

I hereby certify that this structure was built according to plans.  
 Signed: [Signature]  
 Resident Engineer

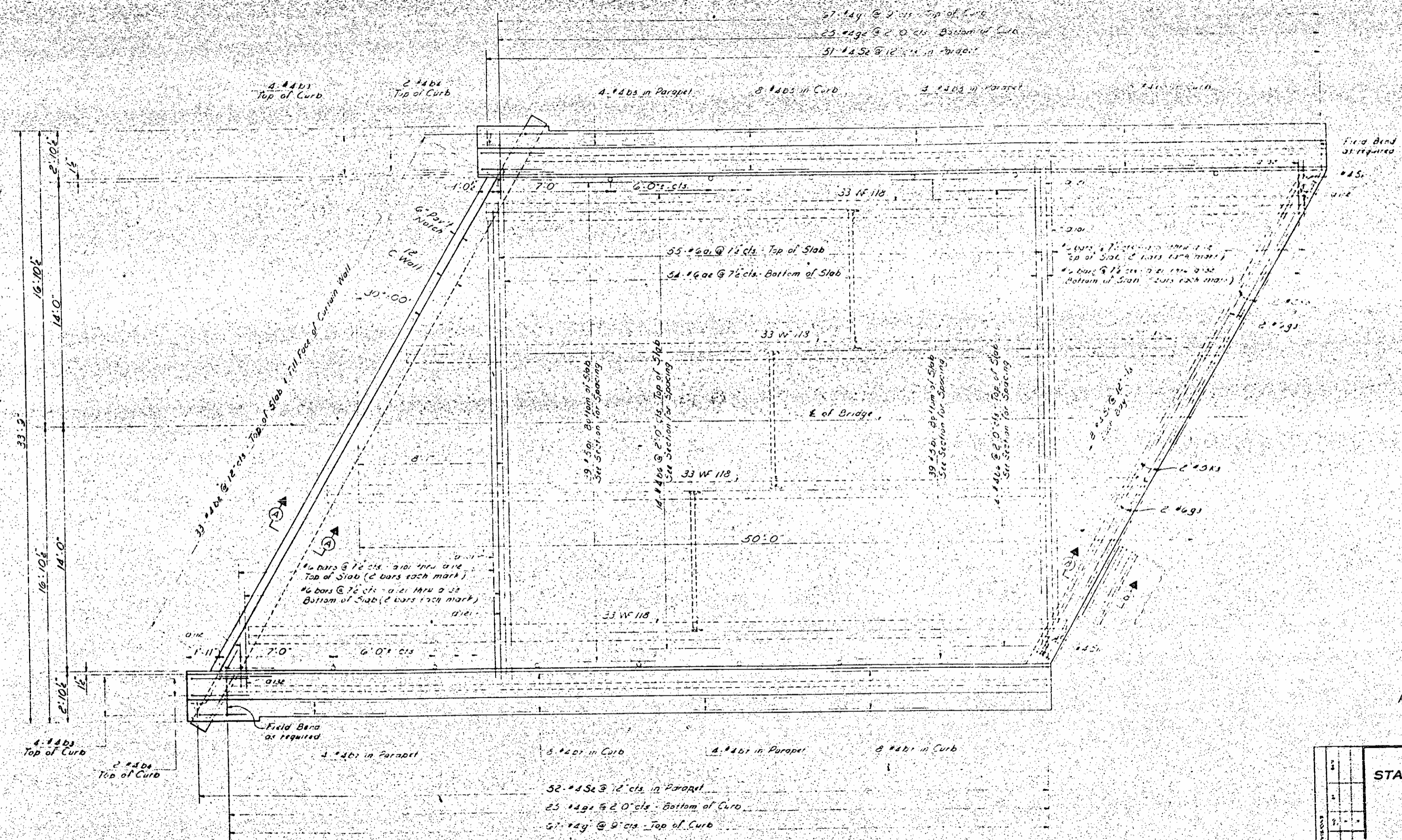
PROJECT No. 9-19470  
 HAYWOOD COUNTY  
 STATION 457+40.10  
 155

**TOTAL BILL OF MATERIAL FOR RIGHT LANE**

	Class 'A' Concrete Cu. Yds.	Reinforcing Steel Lbs.	Structural Steel Approx. Lbs.	10 H 33 Steel Piles No./Lm Ft.	Excavation Dry Cu. Yds.	Excavation Wet Cu. Yds.	On Bar with Rail Lm. Feet	Excavation with 3' dia. Culvert Cu. Yds.	Excavation with 4' dia. Culvert Cu. Yds.
Superstructure	214.8	48753	117000	3	17.6		290.23		
End Bent No. 1	13.8	5018							
Span No. 1	1.5	4572			15.40				
Span No. 2	1.5	4572			15.40				
Span No. 3	1.5	4572			15.40				
End Bent No. 2	13.8	5018							
Approach Curb	1.2	76							
<b>TOTALS</b>	<b>238.3</b>	<b>63479</b>	<b>117000</b>	<b>3</b>	<b>48.80</b>	<b>290.23</b>	<b>290.23</b>	<b>15.58</b>	<b>1.04</b>

STATE OF NORTH CAROLINA  
 STATE HIGHWAY COMMISSION  
 GENERAL DRAWING  
 FOR BRIDGE OVER RICHLAND CREEK  
 ON RELOC. US 29 BETWEEN  
 BALZAM GAP & CLYDE  
 RIGHT LANE  
 SEPTEMBER 1962

NO. ROAD SECTION	DATE	REVISION
3	M.C.	019470
A. PROJECT F-12-2(5)		

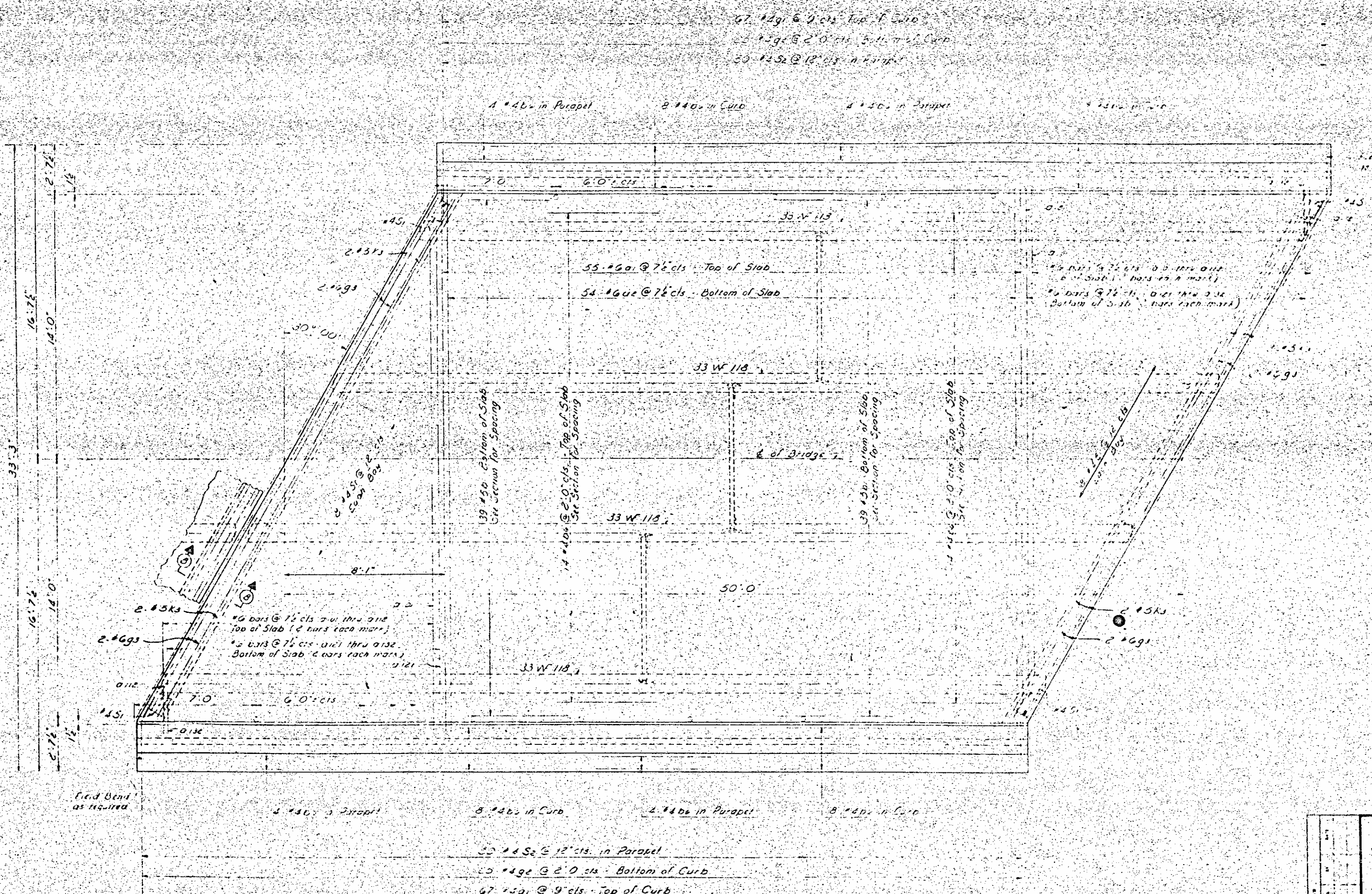


PLAN

PROJECT No. 8 19470  
 HAYWOOD COUNTY  
 STATION: 457+40-10

STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION	
SUPERSTRUCTURE SPAN "A" OR "D" RIGHT LANE	
AUGUST 1962	
REVISION	DATE
1	
2	
3	
4	
5	

