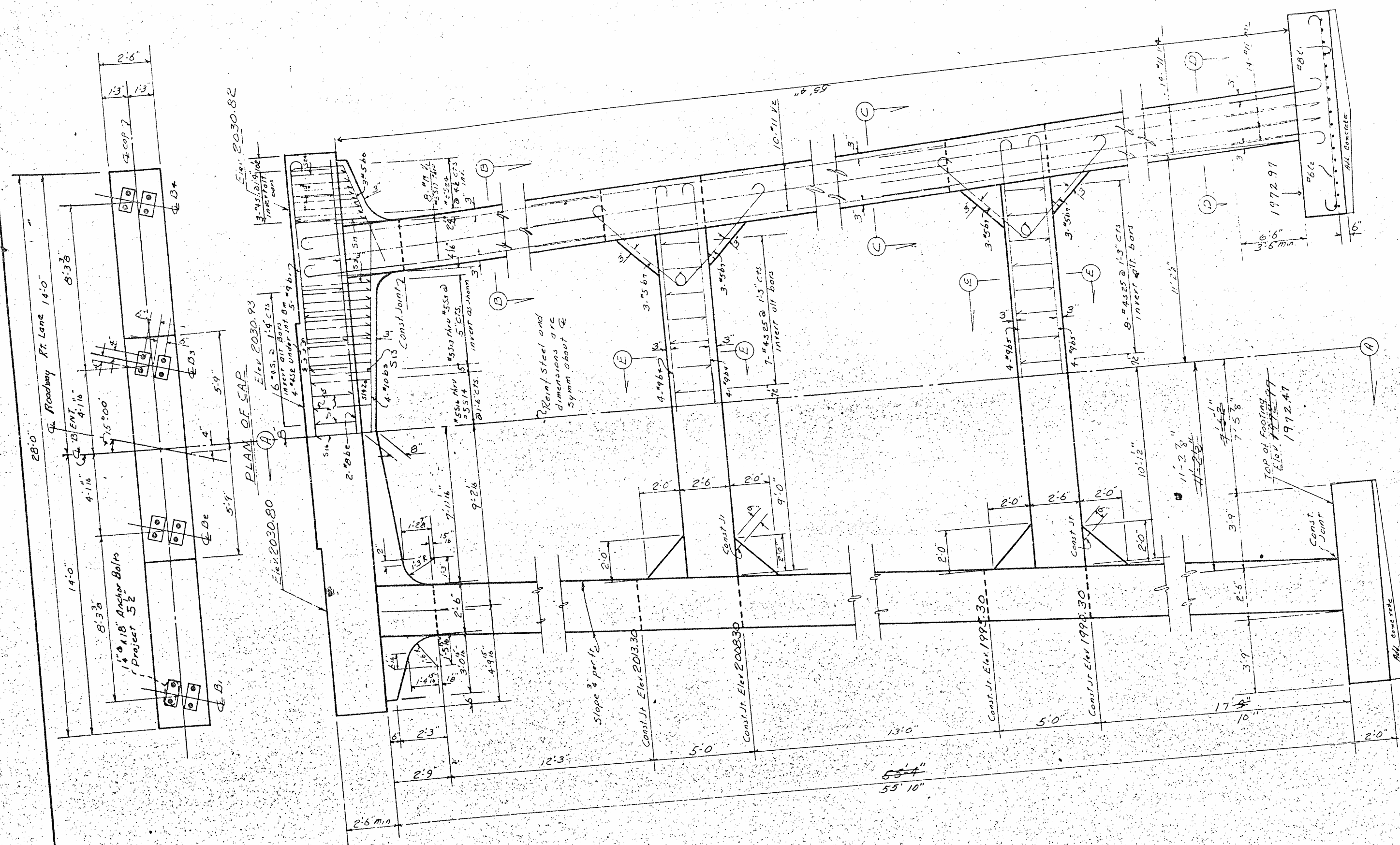
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH
SUBSTRUCTURE
RIGHT LANE
BENT NO 1

