

**Notes**

Assumed 1' lead  
Assumed live load HS20-44  
Reference to S-N Sheet  
For other design data & general notes see sheet S-N

**Compu. Foundation Load**  
Computed foundation load for Bents No. 2 & 3 equals 3 tons per sq ft

**Loadings into Rock**  
Loadings to be carried 6" into rock with minimum thickness as shown on plans.

**Pile Lengths**  
The contractor will be responsible for determining lengths of piles required. See Special Provisions.

**Pile Capacities**  
Piles for End Bents No. 1 & 2 to be driven to minimum bearing capacity of 2 tons each. Piles in Bents No. 2 & 3 are designed for bearing capacities of 25 tons per pile. These piles shall be driven to rock or to practical refusal.

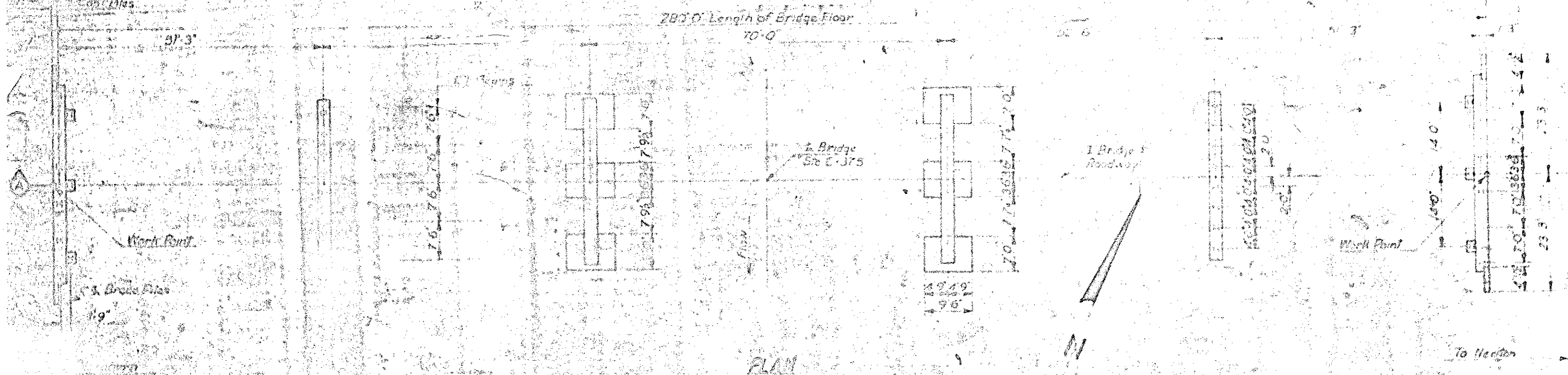
**Joists**  
Joists shall be designed in accordance with the following:

**Class AA Joists**  
Class AA Joists shall be used in the superstructure of Class A concrete. They shall be used in all other portions of the structure in accordance with the specifications.

**Curbing**  
For method of curbing see Special Provision for curbing.

**Removal of Existing Structure**  
The existing structure consisting of 30" x 30" T & C joist spans 3 in 40' x 1 in spans 40' x 7' 0" timber joist spans overall length 213' with 3" x 4" cross bracing floor 20' x 4' on one end timber joist Bents & floor there included. A proposed plan shall be prepared.

SECTION ALONG & ROADWAY  
BENTS ON SECTION AA



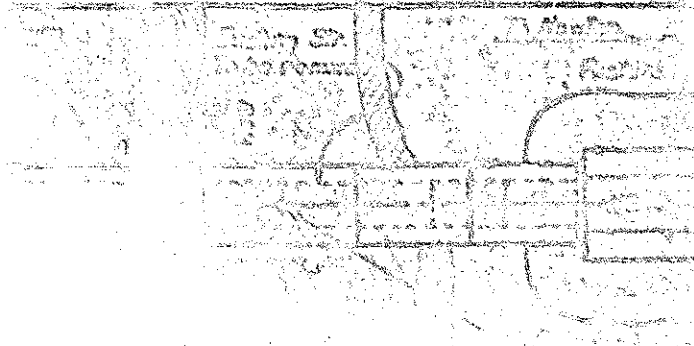
I HEREBY CERTIFY THAT THIS STRUCTURE WAS BUILT ACCORDING TO PLANS EXCEPT AS NOTED HEREIN.

RESIDENT ENGINEER

SEE PAGE NO. 53 OF STR. PAY RECORD BOOK

Project No. 6.79/0019  
CATAWBA COUNTY  
STATION 6-375

LOCATION SKETCH

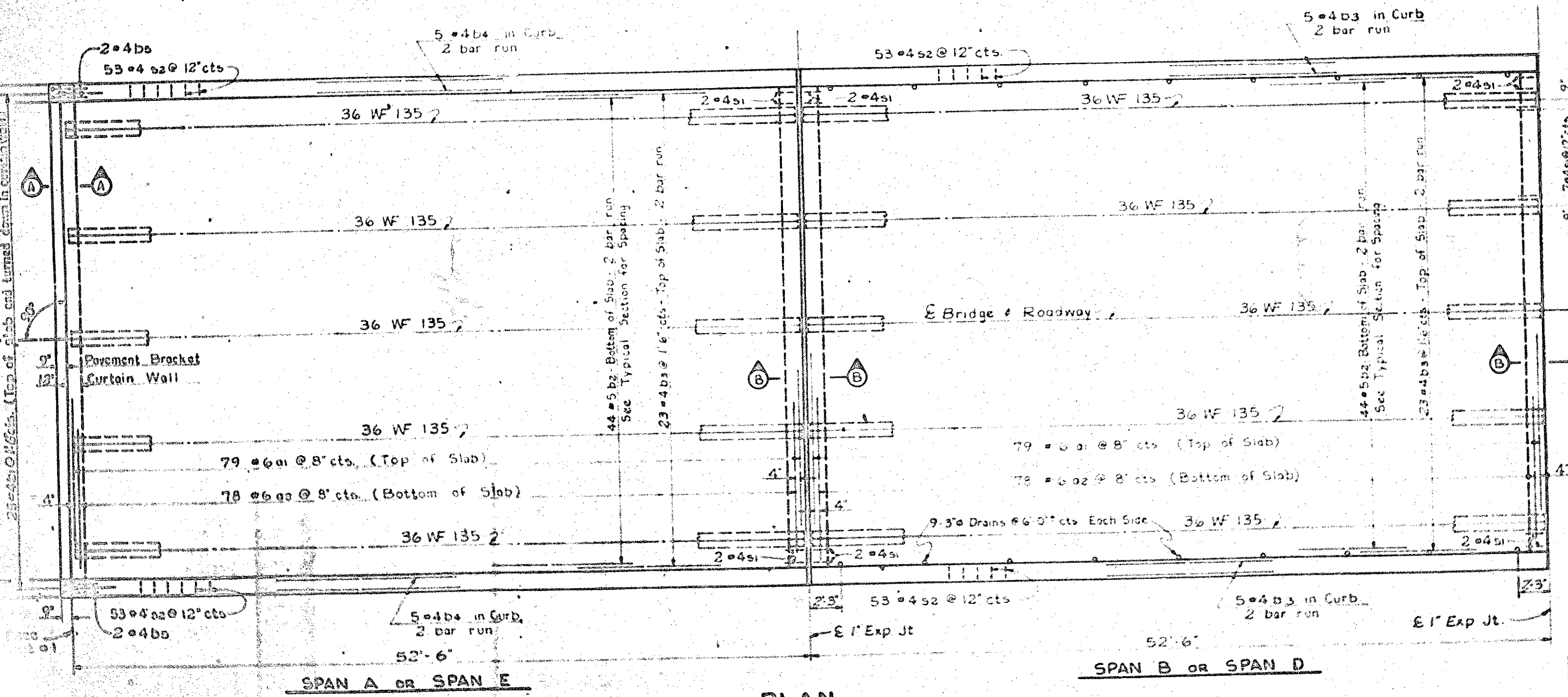
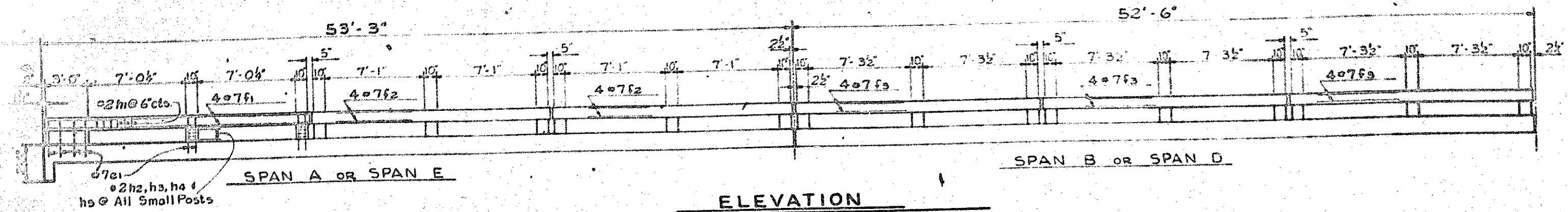


TOTAL BILL OF MATERIAL & SUMMARIES

ITEM	QUANTITY	UNIT	PRICE	TOTAL	REMARKS
Concrete	12,345	cu yd	1.20	14,814	
Reinforcing Steel	1,234	lb	0.05	61.70	
Timber	5,678	cu yd	0.80	4,542.40	
Gravel	3,456	cu yd	0.40	1,382.40	
Earthwork	2,100	cu yd	0.30	630.00	
Paint	100	gal	0.10	10.00	
Other	50	sq ft	0.02	1.00	
<b>TOTAL</b>				<b>23,381.50</b>	