DRAWN BY: S. L. SANTO-TOMAS DATE: AUG. 1962  
 CHECKED BY: [Signature] DATE: 8-11-62



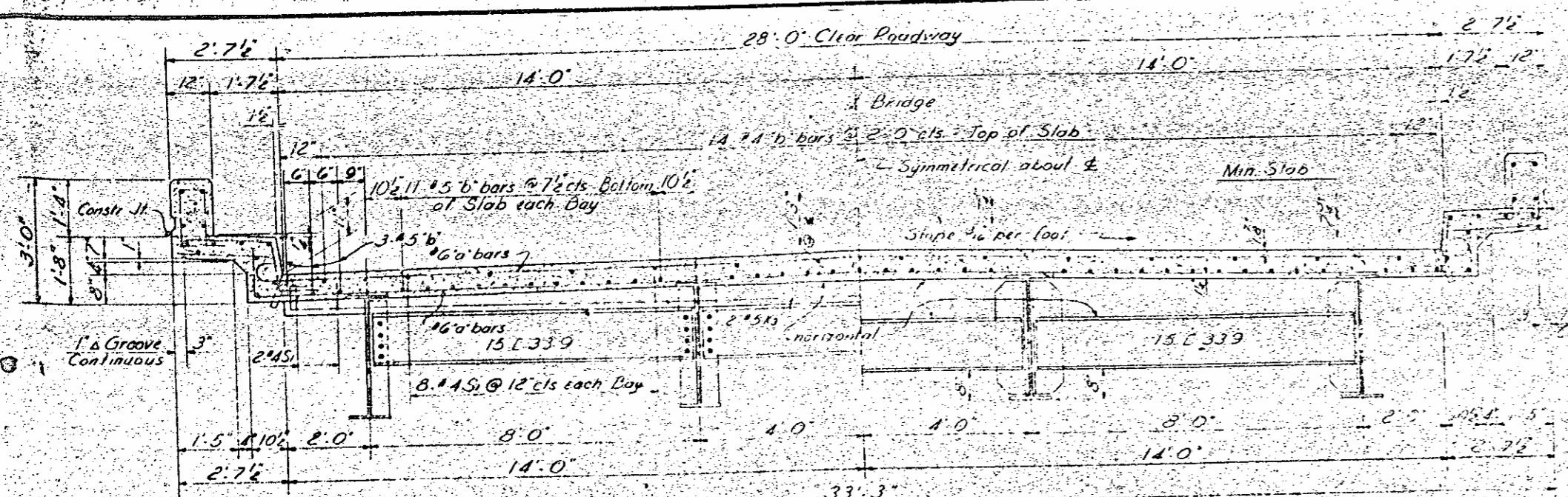
PLAN

PROJECT NO. 819470  
 HAYWOOD COUNTY  
 STATION: 457+40.19

STATE OF NORTH CAROLINA  
 STATE HIGHWAY COMMISSION  
 SUPERSTRUCTURE  
 SPAN "B" OF "C"  
 RIGHT LANE  
 AUGUST 1961

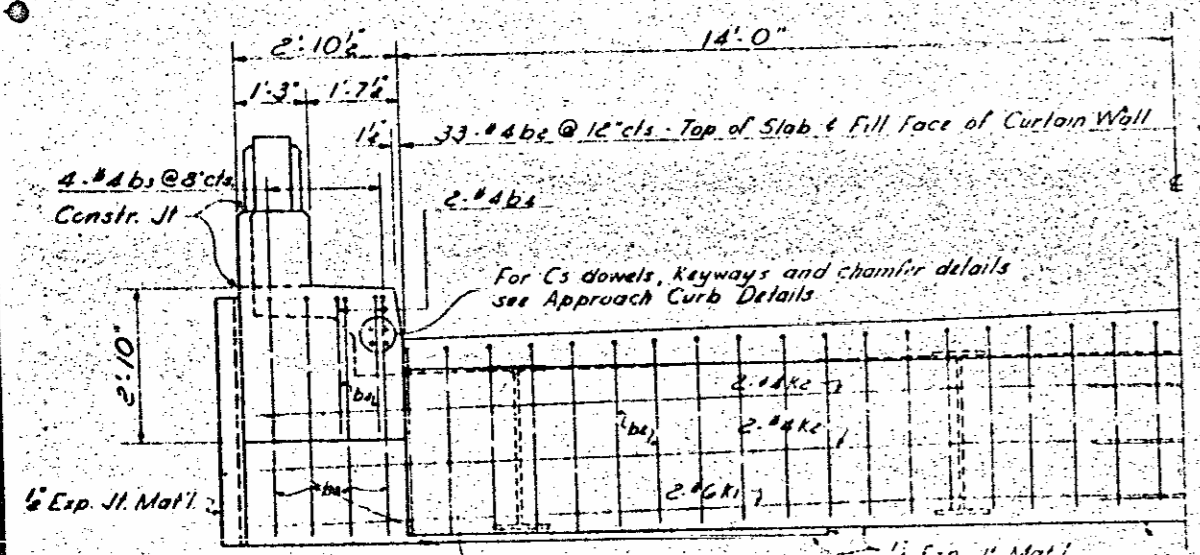
DRAWN BY J. L. SANTO TOMAS    DATE 4-6-1961  
 CHECKED BY J. R. H.    DATE 5-1-1961