February 1962

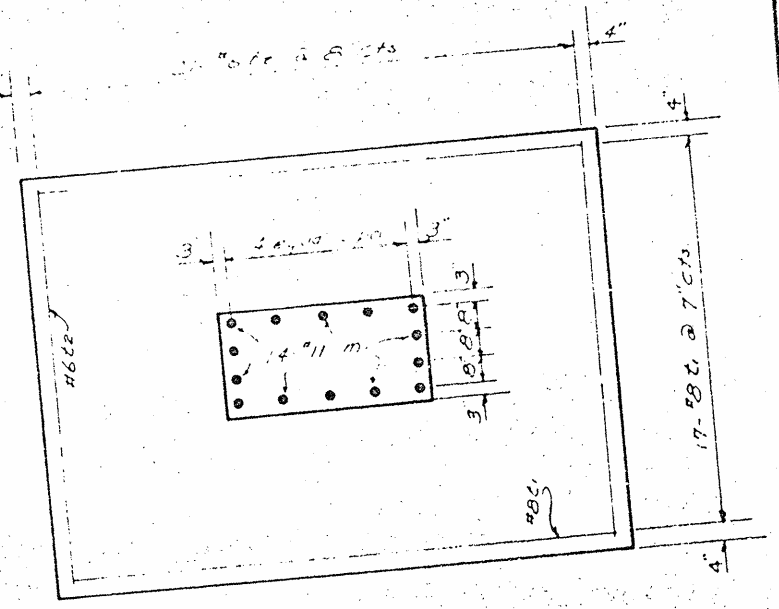
SHEET NO. 5-101
TOTAL SHEETS 228



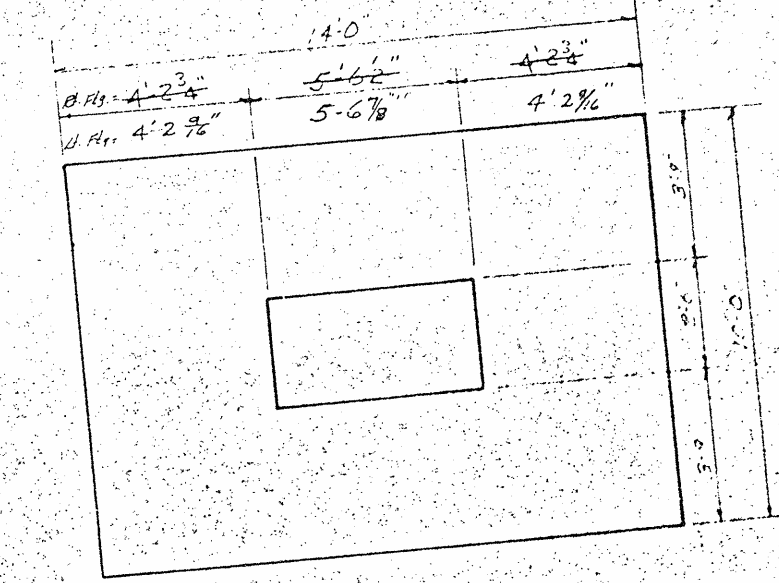
All bar dimensions are out to out.