STATE OF NORTH CAROLINA  
STATE HIGHWAY COMMISSION  
GENERAL DRAWING FOR BRIDGE  
OVER SOUTH FORK RIVER ON  
HIGHWAY BETWEEN BLACKBURN &  
LINTON  
NOV 1967





BILL OF MATERIAL						
For SPANS A, B, D & E						
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT	
01	316	#6	1	37'-6"	17,790	
02	312	#6	Str	36'-2"	16,949	
03	50	#4	2	5'-4"	178	
04	352	#5	Str	27'-0"	9,919	
05	224	#4	Str	26'-9"	4,009	
06	40	#4	Str	27'-1"	124	
07	8	#4	2	4'-2"	22	
08	8	#4	Str	22'-6"	120	
09	4	#6		22'-10"	131	
10	48	#5		7'-9"	363	
11	60	#5		4'-0"	225	
12	8	#4		15'-0"	80	
13	4	#6		15'-4"	92	
14	4	#4	Str	7'-6"	47	
15	192	#4	3	3'-6"	442	
16	424	#4	3	4'-4"	1,227	
17	68	#4	4	2'-0"	91	
					Reinforcing Steel lba.	52,444
					Class "AA" Concrete Cu.Yds.	218.8

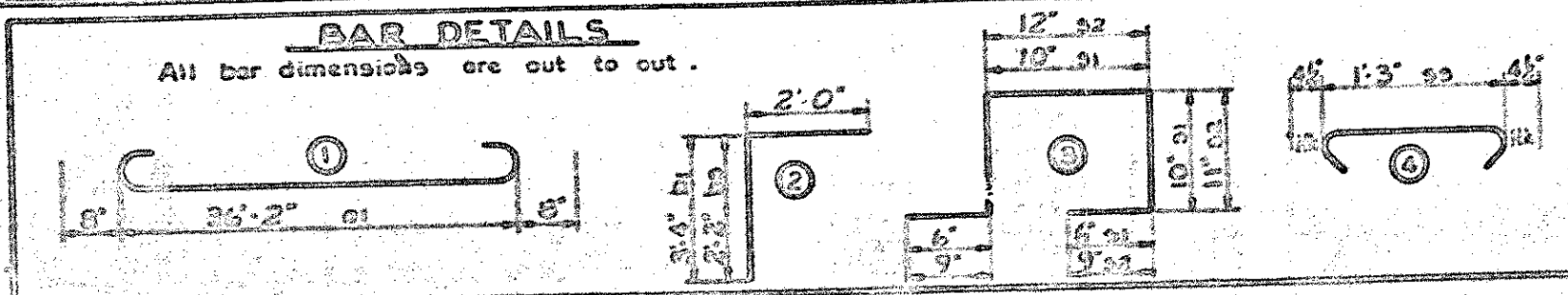
PROJECT No. 6.7910019  
 CATAWBA COUNTY  
 STATION: 6 + 37.5

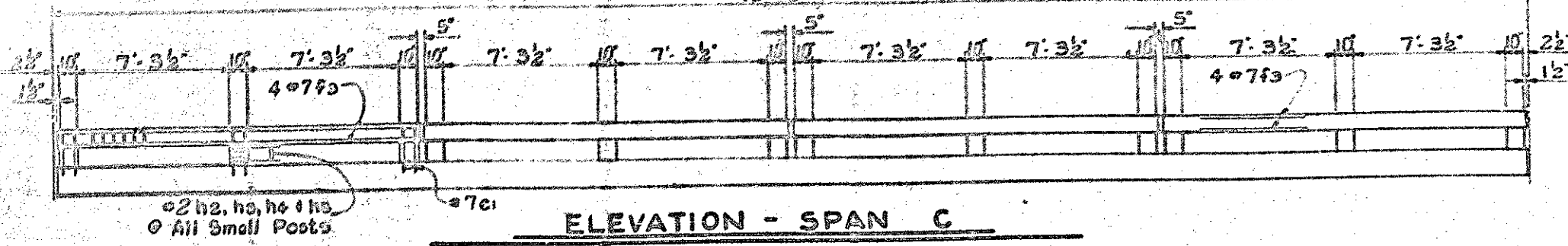
STATE OF NORTH CAROLINA  
 STATE HIGHWAY COMMISSION  
 DIVISION  
 SUPERSTRUCTURE  
 SPANS A, B, D & E

DECEMBER 1967

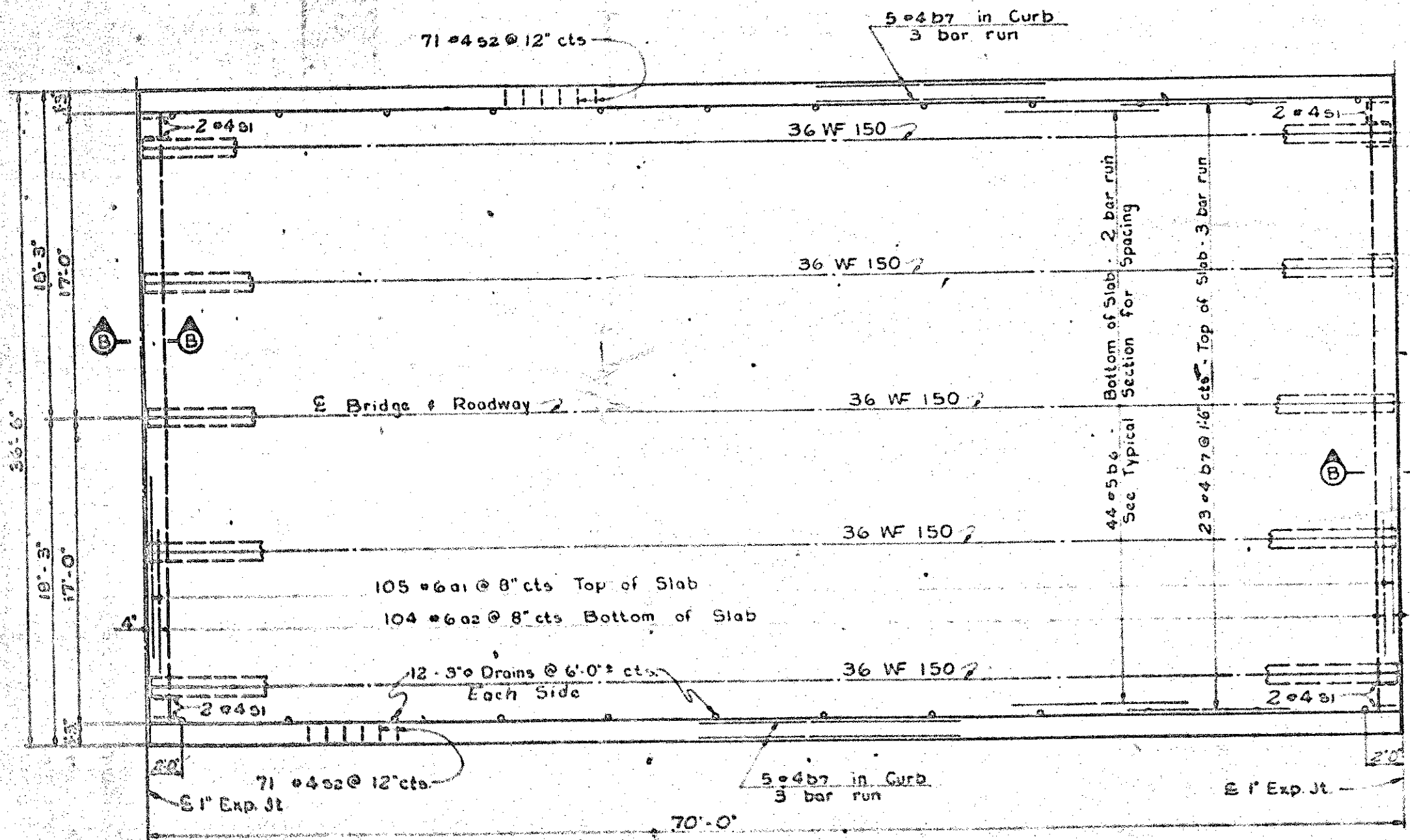
NO	BY	CHKD	DATE	BY	DATE
1					
2					

NOTE:  
 No 3" Drains in Spans A & E  
 3" Drains required in Spans B, C, & D

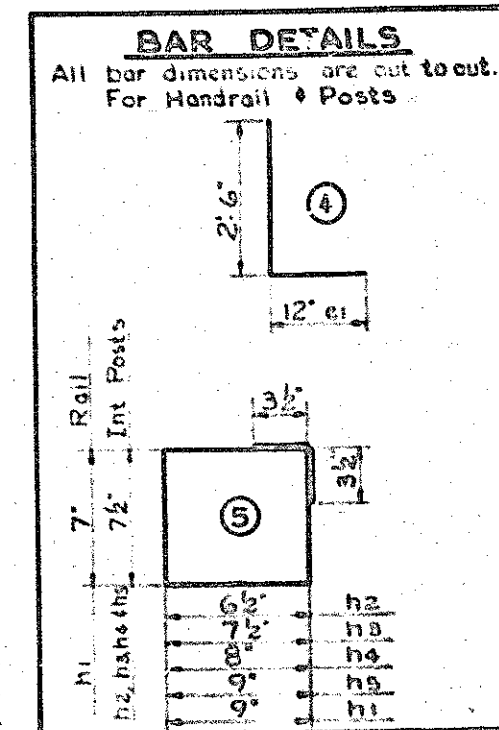




**ELEVATION - SPAN C**



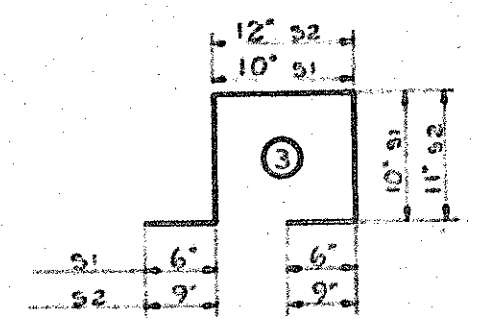
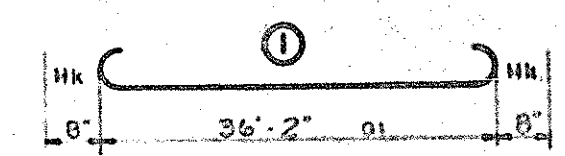
**PLAN - SPAN C**