Total Sheets 258

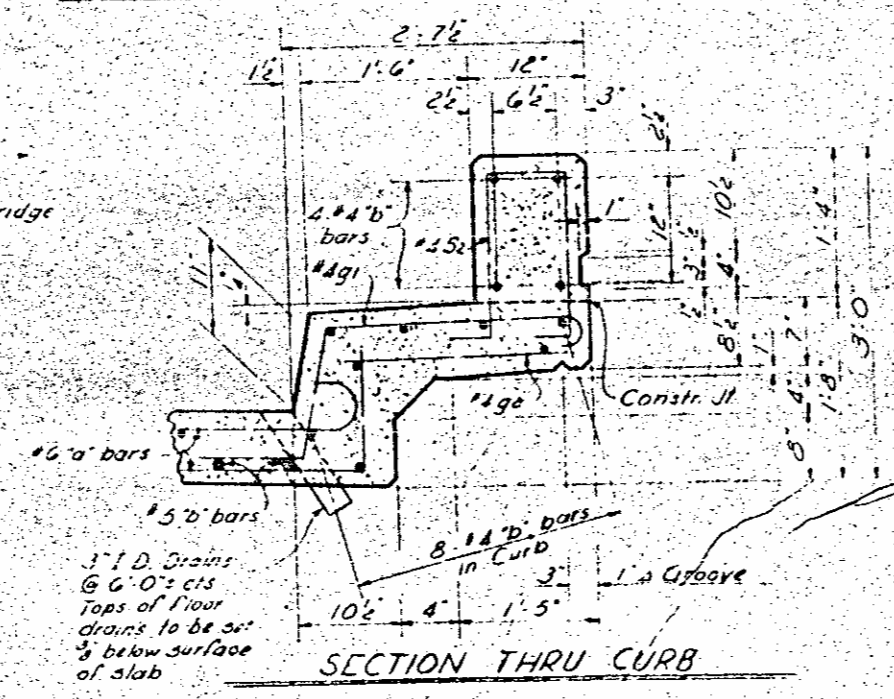


HALF SECTION SHOWING BENT DIAPHRAGM

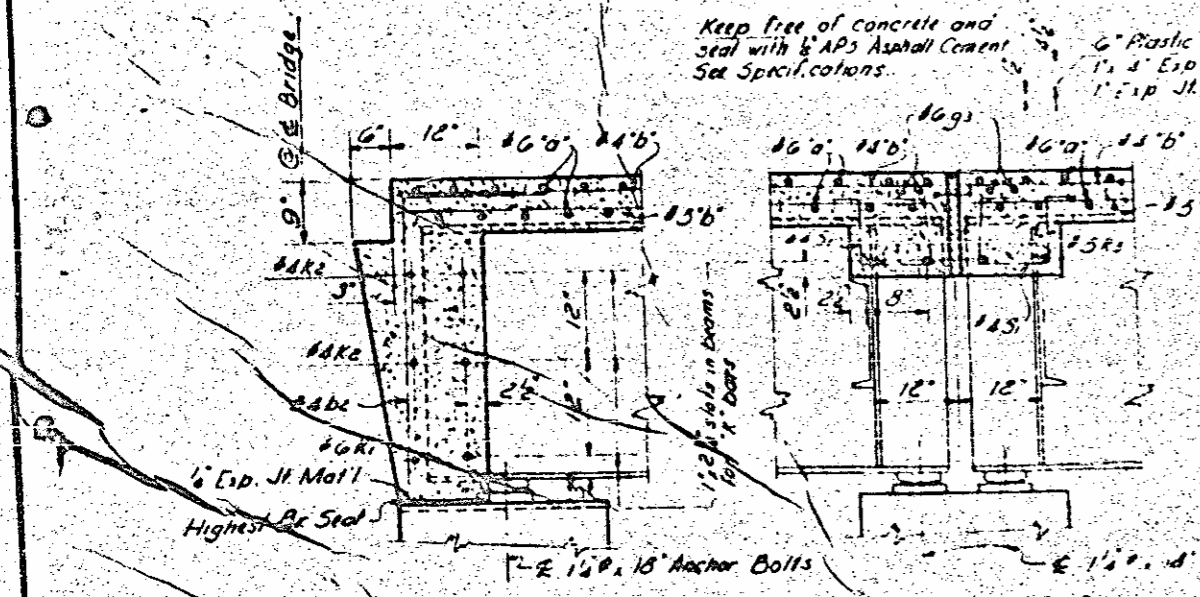
HALF SECTION SHOWING INTERIOR DIAPHRAGM



HALF END VIEW

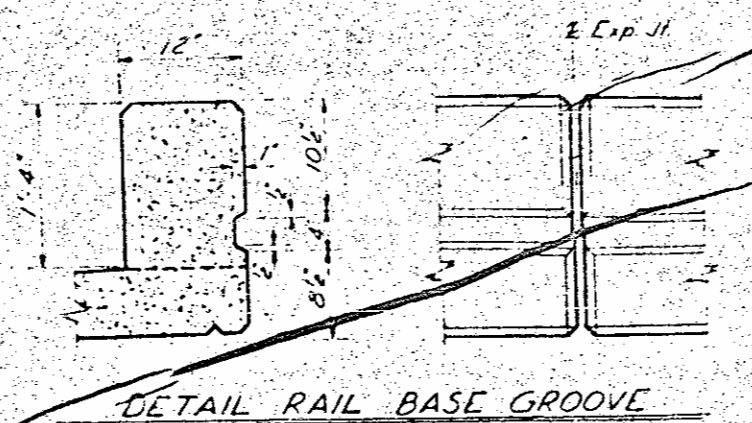


SECTION THRU CURB



SECTION A-A

SECTION B-B



DETAIL RAIL BASE GROOVE

BAR TYPES		BILL OF MATERIAL FOR FOUR SPANS					
BAR NO.	DESCRIPTION	LENGTH	WEIGHT	BAR NO.	DESCRIPTION	LENGTH	WEIGHT
1	10.5' x 1.5'	30.9'	10,161	5	16.0' x 1.5'	7.3'	374
2	10.5' x 1.5'	31.5'	10,911	6	16.0' x 1.5'	8.0'	1,866
3	10.5' x 1.5'	23.0'	601				
4	10.5' x 1.5'	22.10'	549				
5	10.5' x 1.5'	20.8'	491				
6	10.5' x 1.5'	18.6'	445				
7	10.5' x 1.5'	16.8'	393				
8	10.5' x 1.5'	15.2'	340				
9	10.5' x 1.5'	10.0'	248				
10	10.5' x 1.5'	8.0'	196				
11	10.5' x 1.5'	7.8'	188				
12	10.5' x 1.5'	5.6'	136				
13	10.5' x 1.5'	3.4'	80				
14	10.5' x 1.5'	28.0'	673				
15	10.5' x 1.5'	23.10'	621				
16	10.5' x 1.5'	23.0'	571				
17	10.5' x 1.5'	21.7'	519				
18	10.5' x 1.5'	19.5'	467				
19	10.5' x 1.5'	17.3'	415				
20	10.5' x 1.5'	15.1'	362				
21	10.5' x 1.5'	12.1'	310				
22	10.5' x 1.5'	10.9'	258				
23	10.5' x 1.5'	8.7'	206				
24	10.5' x 1.5'	6.5'	154				
25	10.5' x 1.5'	4.3'	102				
26	10.5' x 1.5'	25.0'	1,180				
27	10.5' x 1.5'	5.8'	250				
28	10.5' x 1.5'	6.7'	270				
29	10.5' x 1.5'	5.0'	211				
30	10.5' x 1.5'	26.0'	834				
31	10.5' x 1.5'	25.2'	810				
32	10.5' x 1.5'	16.5'	541				
33	10.5' x 1.5'	11.1'	413				
34	10.5' x 1.5'	2.7'	111				
35	10.5' x 1.5'	3.5'	118				
36	10.5' x 1.5'	5.2'	1,030				
37	10.5' x 1.5'	2.3'	301				
38	10.5' x 1.5'	17.0'	673				
39	10.5' x 1.5'	20.5'	845				
40	10.5' x 1.5'	20.1'	815				
41	10.5' x 1.5'	15.1'	451				
Total Length less 12"							
This leg vertical							

Reinforcing Steel Lbs. 48,733  
 Class 'A' Concrete Cu Yds. 2,148  
 Structural Steel Approx. Lbs. 11,000  
 1 Bar 1 1/2" Rail Lin. Ft. 3,225

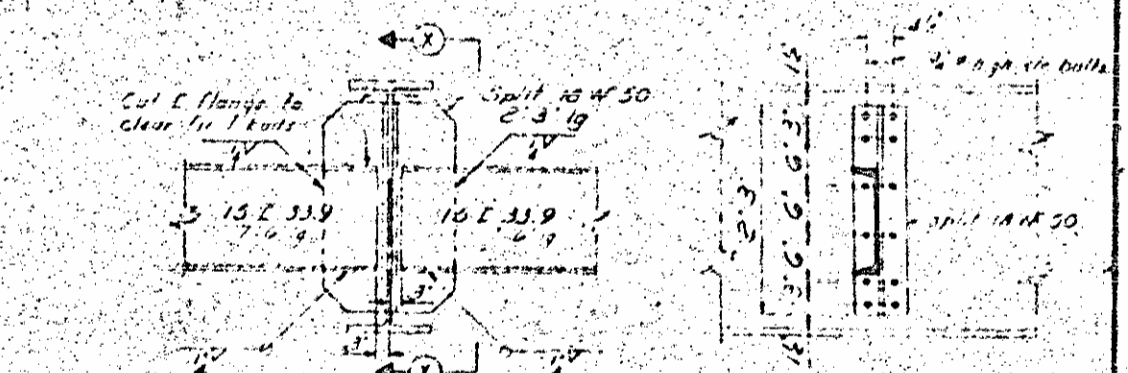
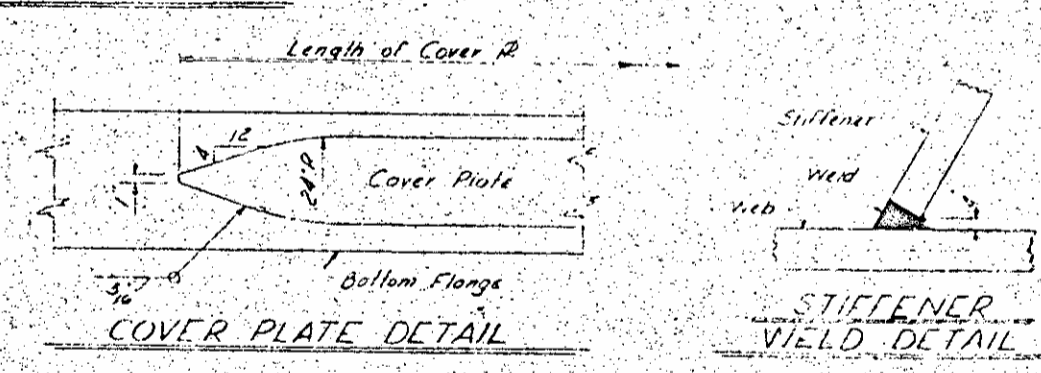
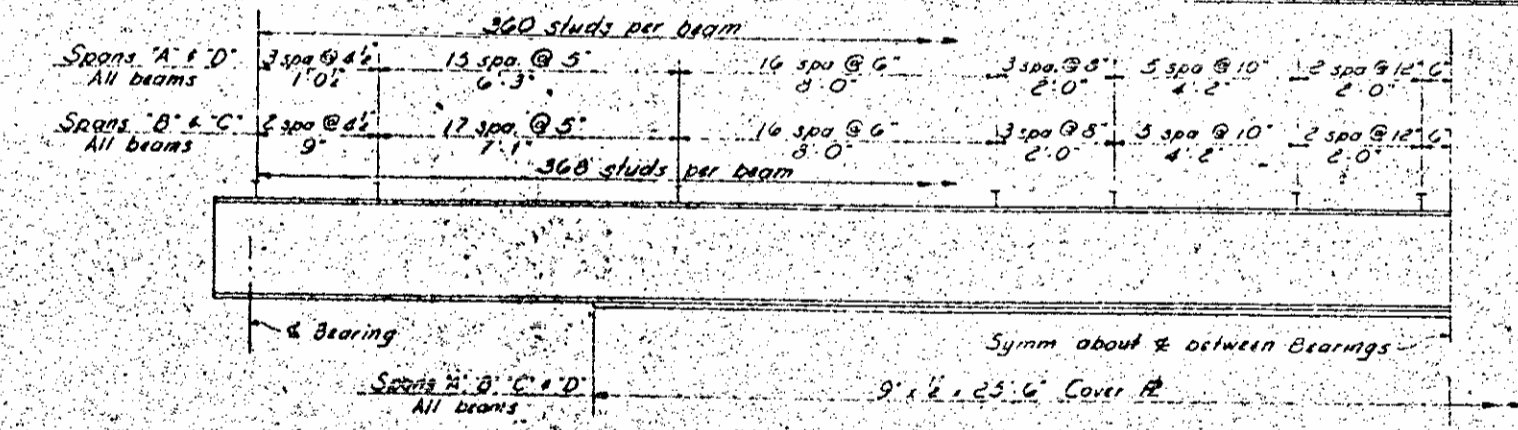
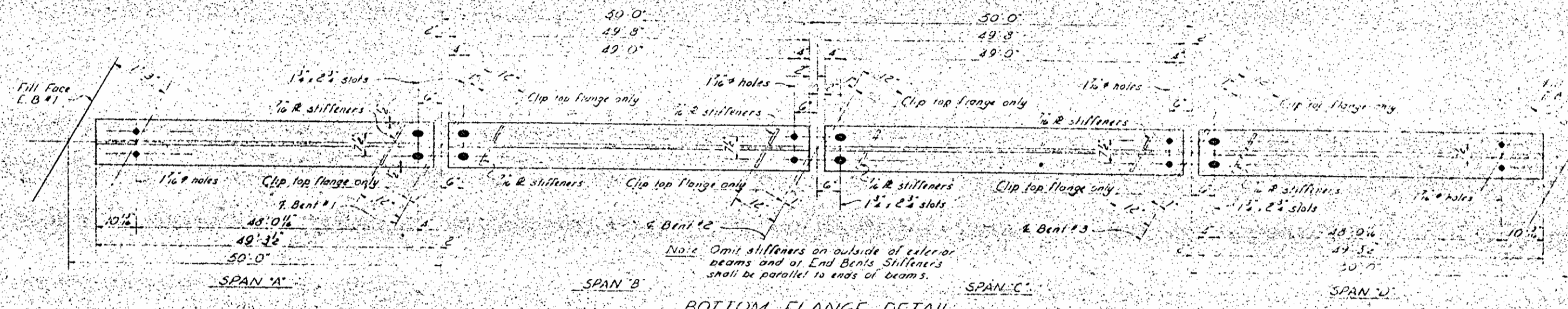
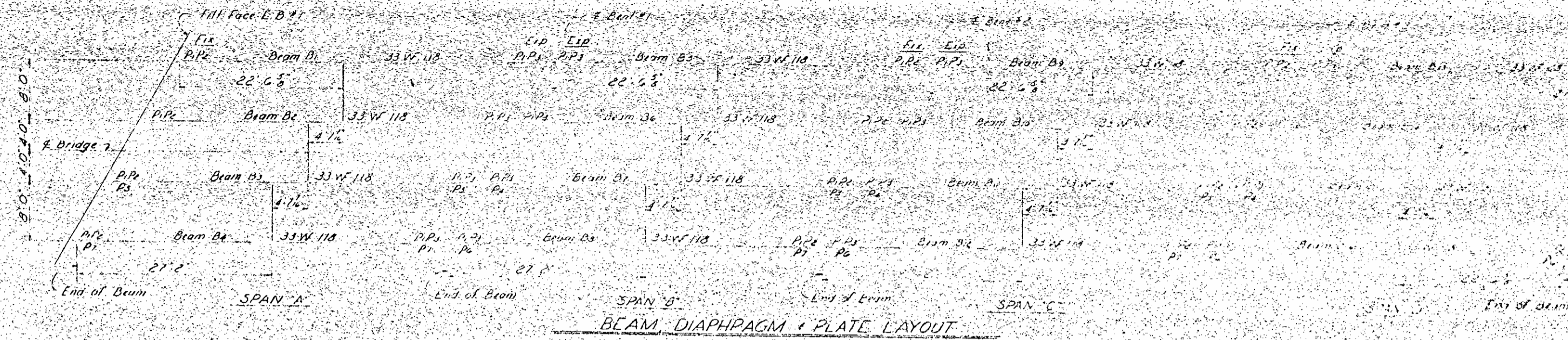
BREAKDOWN OF CONCRETE QUANTITIES	
SPAN	CU YDS.
A	56.8
B	50.6
C	56.8
SPAN A THRU D	214.8