ELEVATION



PLAN OF FOOTING



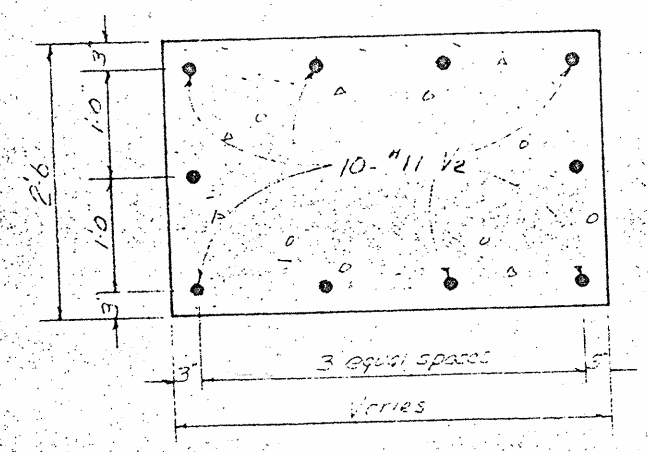
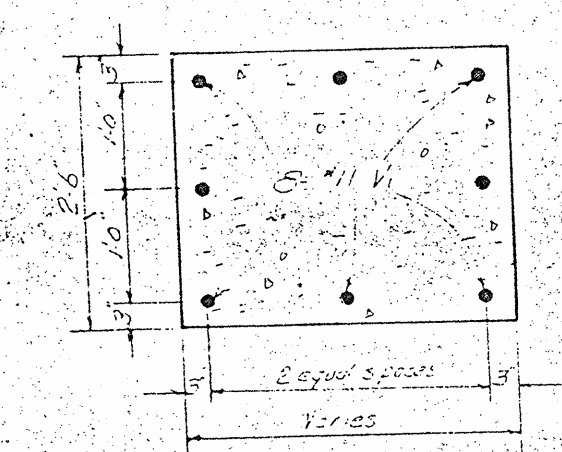
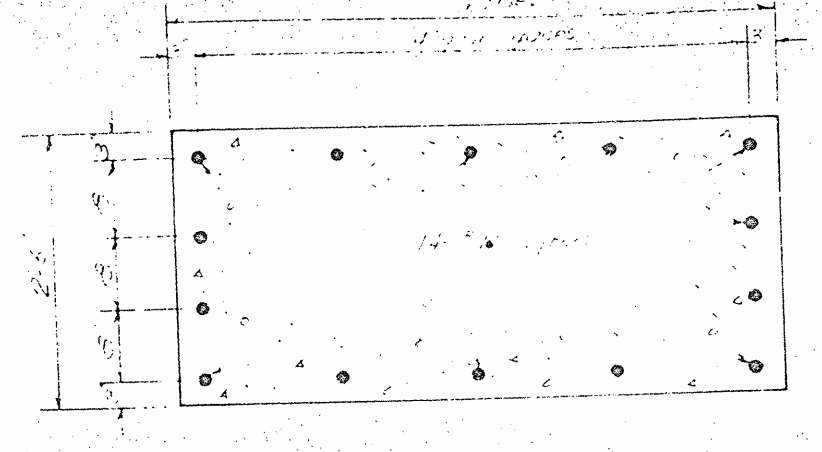