BILL OF MATERIAL FOR HANDRAILS & POSTS						BILL OF MATERIAL FOR SPAN C					
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
e1	400	#7	4	3'-0"	2,853	e1	105	#6	1	37'-0"	5,475
f1	16	#7	Str	18'-7"	608	e2	104	#6	Str	36'-2"	5,675
f2	32	#7	Str	16'-7"	1,095	h1	88	#5	Str	35'-9"	2,241
f3	80	#7	Str	17'-0"	2,780	h2	99	#4	Str	24'-0"	1,500
h1	1134	#2	5	3'-9"	615	h3	16	#5	Str	7'-3"	121
h2	92	#2	5	3'-11"	45	h4	20	#5	Str	4'-0"	0
h3	92	#2	5	3'-1"	47	g1	64	#4	3	5'-6"	150
h4	92	#2	5	3'-2"	49	g2	132	#4	3	4'-4"	211
h5	92	#2	5	3'-0"	51						

Reinforcing Steel Lbs. 9,142  
Class AA Concrete Cu Yds. 171  
Total Concrete Handrail \* Lin. Ft. 962.83

\* Length of handrail is measured continuous from end to end of rail without deductions for spaces between rail section. See Special Provisions.



**BAR DETAILS**  
All bar dimensions are out to out.

PROJECT No. 6.7910019  
CATAWBA COUNTY  
STATION 6+37.5

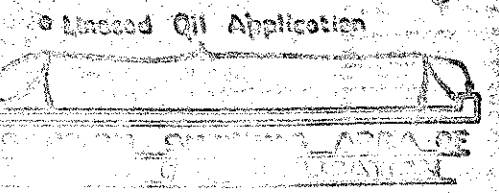
TOTAL BILL OF MATERIAL CLASS AA CONCRETE CU. YDS.	
SPAN A	56.0
SPAN B	51.4
SPAN C	67.8
SPAN D	51.4
SPAN E	56.0
<b>TOTAL</b>	<b>282.6</b>

TOTAL BILL OF MATERIAL REINFORCING STEEL LBS.	
SPAN A, B, D, & E	52,444
SPAN C	17,197
<b>TOTAL</b>	<b>69,641</b>

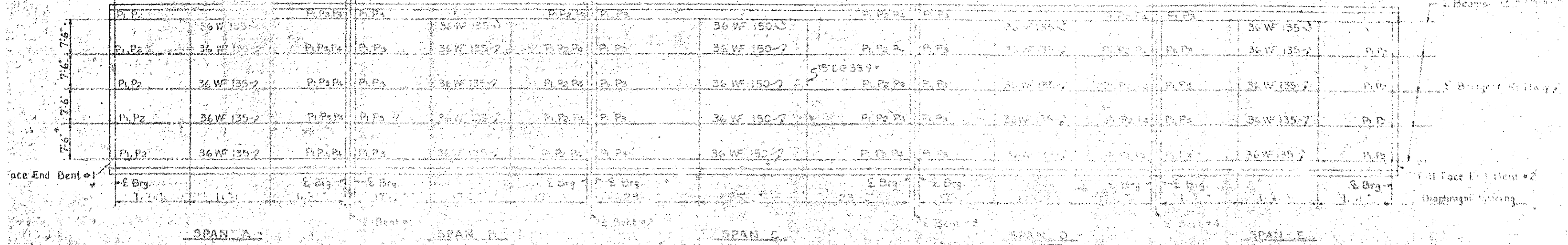
STATE OF NORTH CAROLINA  
**STATE HIGHWAY COMMISSION**  
DESIGN  
**SUPERSTRUCTURE SPAN C**

DECEMBER 1971

10	11	12	13	14	15



See Special Provisions for method of curing bridge deck and for oil application and unseal oil solution.