PROJECT NO. 8 19470  
 HAYWOOD COUNTY  
 STATION: 457+40.11

STATE OF NORTH CAROLINA  
 STATE HIGHWAY COMMISSION  
 SUPERSTRUCTURE  
 SECTIONS & DETAILS  
 BAR TYPES & BILL OF MATERIAL  
 RIGHT LANE  
 AUGUST 1962

NO.	DATE	BY	DATE
1			

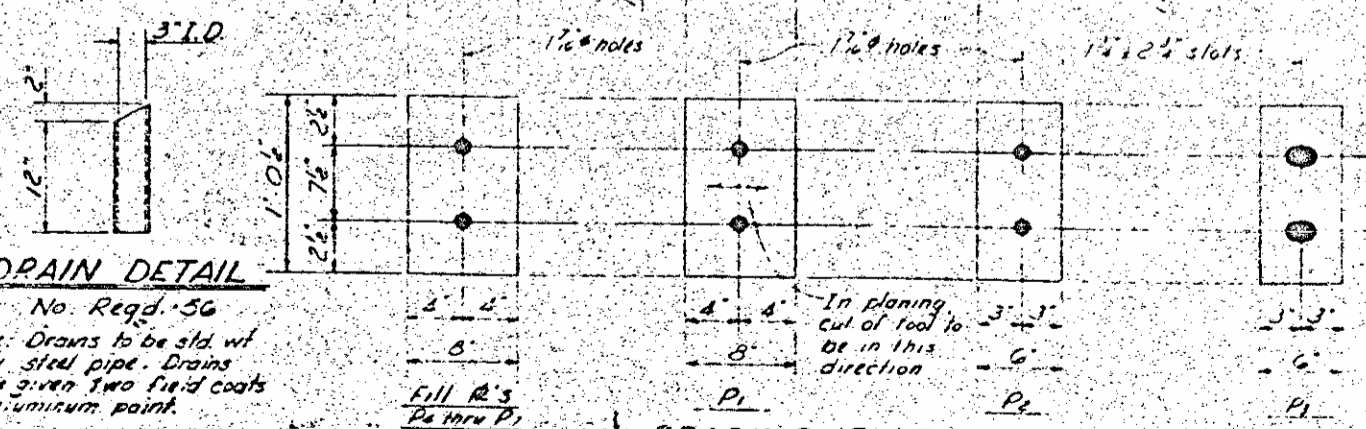
NO. OVER SECTION	DATE	PROJECT NO.
3	N.C. 819470	
A PROJECT F-12 (5)		



Note: For location of slots in beam webs for "x" bolts see Superstructure Sections & Details.

DEAD LOAD DEFLECTION	SPANS 'A', 'B', 'C' & 'D'	
	Exterior Beams	Interior Beams
Deflection due to weight of beam		
Deflection due to super-imposed dead load		
Deflection due to live load		

Note: No camber other than natural mill camber required.



Note: Field connections of diaphragms to beams shall be bolted using 4" high strength bolts in accordance with the specifications and Special Provisions.

MEMO LIST OF BOLT #s	
P1	2E 1/2"
P2	1/2"
P3	1/2"
P4	1/2"

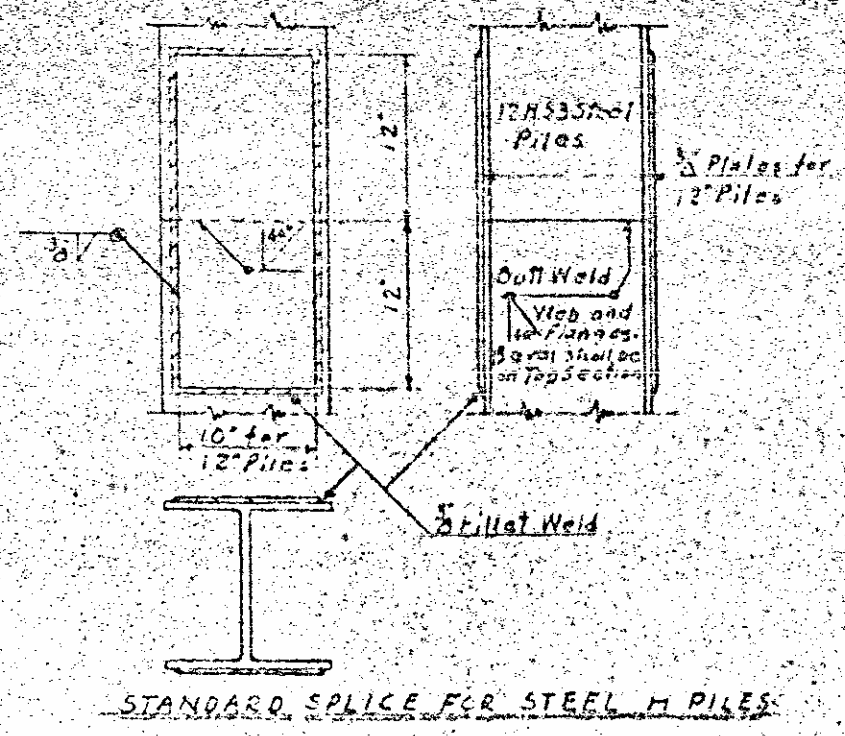
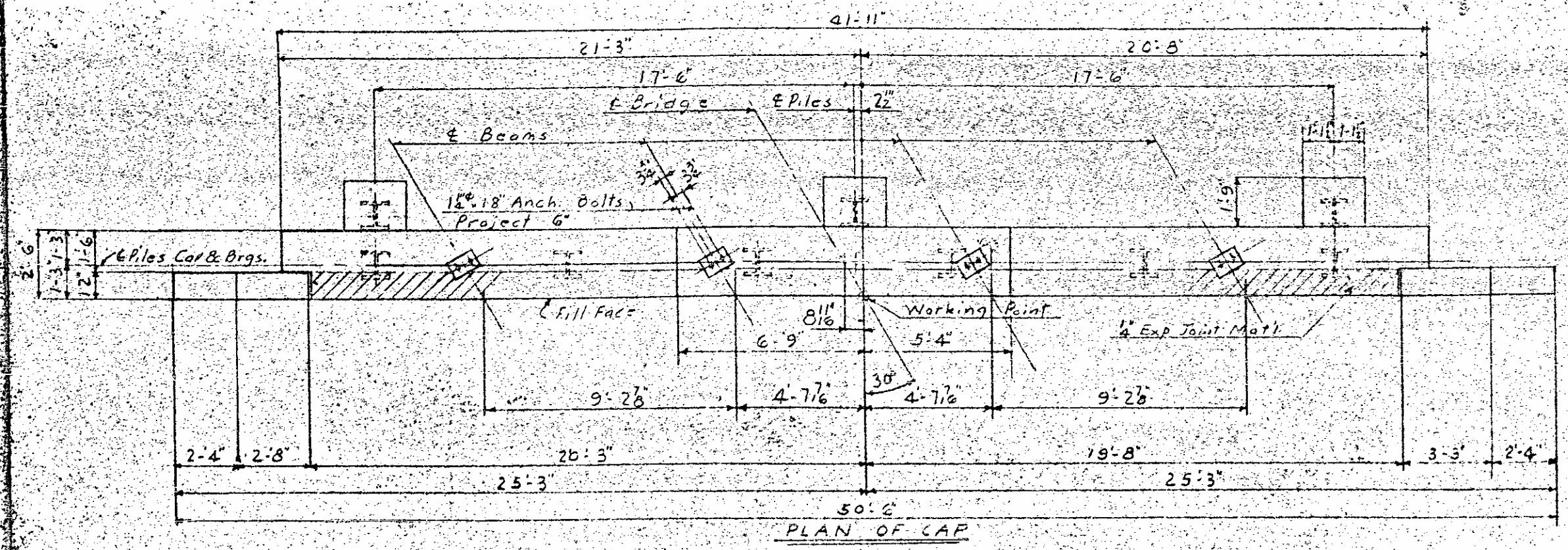
PROJECT NO. 819470  
HAYWOOD COUNTY  
STATION: 457+40 L

STATE OF NORTH CAROLINA  
STATE HIGHWAY COMMISSION  
SUPERSTRUCTURE  
STRUCTURAL STEEL  
DETAILS  
RIGHT LANE  
AUGUST 1962

DRAWN BY S. L. SANTI-TOMAS DATE AUG. 1962  
CHECKED BY R. P. [Signature] DATE SEP. 1962

Note: At the contractor's option Fill R's may be combined with R. P1.