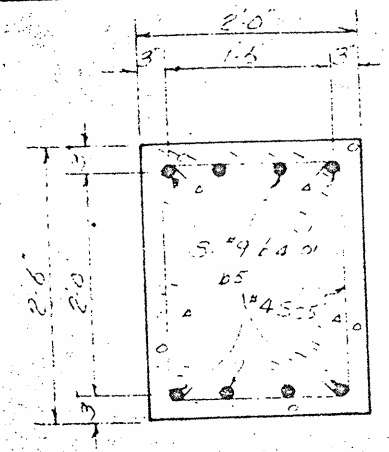
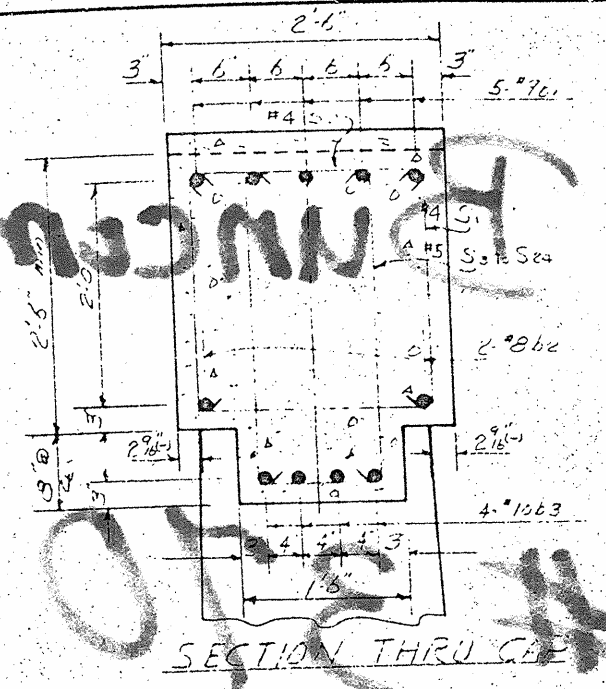
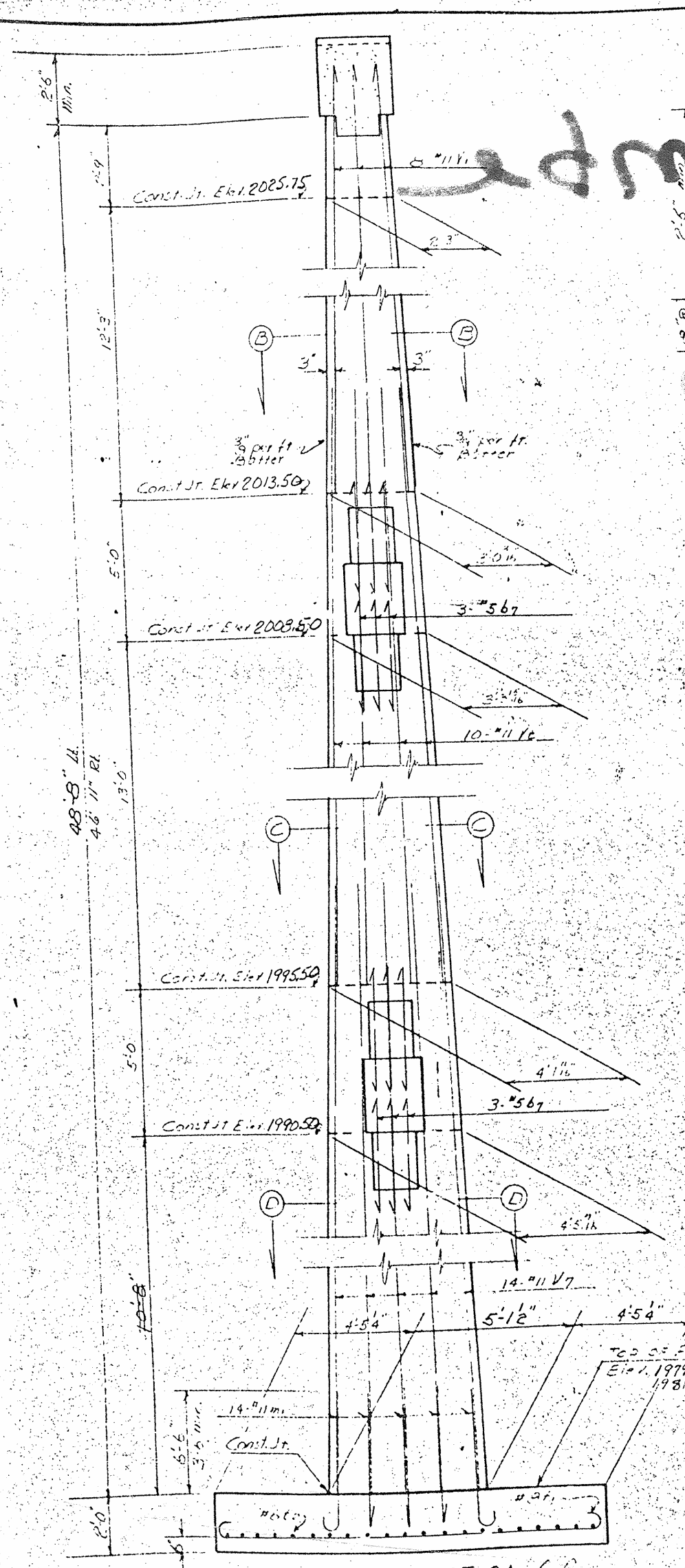
PROJECT No. B.1906601
 BUNCOMBE COUNTY
 STATION: 512+55 & M&D