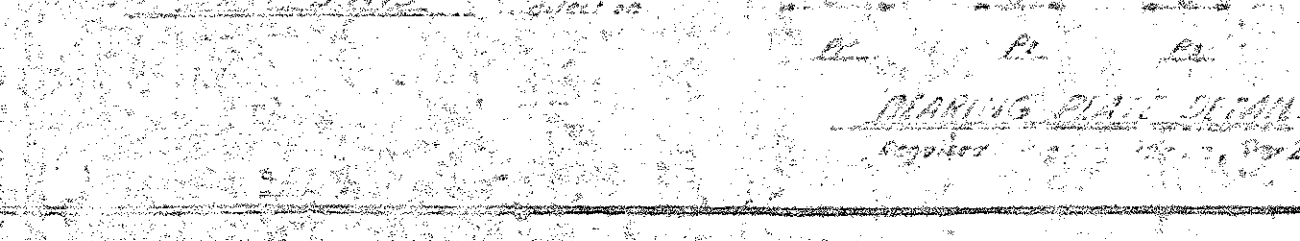
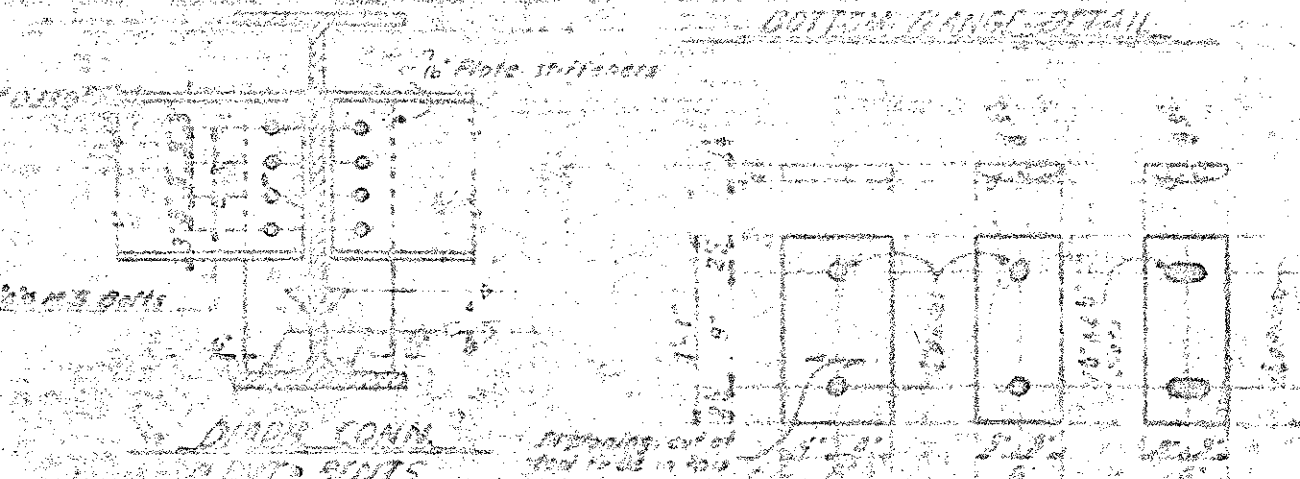
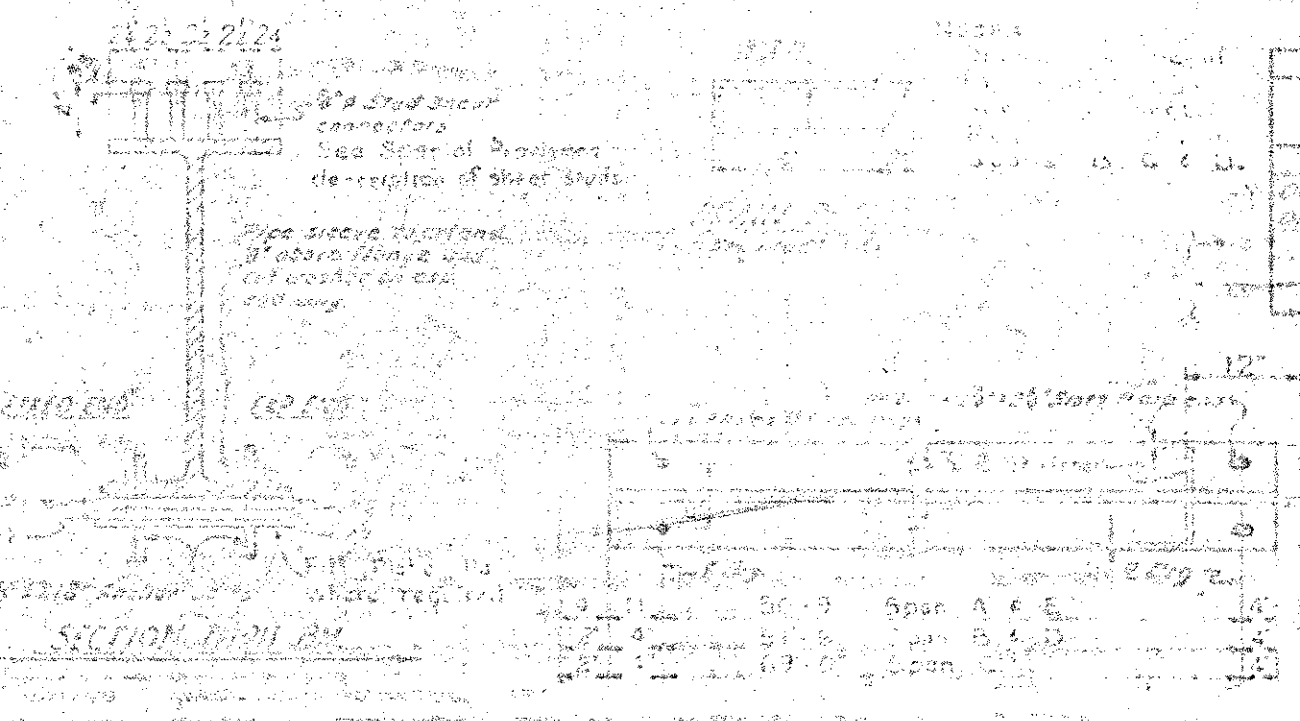
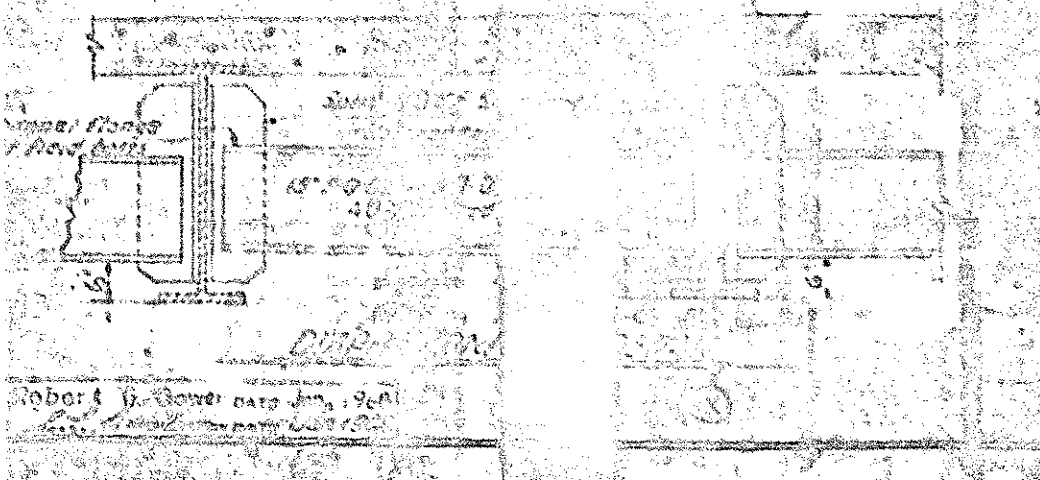
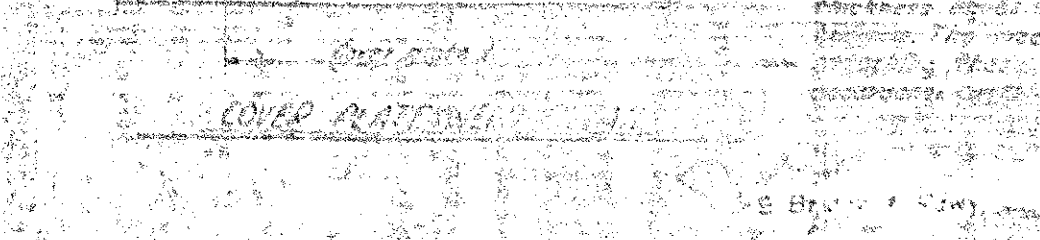
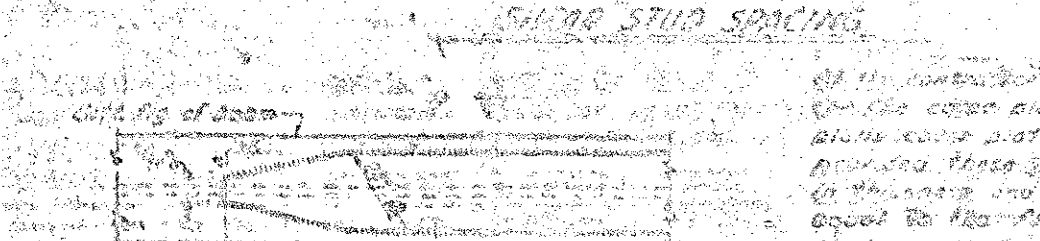
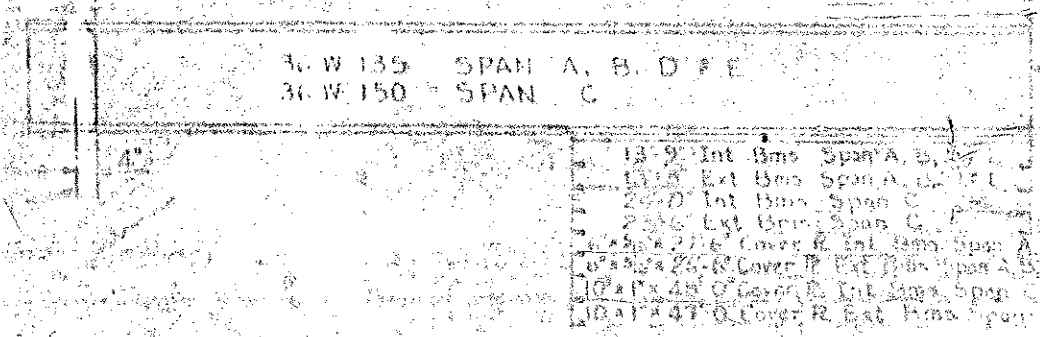
**LAYOUT SKETCH**  
(Showing location of midspan supports & bearing plates)

APPROXIMATE STEEL WEIGHTS	
Span A	41,500
Span B	42,500
Span C	42,500
Span D	42,500
Span E	41,600
<b>Total</b>	<b>210,600</b>

Studs Per Lin.  
 260 @ 6" x 4" 0" 12 @ 9" x 9" 0" 9 @ 12" x 9" 0"  
 270 @ 7" x 7" 0" 10 @ 12" x 10" 0" 10 @ 12" x 10" 0"  
 280 @ 7" x 9" 0" 12 @ 9" x 9" 0" 13 @ 12" x 13" 0"  
 285 @ 9" x 11" 3" 14 @ 12" x 14" 0" 5 @ 16" x 7" 0" 1 @ 16" x 7" 0"

Note: No member shall have lateral displacement of the beams of spans A, B, D, E. Then lateral displacement.

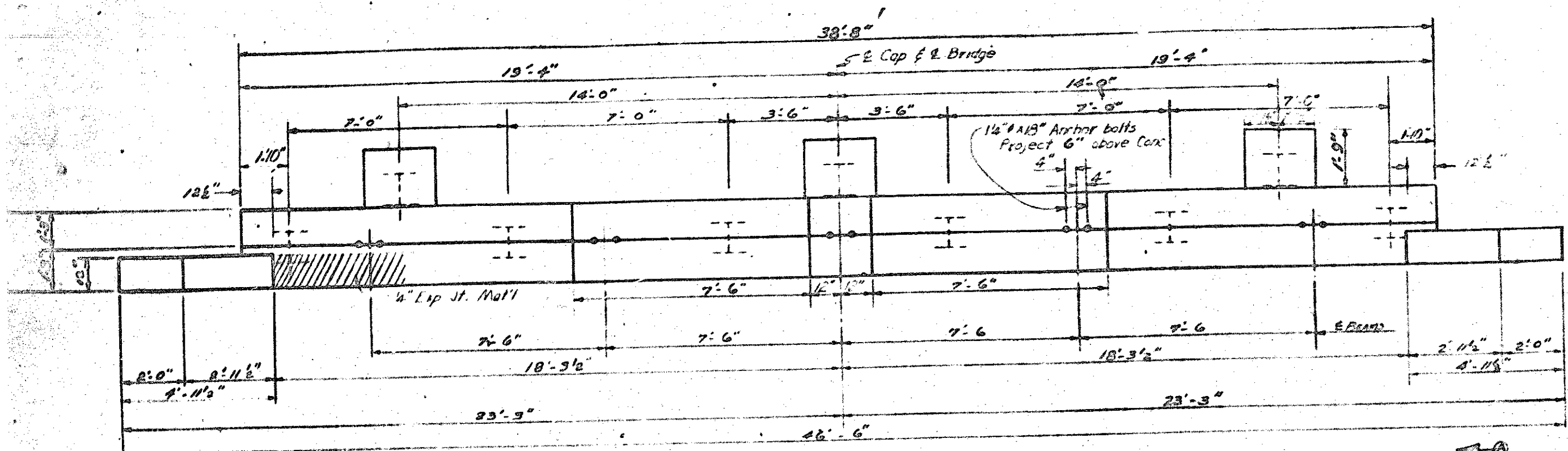
SECTION	SPAN A, B, D, E		SPAN C	
	Top	Bottom	Top	Bottom
Top Flange	1/2"	1/2"	1/2"	1/2"
Web	1/4"	1/4"	1/4"	1/4"
Bottom Flange	1/2"	1/2"	1/2"	1/2"