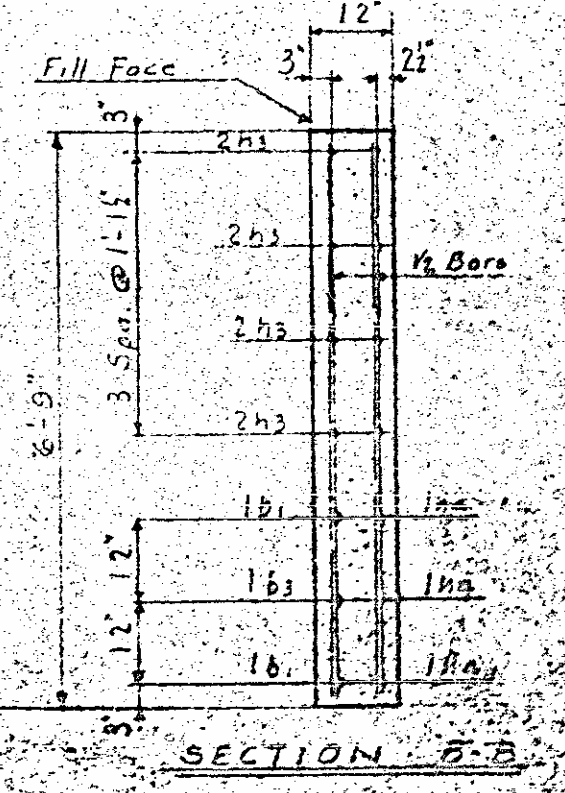
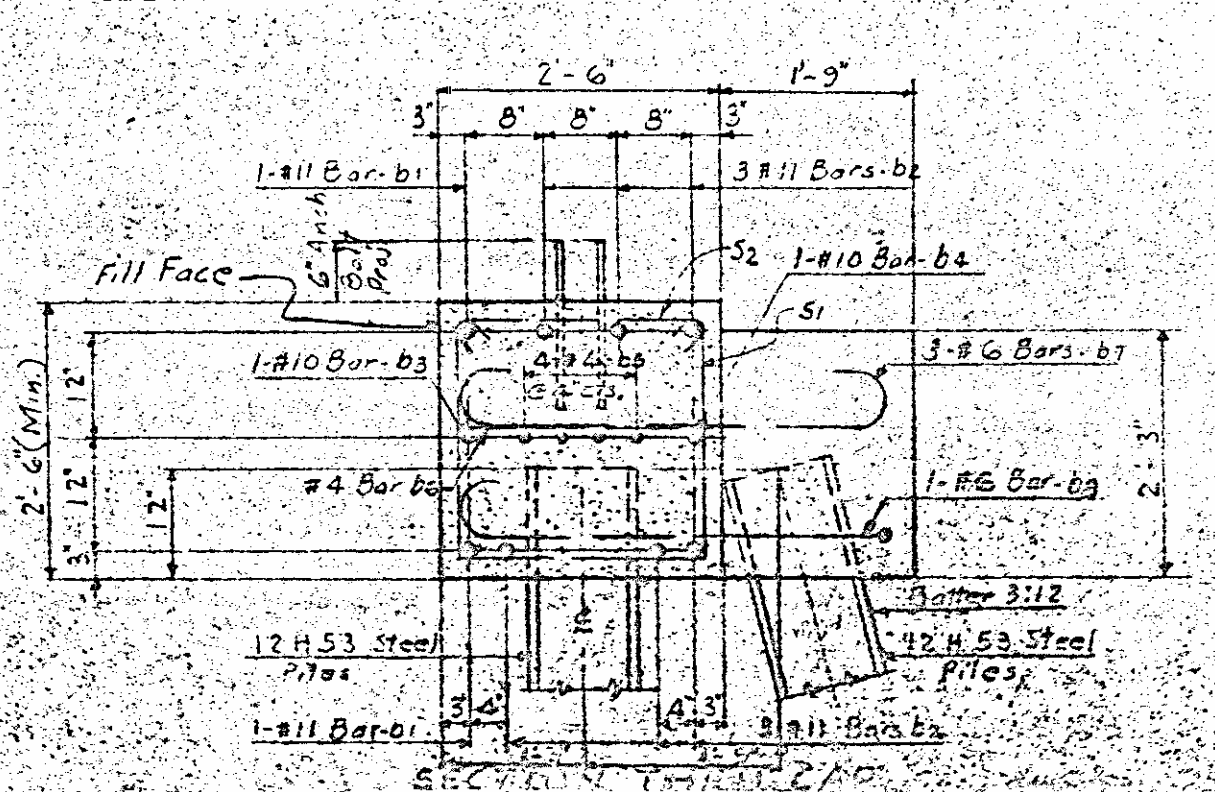
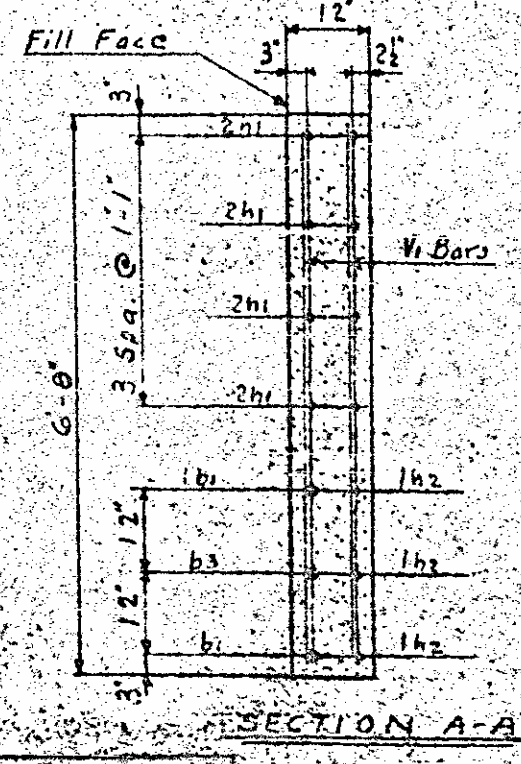
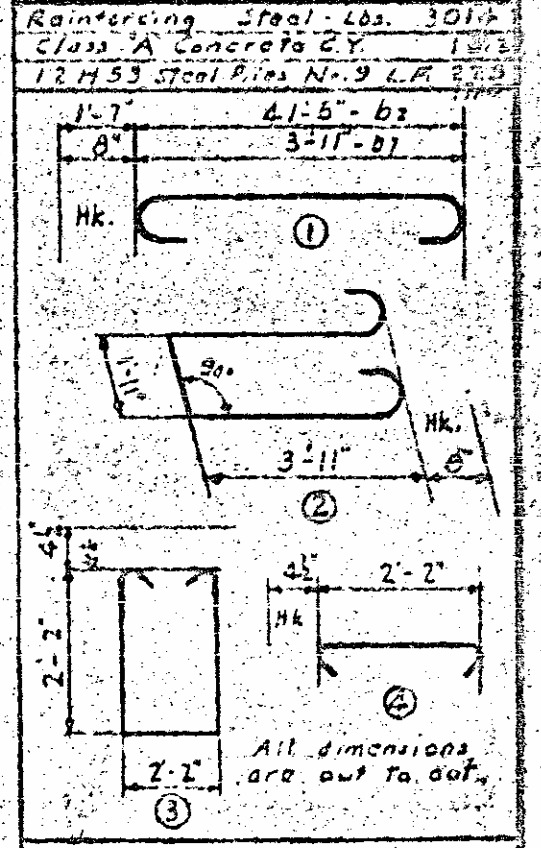
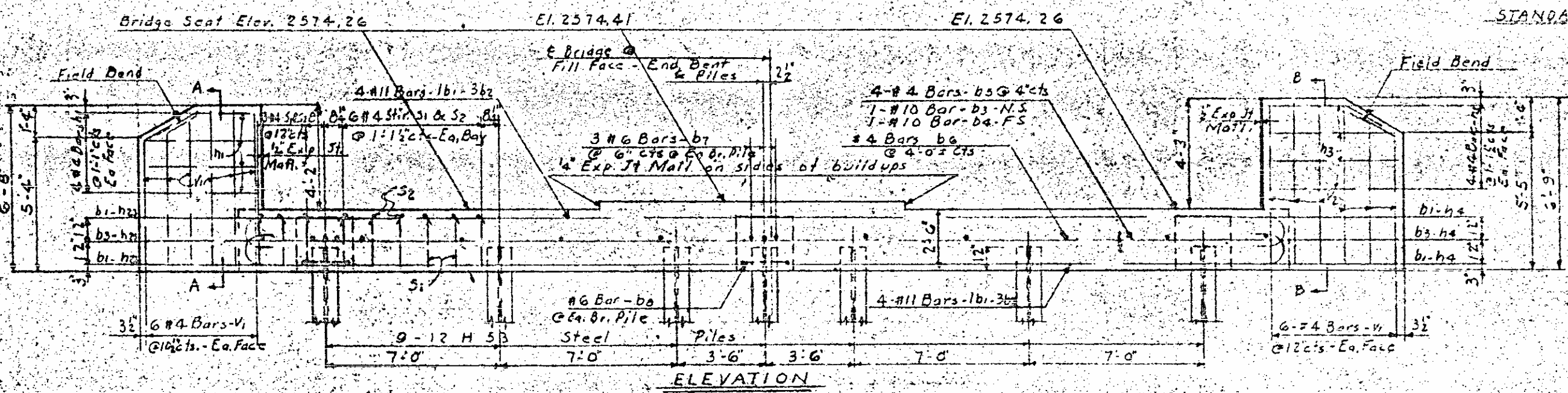
PROJECT NO. 819470  
 DATE: FEBRUARY 1962  
 DRAWING NO. 1-1