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 RALEIGH
 SUBSTRUCTURE
 RIGHT LANE
 BENT No 2

REVISIONS						SHEET NO. 5-10	TOTAL SHEETS 16
NO	BY	DATE	NO	BY	DATE		
1			3			228	
2			4				

BILL OF MATERIAL
BENT NO 2 RT LANE

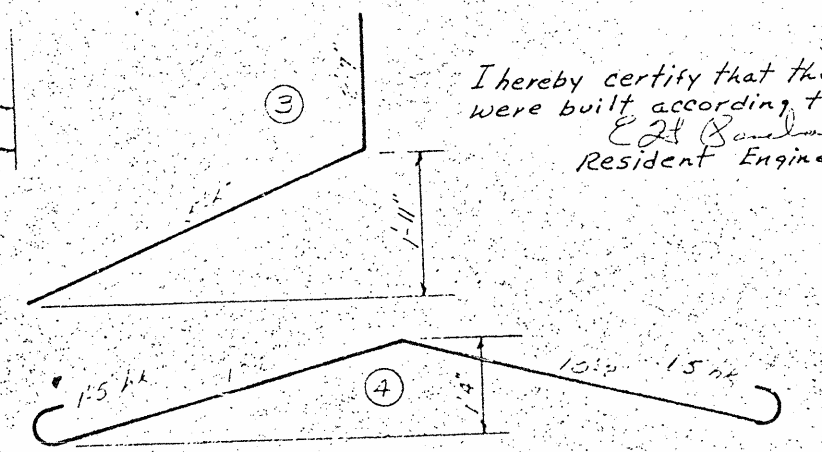
BAR NO	SIZE	TYPE	LENGTH	WEIGHT
1	1/2	1	1.0	5.5
2	3/4	1	1.0	5.5
3	1	1	1.0	5.5
4	1 1/4	1	1.0	5.5
5	1 1/2	1	1.0	5.5
6	2	1	1.0	5.5
7	2 1/2	1	1.0	5.5
8	3	1	1.0	5.5
9	3 1/2	1	1.0	5.5
10	4	1	1.0	5.5
11	4 1/2	1	1.0	5.5
12	5	1	1.0	5.5
13	5 1/2	1	1.0	5.5
14	6	1	1.0	5.5
15	6 1/2	1	1.0	5.5
16	7	1	1.0	5.5
17	7 1/2	1	1.0	5.5
18	8	1	1.0	5.5
19	8 1/2	1	1.0	5.5
20	9	1	1.0	5.5
21	9 1/2	1	1.0	5.5
22	10	1	1.0	5.5
23	10 1/2	1	1.0	5.5
24	11	1	1.0	5.5
25	11 1/2	1	1.0	5.5
26	12	1	1.0	5.5
27	12 1/2	1	1.0	5.5
28	13	1	1.0	5.5
29	13 1/2	1	1.0	5.5
30	14	1	1.0	5.5
31	14 1/2	1	1.0	5.5
32	15	1	1.0	5.5
33	15 1/2	1	1.0	5.5
34	16	1	1.0	5.5
35	16 1/2	1	1.0	5.5
36	17	1	1.0	5.5
37	17 1/2	1	1.0	5.5
38	18	1	1.0	5.5
39	18 1/2	1	1.0	5.5
40	19	1	1.0	5.5
41	19 1/2	1	1.0	5.5
42	20	1	1.0	5.5
43	20 1/2	1	1.0	5.5
44	21	1	1.0	5.5
45	21 1/2	1	1.0	5.5
46	22	1	1.0	5.5
47	22 1/2	1	1.0	5.5
48	23	1	1.0	5.5
49	23 1/2	1	1.0	5.5
50	24	1	1.0	5.5
51	24 1/2	1	1.0	5.5
52	25	1	1.0	5.5
53	25 1/2	1	1.0	5.5
54	26	1	1.0	5.5
55	26 1/2	1	1.0	5.5
56	27	1	1.0	5.5
57	27 1/2	1	1.0	5.5
58	28	1	1.0	5.5
59	28 1/2	1	1.0	5.5
60	29	1	1.0	5.5
61	29 1/2	1	1.0	5.5
62	30	1	1.0	5.5
63	30 1/2	1	1.0	5.5
64	31	1	1.0	5.5
65	31 1/2	1	1.0	5.5
66	32	1	1.0	5.5
67	32 1/2	1	1.0	5.5
68	33	1	1.0	5.5
69	33 1/2	1	1.0	5.5
70	34	1	1.0	5.5
71	34 1/2	1	1.0	5.5
72	35	1	1.0	5.5
73	35 1/2	1	1.0	5.5
74	36	1	1.0	5.5
75	36 1/2	1	1.0	5.5
76	37	1	1.0	5.5
77	37 1/2	1	1.0	5.5
78	38	1	1.0	5.5
79	38 1/2	1	1.0	5.5
80	39	1	1.0	5.5
81	39 1/2	1	1.0	5.5
82	40	1	1.0	5.5
83	40 1/2	1	1.0	5.5
84	41	1	1.0	5.5
85	41 1/2	1	1.0	5.5
86	42	1	1.0	5.5
87	42 1/2	1	1.0	5.5
88	43	1	1.0	5.5