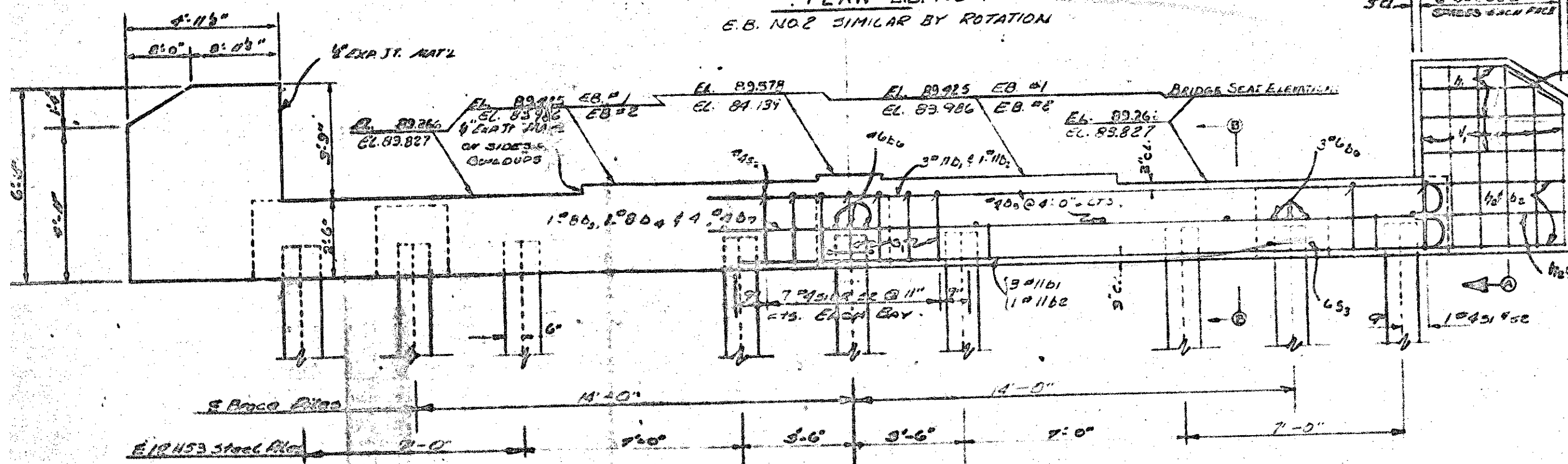
**NOTES**  
 ASTM A-36  
 All beams and cover plates shall be of ASTM A-36 structural steel. See AISC Manual.  
 Field connections of diaphragms to beams shall be made using high strength bolts in accordance with AISC Manual.  
 Tops of floor drains to be set 1/2" above surface of slab.  
 No web or flange stiffeners required on beams in exterior spans or at bent bents. Stiffeners are to be provided at bent bents.  
 No floor drains are required in spans A & E.

PROJECT NO. 67010019  
 CATAWBA COUNTY  
 STATION: 6+37.5

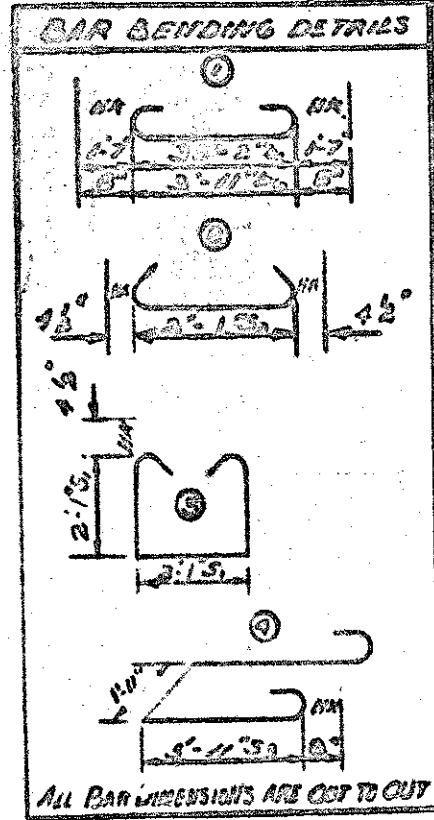
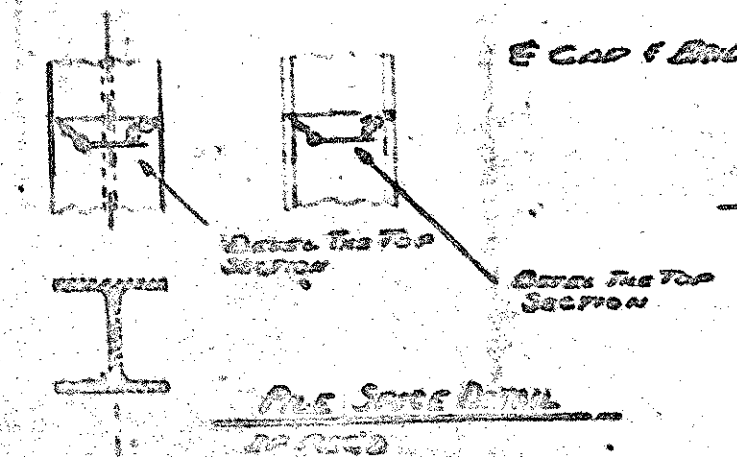
STATE OF NORTH CAROLINA  
 STATE HIGHWAY COMMISSION  
 PROJECT NO. 67010019  
 DRAWING NO. 1019-1  
 5697, 961  
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 X16



PLAN E.B. NO. 1  
E.B. NO. 2 SIMILAR BY ROTATION



ELEVATION



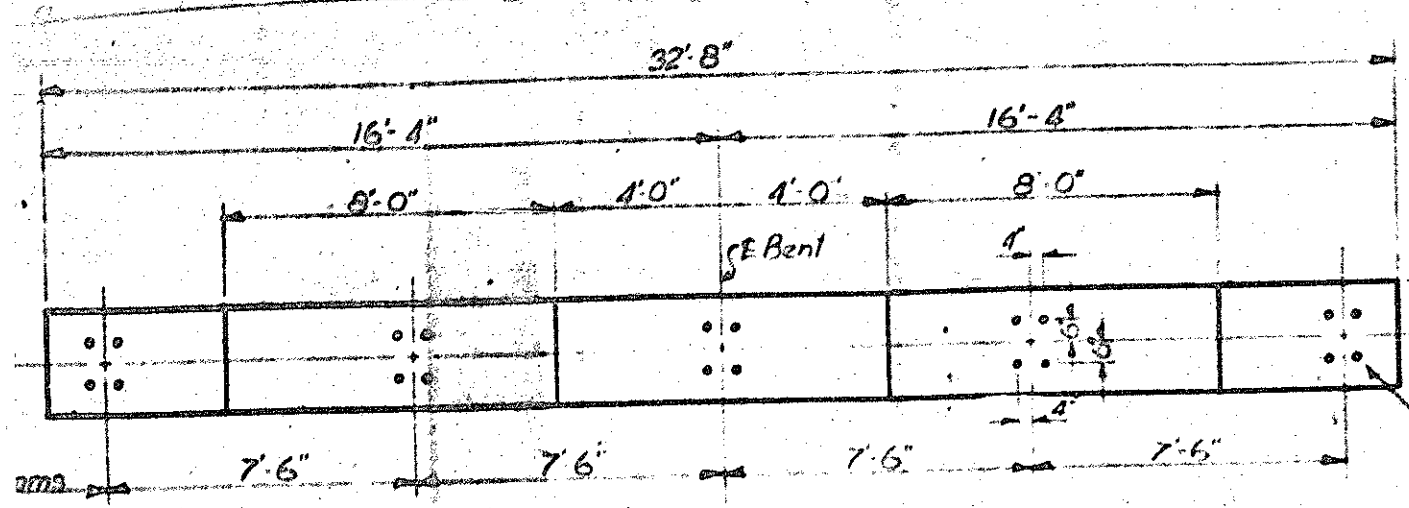
BILL OF MATERIAL					
For One End Bent 2 Rows					
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	
1	1/2"	STR	26'-0"	190	
2	1/2"	STR	26'-0"	190	
3	1/2"	STR	50'-1"	108	
4	1/2"	STR	26'-0"	128	
5	1/2"	STR	26'-0"	12	
6	1/2"	STR	5'-3"	71	
7	1/2"	STR	19'-7"	106	
8	1/2"	STR	4'-7"	49	
9	1/2"	STR	5'-3"	21	
10	1/2"	STR	5'-11"	95	
11	1/2"	STR	7'-2"	128	
12	1/2"	STR	2'-10"	70	
13	1/2"	STR	11'-1"	50	