**BILL OF MATERIAL**

BAR NO	SIZE	TYPE	LENGTH	WEIGHT
b1	#11	Str.	90.0	831
b2	#11	Str.	42.7	1821
b3	#10	Str.	50.0	215
b4	#10	Str.	41.5	178
b5	#4	Str.	21.4	114
b6	#4	Str.	2.2	14
b7	#6	Str.	3.3	71
b8	#6	Str.	11.5	80
b9	#4	Str.	4.0	23
b10	#4	Str.	5.1	10
b11	#4	Str.	2.3	18
b12	#4	Str.	3.8	11
b13	#4	Str.	7.3	174
b14	#4	Str.	2.11	70
b15	#4	Str.	6.4	31
b16	#4	Str.	6.5	31

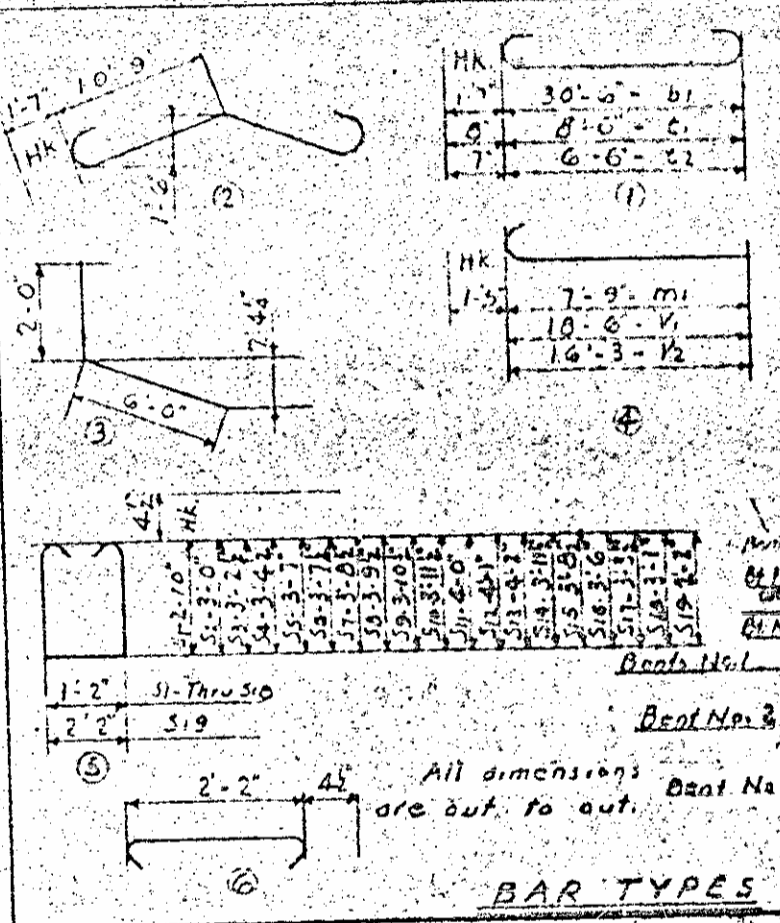
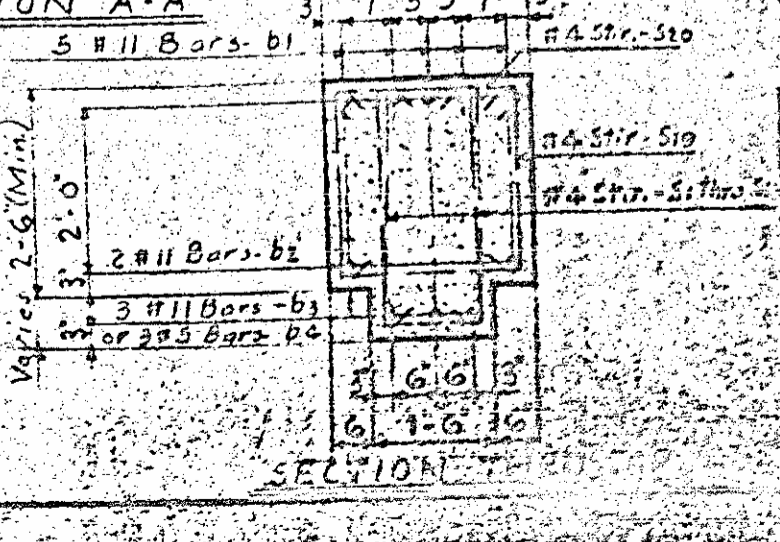
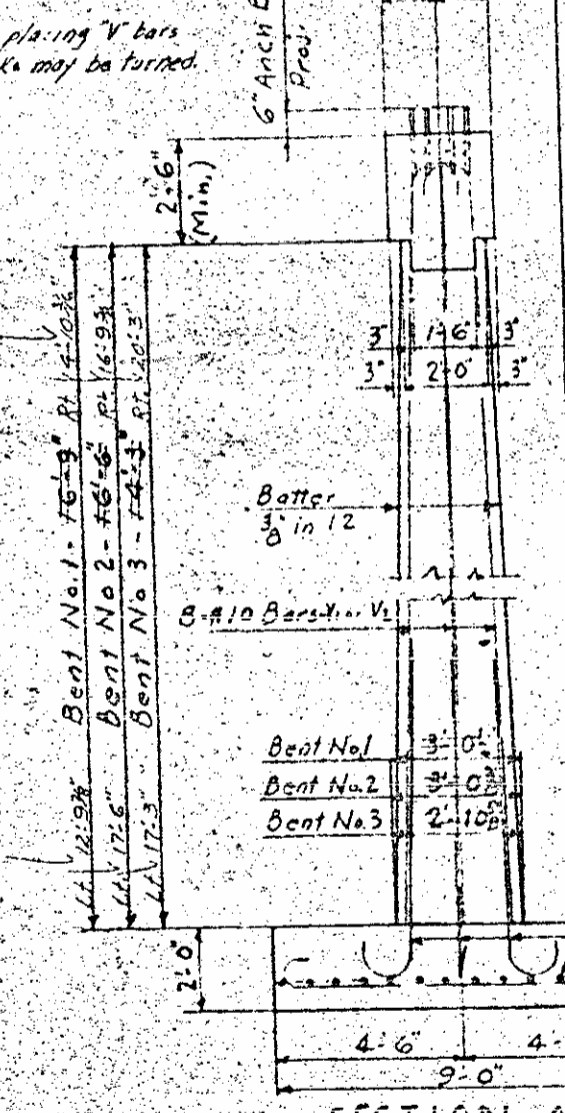
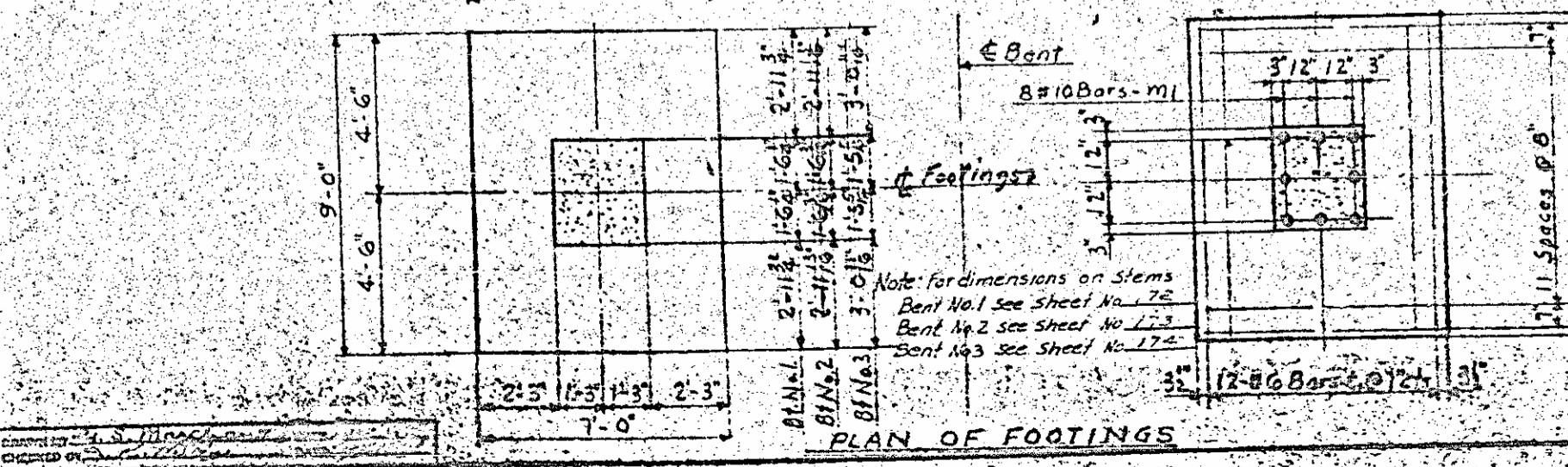
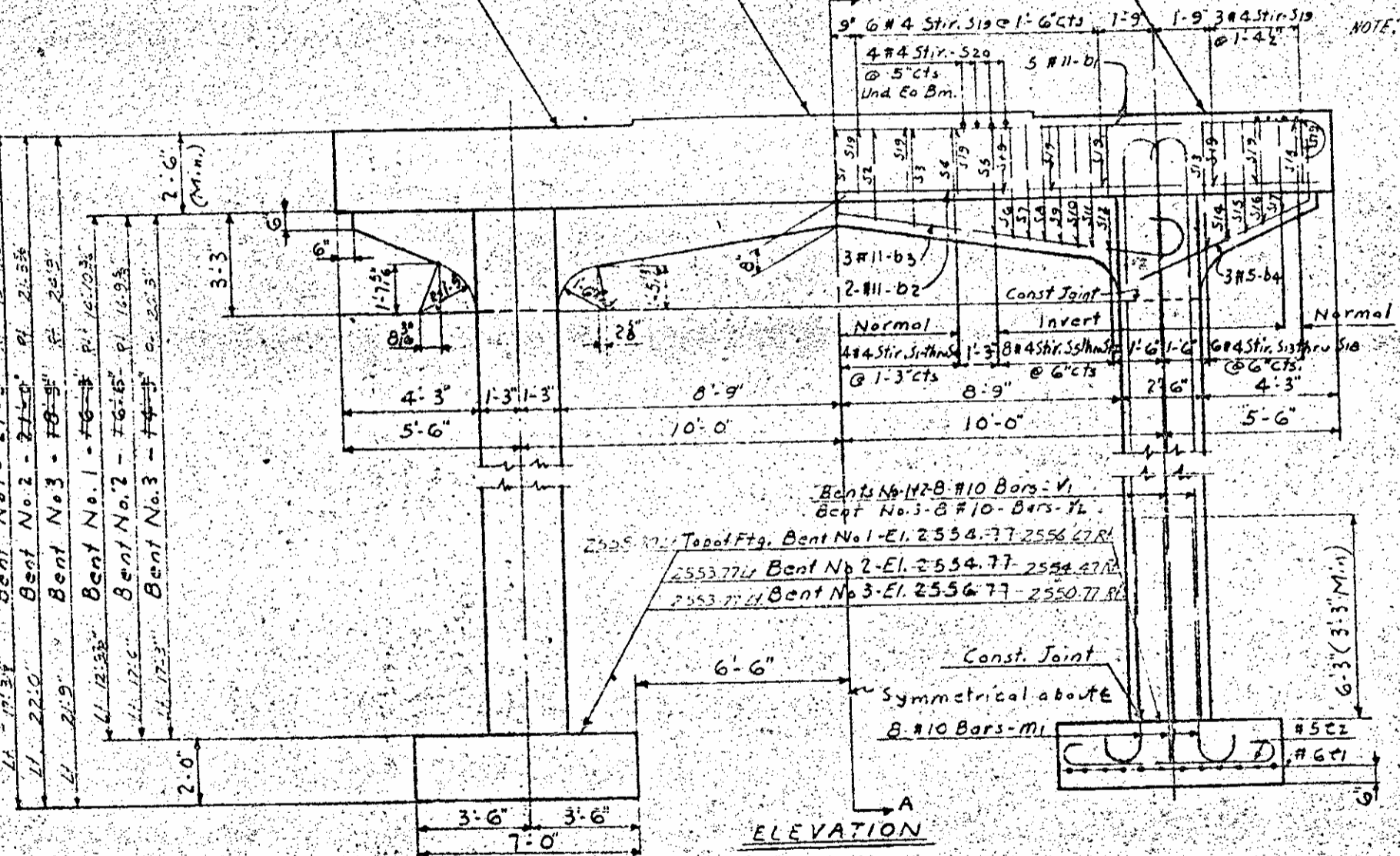
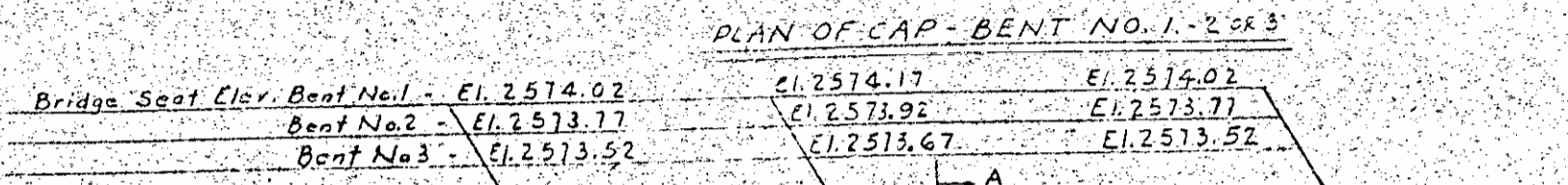
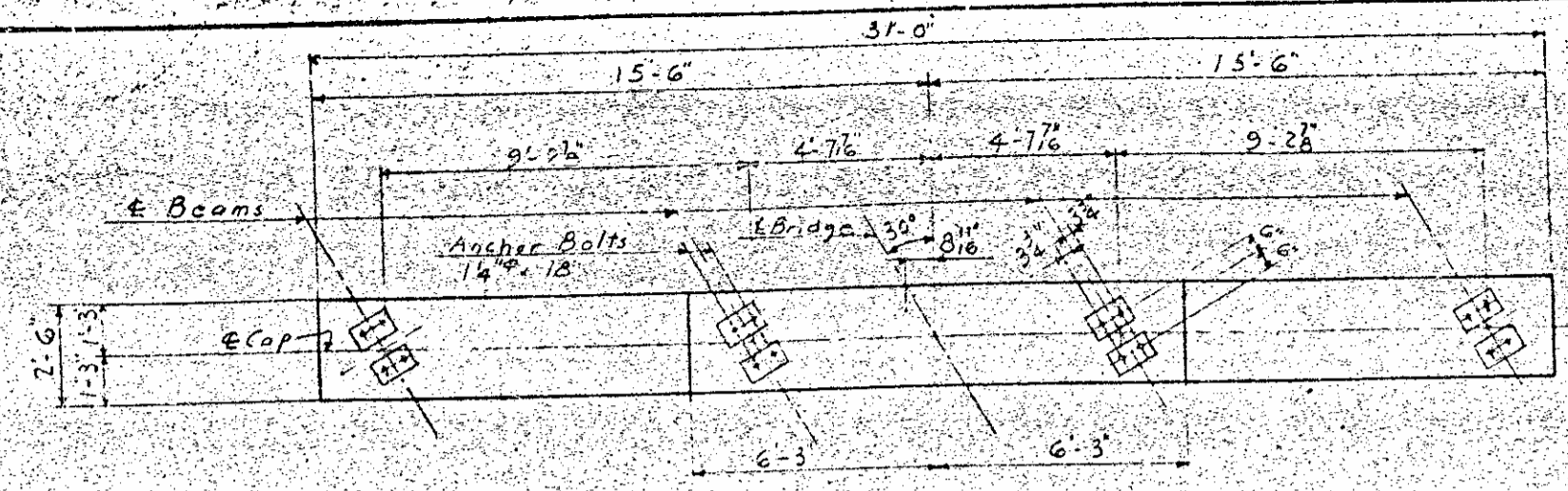
Reinforcing Steel - Lbs. 3012  
 Class A Concrete C.Y. 103  
 12 H 53 Steel Piles N-9 L.P. 273