89	43 1/2	1	1.0	5.5
90	44	1	1.0	5.5
91	44 1/2	1	1.0	5.5
92	45	1	1.0	5.5
93	45 1/2	1	1.0	5.5
94	46	1	1.0	5.5
95	46 1/2	1	1.0	5.5
96	47	1	1.0	5.5
97	47 1/2	1	1.0	5.5
98	48	1	1.0	5.5
99	48 1/2	1	1.0	5.5
100	49	1	1.0	5.5
101	49 1/2	1	1.0	5.5
102	50	1	1.0	5.5
103	50 1/2	1	1.0	5.5
104	51	1	1.0	5.5
105	51 1/2	1	1.0	5.5
106	52	1	1.0	5.5
107	52 1/2	1	1.0	5.5
108	53	1	1.0	5.5
109	53 1/2	1	1.0	5.5
110	54	1	1.0	5.5
111	54 1/2	1	1.0	5.5
112	55	1	1.0	5.5
113	55 1/2	1	1.0	5.5
114	56	1	1.0	5.5
115	56 1/2	1	1.0	5.5
116	57	1	1.0	5.5
117	57 1/2	1	1.0	5.5
118	58	1	1.0	5.5
119	58 1/2	1	1.0	5.5
120	59	1	1.0	5.5
121	59 1/2	1	1.0	5.5
122	60	1	1.0	5.5
123	60 1/2	1	1.0	5.5
124	61	1	1.0	5.5
125	61 1/2	1	1.0	5.5
126	62	1	1.0	5.5
127	62 1/2	1	1.0	5.5
128	63	1	1.0	5.5
129	63 1/2	1	1.0	5.5
130	64	1	1.0	5.5
131	64 1/2	1	1.0	5.5
132	65	1	1.0	5.5
133	65 1/2	1	1.0	5.5
134	66	1	1.0	5.5
135	66 1/2	1	1.0	5.5
136	67	1	1.0	5.5
137	67 1/2	1	1.0	5.5
138	68	1	1.0	5.5
139	68 1/2	1	1.0	5.5
140	69	1	1.0	5.5
141	69 1/2	1	1.0	5.5
142	70	1	1.0	5.5
143	70 1/2	1	1.0	5.5
144	71	1	1.0	5.5
145	71 1/2	1	1.0	5.5
146	72	1	1.0	5.5
147	72 1/2	1	1.0	5.5
148	73	1	1.0	5.5
149	73 1/2	1	1.0	5.5
150	74	1	1.0	5.5
151	74 1/2	1	1.0	5.5
152	75	1	1.0	5.5
153	75 1/2	1	1.0	5.5
154	76	1	1.0	5.5
155	76 1/2	1	1.0	5.5
156	77	1	1.0	5.5
157	77 1/2	1	1.0	5.5
158	78	1	1.0	5.5
159	78 1/2	1	1.0	5.5
160	79	1	1.0	5.5
161	79 1/2	1	1.0	5.5
162	80	1	1.0	5.5
163	80 1/2	1	1.0	5.5
164	81	1	1.0	5.5
165	81 1/2	1	1.0	5.5
166	82	1	1.0	5.5
167	82 1/2	1	1.0	5.5
168	83	1	1.0	5.5
169	83 1/2	1	1.0	5.5
170	84	1	1.0	5.5
171	84 1/2	1	1.0	5.5
172	85	1	1.0	5.5
173	85 1/2	1	1.0	5.5
174	86	1	1.0	5.5
175	86 1/2	1	1.0	5.5
176	87	1	1.0	5.5
177	87 1/2	1	1.0	5.5
178	88	1	1.0	5.5
179	88 1/2	1	1.0	5.5
180	89	1	1.0	5.5
181	89 1/2	1	1.0	5.5
182	90	1	1.0	5.5
183	90 1/2	1	1.0	5.5
184	91	1	1.0	5.5
185	91 1/2	1	1.0	5.5