PROJECT No. 6.7910019  
CATAWBA COUNTY  
STATION. 6+37.5

STATE OF NORTH CAROLINA  
STATE HIGHWAY COMMISSION  
RALEIGH

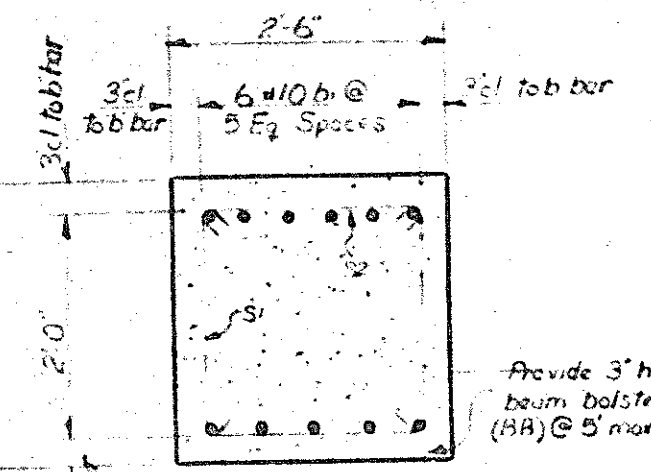
SUBSTRUCTURE  
END BENT NO. 1 & NO. 2  
SEPTEMBER 1967





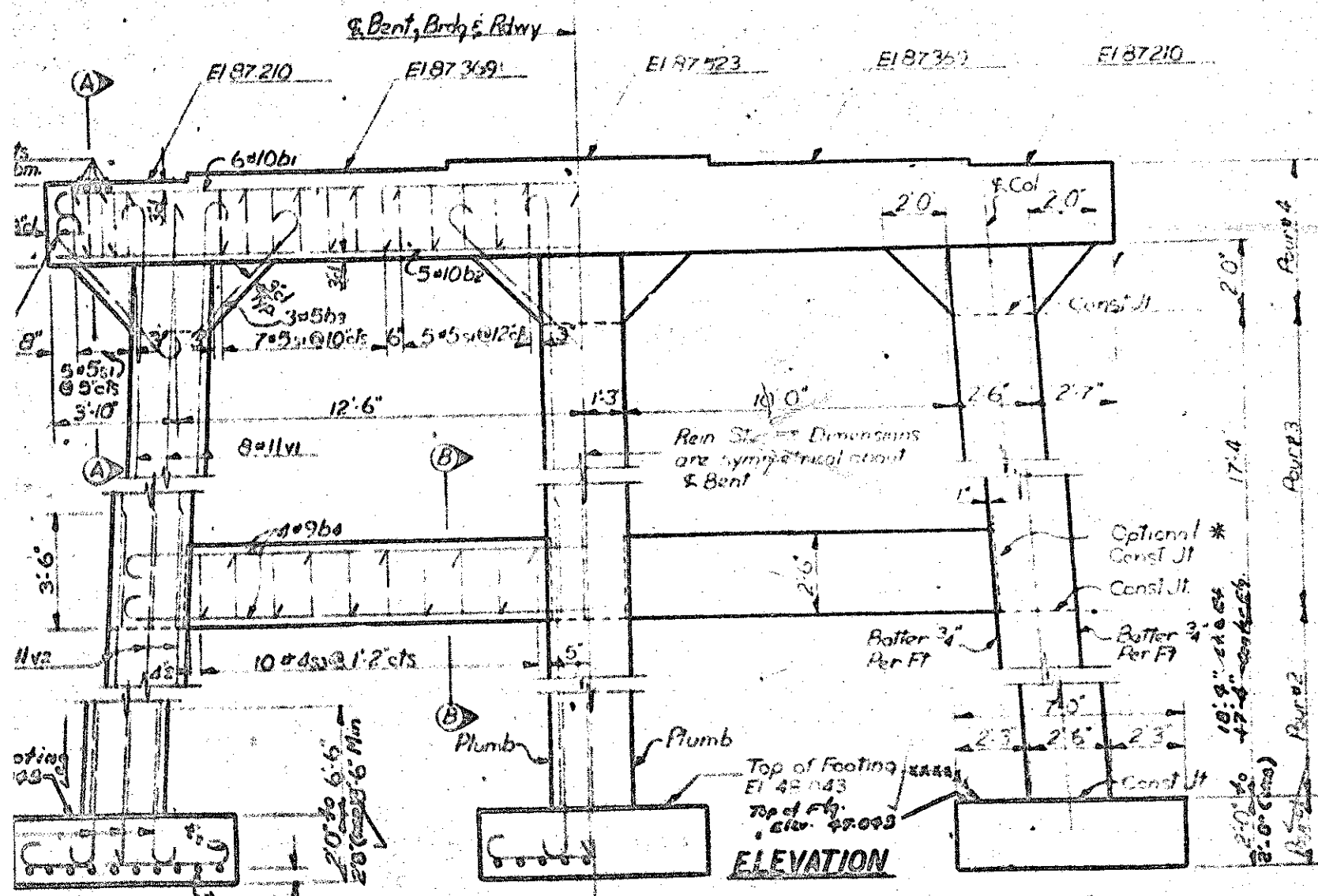
**PLAN OF CAP**

Note:  
Reinforcing steel in  
Cap may be shifted  
to clear Anchor Bolts

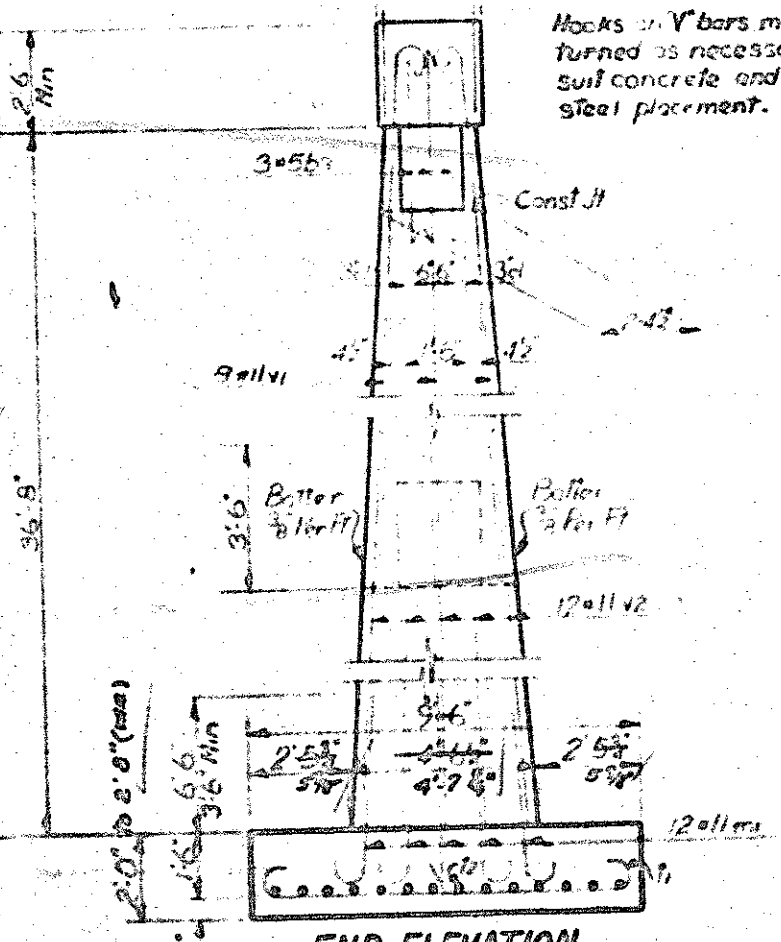


**SECTION A-A**

Provide 3" high  
beam bolsters  
(BB) @ 5' max cts.

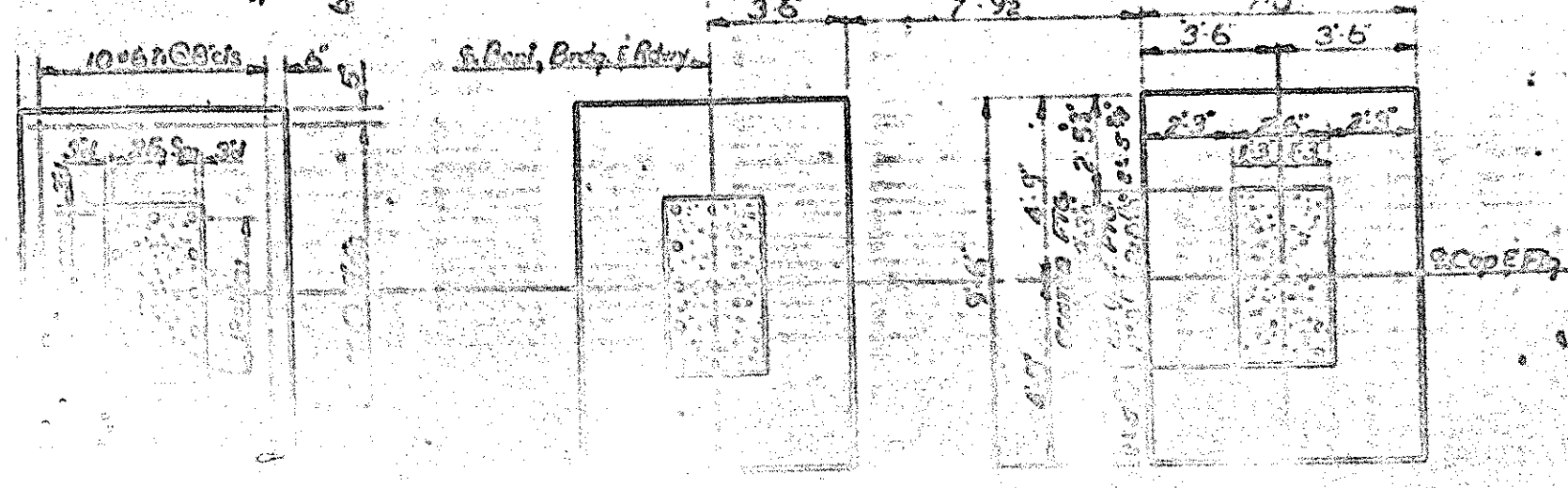


**ELEVATION**



**END ELEVATION**

Hooks in V bars may be  
turned as necessary to  
suit concrete and reinf  
steel placement.