819470  
 HAYWOOD  
 457-2019  
 STRUCTURE  
 END BENT NO. 1  
 RIGHT LANE  
 JULY 1962

**BILL OF MATERIAL**  
FOR ONE BENT-THREE REQ'D.

BAR NO.	TYPE	LENGTH	WEIGHT
b1	#11	31.0	82.4
b2	#11	30.6	77.4
b3	#11	24.8	63.5
b4	#5	2.0	5.0
m1	#10	9.2	23.1
m2	#10	7.5	18.8
m3	#10	7.1	17.8
m4	#10	5.4	13.6
m5	#10	8.0	20.1
m6	#10	9.2	23.1
m7	#10	9.4	23.7
m8	#10	9.6	24.2
m9	#10	9.0	22.8
m10	#10	9.0	22.8
m11	#10	10.1	25.5
m12	#10	10.3	26.1
m13	#10	10.3	26.1
m14	#10	10.3	26.1
m15	#10	10.3	26.1
m16	#10	10.3	26.1
m17	#10	10.3	26.1
m18	#10	10.3	26.1
m19	#10	10.3	26.1
m20	#10	10.3	26.1
m21	#10	10.3	26.1
m22	#10	10.3	26.1
m23	#10	10.3	26.1
m24	#10	10.3	26.1
m25	#10	10.3	26.1
m26	#10	10.3	26.1
m27	#10	10.3	26.1
m28	#10	10.3	26.1
m29	#10	10.3	26.1
m30	#10	10.3	26.1
m31	#10	10.3	26.1
m32	#10	10.3	26.1
m33	#10	10.3	26.1
m34	#10	10.3	26.1
m35	#10	10.3	26.1
m36	#10	10.3	26.1
m37	#10	10.3	26.1
m38	#10	10.3	26.1
m39	#10	10.3	26.1
m40	#10	10.3	26.1
m41	#10	10.3	26.1
m42	#10	10.3	26.1
m43	#10	10.3	26.1
m44	#10	10.3	26.1
m45	#10	10.3	26.1
m46	#10	10.3	26.1
m47	#10	10.3	26.1
m48	#10	10.3	26.1
m49	#10	10.3	26.1
m50	#10	10.3	26.1
m51	#10	10.3	26.1
m52	#10	10.3	26.1
m53	#10	10.3	26.1
m54	#10	10.3	26.1
m55	#10	10.3	26.1
m56	#10	10.3	26.1
m57	#10	10.3	26.1
m58	#10	10.3	26.1
m59	#10	10.3	26.1
m60	#10	10.3	26.1
m61	#10	10.3	26.1
m62	#10	10.3	26.1
m63	#10	10.3	26.1
m64	#10	10.3	26.1
m65	#10	10.3	26.1
m66	#10	10.3	26.1
m67	#10	10.3	26.1
m68	#10	10.3	26.1
m69	#10	10.3	26.1
m70	#10	10.3	26.1
m71	#10	10.3	26.1
m72	#10	10.3	26.1
m73	#10	10.3	26.1
m74	#10	10.3	26.1
m75	#10	10.3	26.1
m76	#10	10.3	26.1
m77	#10	10.3	26.1
m78	#10	10.3	26.1
m79	#10	10.3	26.1
m80	#10	10.3	26.1
m81	#10	10.3	26.1
m82	#10	10.3	26.1
m83	#10	10.3	26.1
m84	#10	10.3	26.1
m85	#10	10.3	26.1
m86	#10	10.3	26.1
m87	#10	10.3	26.1
m88	#10	10.3	26.1
m89	#10	10.3	26.1
m90	#10	10.3	26.1
m91	#10	10.3	26.1
m92	#10	10.3	26.1
m93	#10	10.3	26.1
m94	#10	10.3	26.1
m95	#10	10.3	26.1
m96	#10	10.3	26.1
m97	#10	10.3	26.1
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m99	#10	10.3	26.1
m100	#10	10.3	26.1