186	92	1	1.0	5.5
187	92 1/2	1	1.0	5.5
188	93	1	1.0	5.5
189	93 1/2	1	1.0	5.5
190	94	1	1.0	5.5
191	94 1/2	1	1.0	5.5
192	95	1	1.0	5.5
193	95 1/2	1	1.0	5.5
194	96	1	1.0	5.5
195	96 1/2	1	1.0	5.5
196	97	1	1.0	5.5
197	97 1/2	1	1.0	5.5
198	98	1	1.0	5.5
199	98 1/2	1	1.0	5.5
200	99	1	1.0	5.5
201	99 1/2	1	1.0	5.5
202	100	1	1.0	5.5
203	100 1/2	1	1.0	5.5
204	101	1	1.0	5.5
205	101 1/2	1	1.0	5.5
206	102	1	1.0	5.5
207	102 1/2	1	1.0	5.5
208	103	1	1.0	5.5
209	103 1/2	1	1.0	5.5
210	104	1	1.0	5.5
211	104 1/2	1	1.0	5.5
212	105	1	1.0	5.5
213	105 1/2	1	1.0	5.5
214	106	1	1.0	5.5
215	106 1/2	1	1.0	5.5
216	107	1	1.0	5.5
217	107 1/2	1	1.0	5.5
218	108	1	1.0	5.5
219	108 1/2	1	1.0	5.5
220	109	1	1.0	5.5
221	109 1/2	1	1.0	5.5
222	110	1	1.0	5.5
223	110 1/2	1	1.0	5.5
224	111	1	1.0	5.5
225	111 1/2	1	1.0	5.5
226	112	1	1.0	5.5
227	112 1/2	1	1.0	5.5
228	113	1	1.0	5.5
229	113 1/2	1	1.0	5.5
230	114	1	1.0	5.5
231	114 1/2	1	1.0	5.5
232	115	1	1.0	5.5
233	115 1/2	1	1.0	5.5
234	116	1	1.0	5.5
235	116 1/2	1	1.0	5.5
236	117	1	1.0	5.5
237	117 1/2	1	1.0	5.5
238	118	1	1.0	5.5
239	118 1/2	1	1.0	5.5
240	119	1	1.0	5.5
241	119 1/2	1	1.0	5.5
242	120	1	1.0	5.5
243	120 1/2	1	1.0	5.5
244	121	1	1.0	5.5
245	121 1/2	1	1.0	5.5
246	122	1	1.0	5.5
247	122 1/2	1	1.0	5.5
248	123	1	1.0	5.5
249	123 1/2	1	1.0	5.5
250	124	1	1.0	5.5
251	124 1/2	1	1.0	5.5
252	125	1	1.0	5.5
253	125 1/2	1	1.0	5.5
254	126	1	1.0	5.5
255	126 1/2	1	1.0	5.5
256	127	1	1.0	5.5
257	127 1/2	1	1.0	5.5
258	128	1	1.0	5.5
259	128 1/2	1	1.0	5.5
260	129	1	1.0	5.5
261	129 1/2	1	1.0	5.5
262	130	1	1.0	5.5
263	130 1/2	1	1.0	5.5
264	131	1	1.0	5.5
265	131 1/2	1	1.0	5.5
266	132	1	1.0	5.5
267	132 1/2	1	1.0	5.5
268	133	1	1.0	5.5
269	133 1/2	1	1.0	5.5
270	134	1	1.0	5.5
271	134 1/2	1	1.0	5.5
272	135	1	1.0	5.5
273	135 1/2	1	1.0	5.5
274	136	1	1.0	5.5
275	136 1/2	1	1.0	5.5
276	137	1	1.0	5.5
277	137 1/2	1	1.0	5.5
278	138	1	1.0	5.5
279	138			