**SECTION B-B**

\* Note: If the optional construction joint  
is used, the contractor will be required  
to splice the horizontal bars in the stirrups  
outside the face of each post, and the ad-  
ditional cost of the steel bars required  
for the splice must be absorbed by the  
contractor.

Provide 3" high beam  
bolsters (BB) @ 5' max cts.

**BAR DETAILS**  
All dimensions are out to out

**BILL OF MATERIAL FOR BENT N° 2**

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
b1	6	#10	1	35.0	906
b2	5	#10	sf	32.7	696
b3	18	#5	1	6.10	128
b4	8	#9	1	31.8	861
m1	36	#11	2	9.7	1833
s1	34	#4	3	7.0	159
s2	20	#4	4	2.10	39
s3	20	#4	3	6.6	87
t1	30	#6	1	10.4	466
t2	42	#6	1	7.40	499
v1	24	#11	2	22.11	2222
v2	36	#11	sf	20.10	2436

SEE PAGES 21-26 OF STD.  
PAY RECORD BOOK

**DIVISION OF CONCRETE**

Pour No.	Cu Yds	Remarks
1 Footings	100	1720
2 Columns	100	1000
3 Columns & Strut	100	
4 Cap & Filler	100	
Total	400	4720

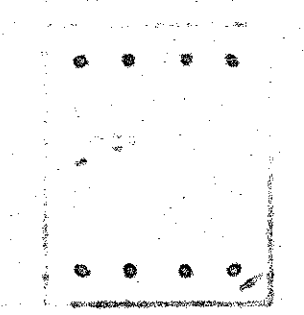
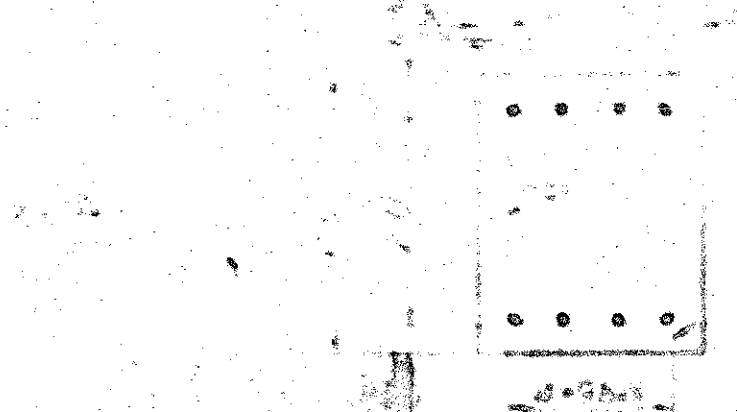
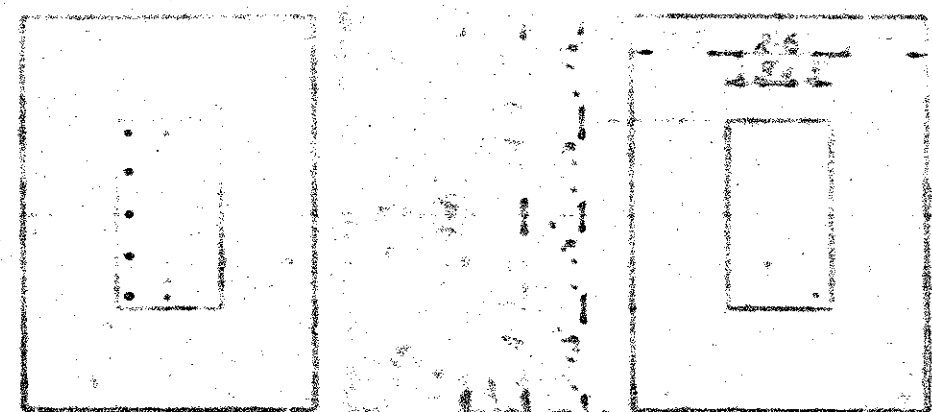
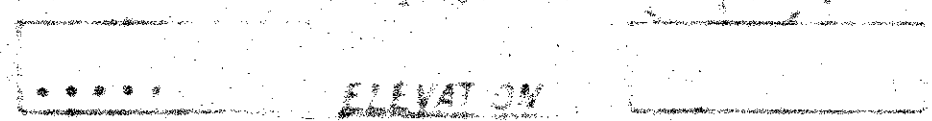
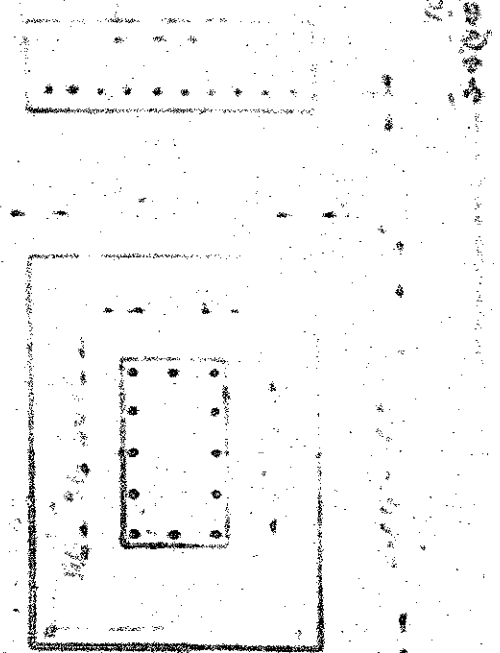
Project No. 6.7910019  
**CATAWBA** County  
Station 6° 37.5

**STATE**

**SUBSTRUCTURE  
INTERIOR BENT N° 2**

03.10.57



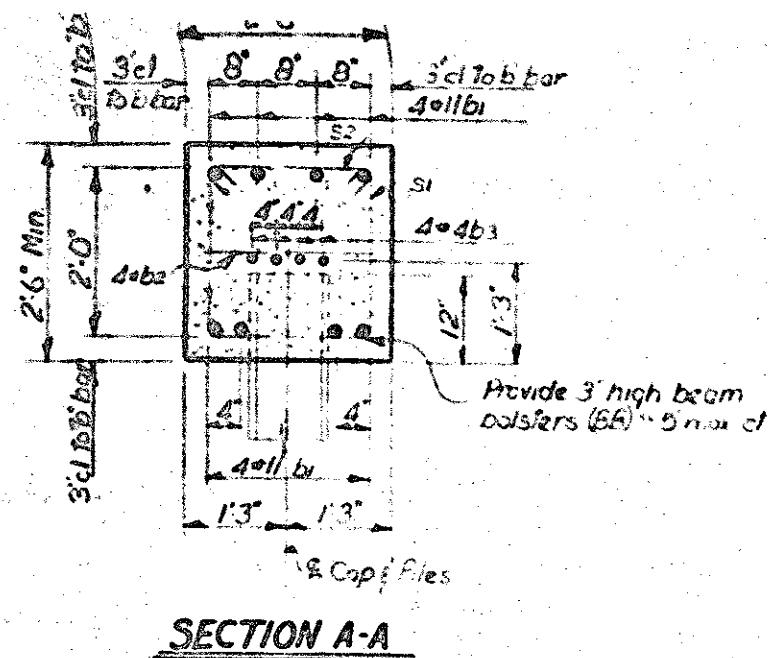
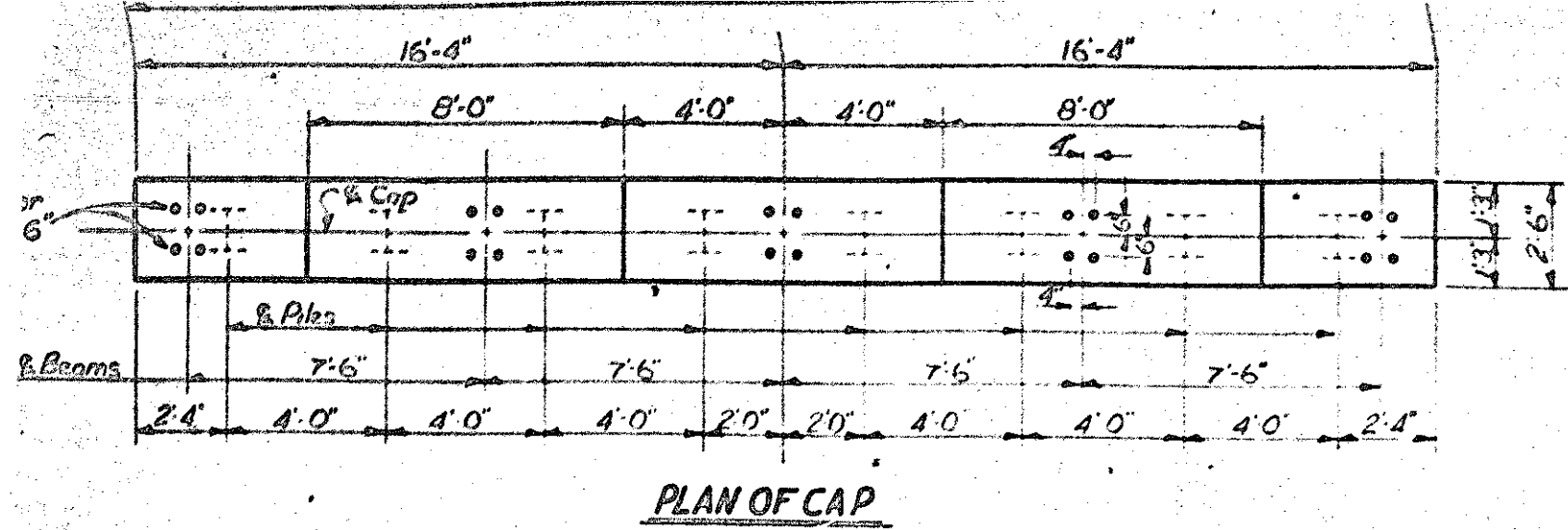


PLAN OF FOOTINGS

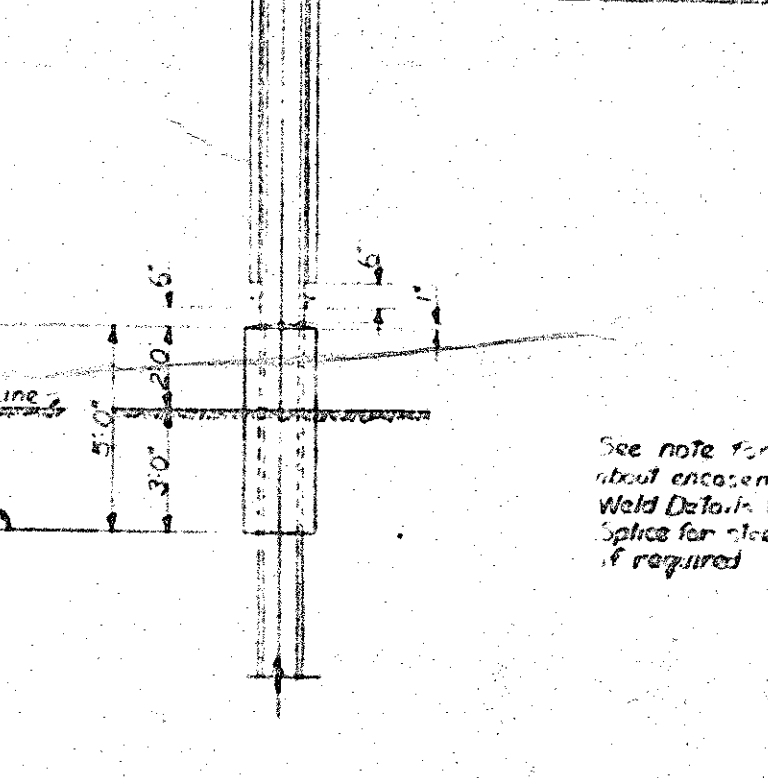
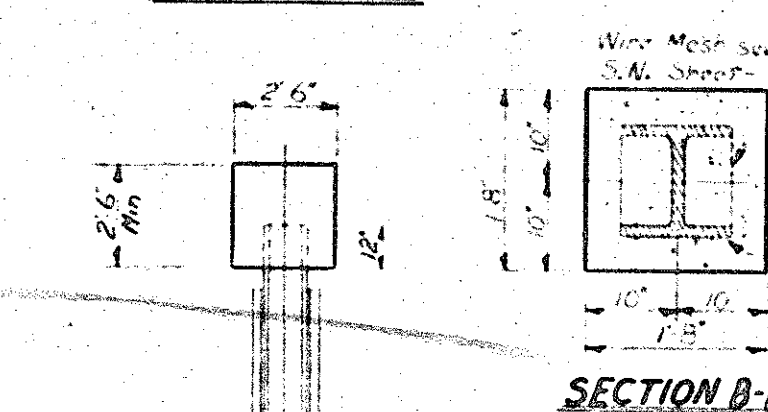
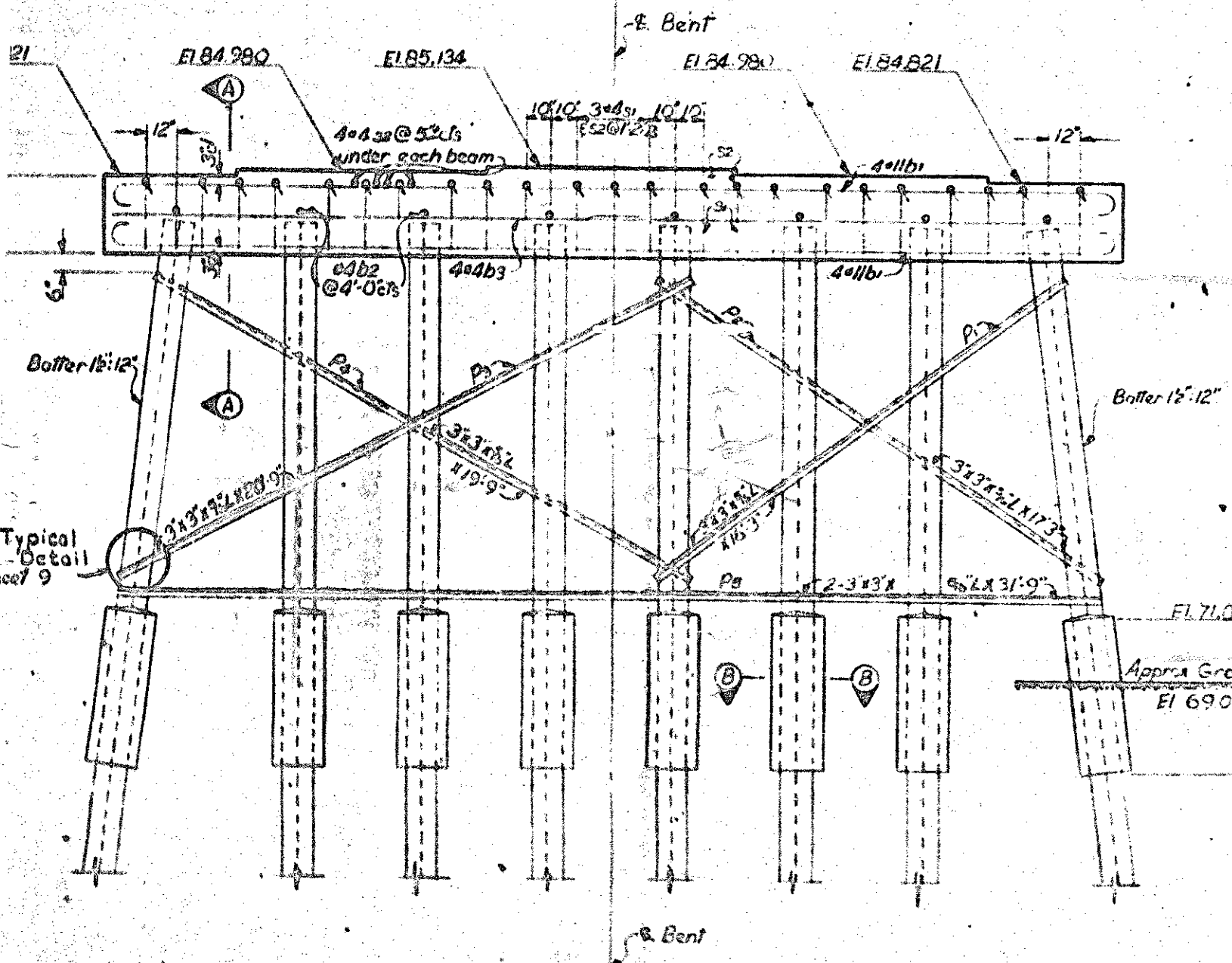
SECTION PA

Project No. 679-0019  
 CATAWBA COUNTY  
 Station 6+37.5

STATE HIGHWAY COMMISSION  
 SUBSTRUCTURE  
 INTERIOR BENT No. 3



BAR DETAILS		BILL OF MATERIAL FOR BENT NO. 4					
All bar dimensions are out to out							
1	32'-2"	BAR	NO.	DES.	LENGTH	WEIGHT	
2	2'-1"	b1	8	011	35'-4"	156	
3	2'-1"	b2	8	04	27'	12	
		b3	8	02	17'-1"	91	
		S1	23	04	2	7'-0"	104
		S2	43	04	3	2'-10"	81



SEE PAGE 35-36 OF STR. PLAN RECORD BOOK.

See note for Bent No. 2 about enclosures & for Weld Details & for field splices for steel if piles if required

Angles	No.	Length	Weight
B	1	16'-3"	92
B	1	17'-3"	103
B	1	20'-9"	127
B	1	19'-9"	120
B	2	31'-9"	347
Total			Lbs 889

PROJECT No. 6.7910019  
 CATAWBA COUNTY  
 STATION 6+37.5

STATE OF NORTH CAROLINA  
 STATE ENGINEERING COMMISSION  
 SUBSTRUCTURE  
 INTERIOR BENT NO. 4  
 OCT 1967

1	2	3	4	5	6
0	0	0	0	0	0

ELEVATION

END ELEVATION