BAR TYPES

hk	①	27'-6"	hk	②	17'-0"
1-3		22'-0"	hk		17'
7-3		24'-0"	hk		17'
1-3		5'-10"	hk		7'
1-1		13'-6"	hk		11'
3-		7'-6"	hk		3'

hk	③	2'-2"
hk	④	1'-2"
hk	⑤	1'-8"



I hereby certify that these structures were built according to plans.
 E. J. Sandwell
 Resident Engineer.

BILL OF MATERIAL
 BENT NO 3 RT. LANE

BAR NO	SIZE	TYPE	LENGTH	WEIGHT	
1	5	1	33.0	5.7	
2	5	5	27.6	5.7	
3	4	70	4	23.2	5.99
4	9	9	1	24.0	1.61
5	8	9	1	21.6	1.21
6	5	3	5.0	5	
7	4	25	1	7.0	1.25
8	4	5	7.3	8.7	
9	4	5	2.11	1.6	
10	5	5	9.15	2.1	
11	2	5	7.9	2.0	
12	5	5	7.8	2.0	
13	2	5	7.6	2.0	
14	2	5	7.5	2.0	
15	2	5	7.4	1.9	
16	2	5	7.3	1.9	
17	2	5	7.2	1.9	
18	2	5	7.1	1.9	
19	2	5	7.0	1.9	
20	2	5	6.9	1.9	
21	2	5	6.8	1.9	
22	2	5	6.7	1.9	
23	2	5	6.6	1.9	
24	2	5	6.5	1.9	
25	2	5	6.4	1.9	
26	2	5	6.3	1.9	
27	2	5	6.2	1.9	
28	2	5	6.1	1.9	
29	2	5	6.0	1.9	
30	2	5	5.9	1.9	
31	16	71	2	12.7	158.0
32	20	71	5	17.6	208.0
33	28	71	5	17.2	255.1
34	24	8	1	15.8	142.2
35	46	6	1	10.0	18.7

Class 'A' Concrete 73.23 Cy 69.5
 Reinf Steel 463.255 Cy
 Dry Excavation 270.62 Cy 250
 Wet Excavation Cy 22

PROJECT No. 8.1906601
 BUNCOMBE COUNTY
 STATION: 512+55 E. Med.

Sheet 2 of 2

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 RALEIGH

SUBSTRUCTURE
 RIGHT LANE
 BENT NO 3

February 1962

REVISIONS	NO.	DATE	BY

All bar dimensions are c/c to out.