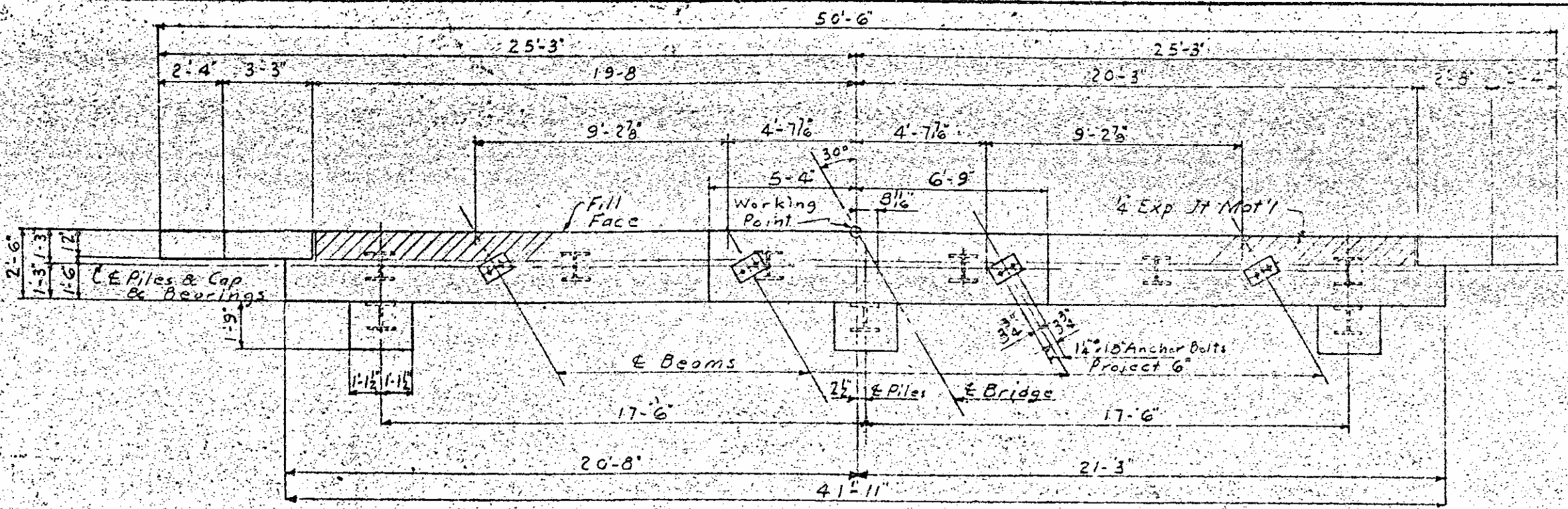


PROJECT NO. 819470  
HAYWOOD COUNTY  
A57-00-1A

START WORK  
BENTS NO. 1-2 & 3  
RIGHT LANE  
JULY 1972

NOTE: In placing V bars hooks may be turned.

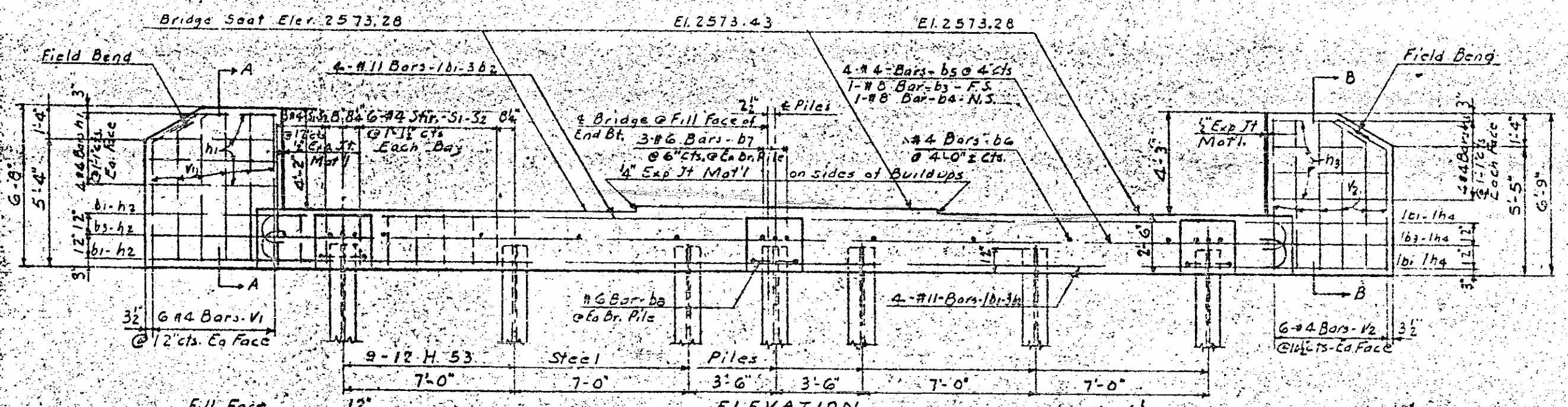
NO. 819470  
 DATE 12-1-22



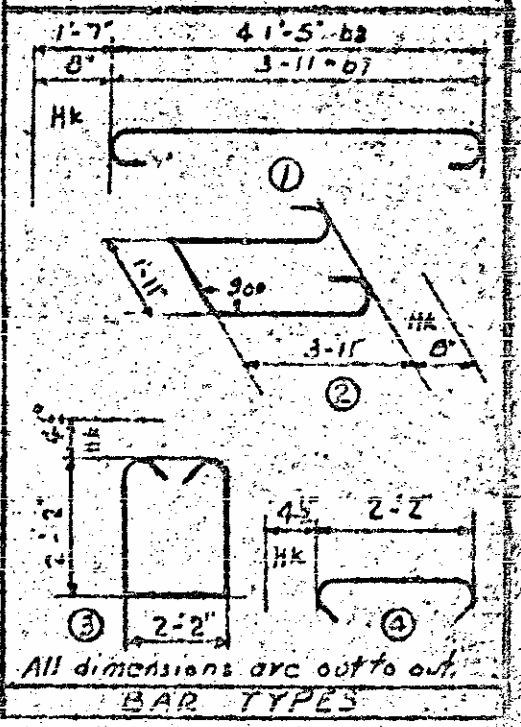
PLAN OF CAP - END BENT NO. 2

BILL OF MATERIAL					
BAR NO.	NO.	SIZE	TYPE	LENGTH	HEIGHT
b1	2	#11	ST	50.0	53
b2	6	#11	ST	4.27	1021
b3	1	#10	ST	50.0	215
b4	1	#10	ST	41.5	170
b5	4	#4	ST	21.4	114
b6	10	#4	ST	3.2	14
b7	8	#6	ST	3.3	71
b8	3	#5	ST	11.1	50
b9	4	#4	ST	6.3	28
b10	3	#4	ST	5.8	11
b11	4	#4	ST	4.9	23
b12	3	#4	ST	5.1	10
s1	36	#4	ST	7.3	174
s2	36	#4	ST	2.11	70
v1	12	#4	ST	6.4	27
v2	12	#4	ST	6.5	51

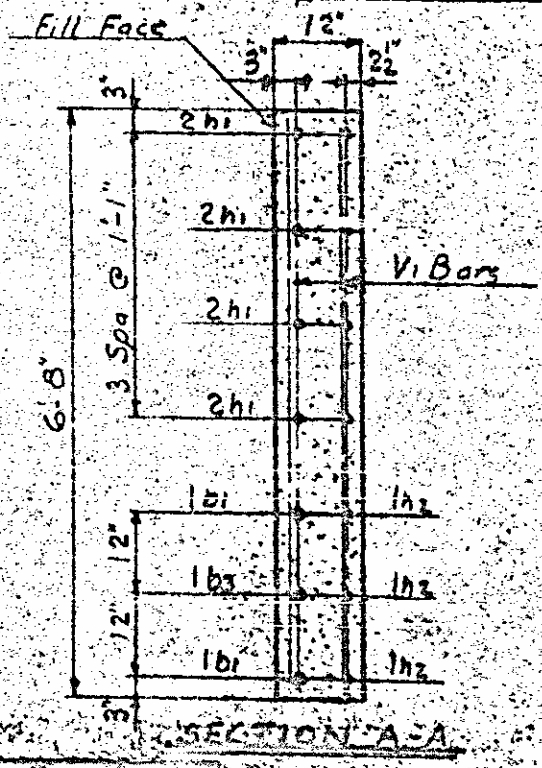
Reinforcing Steel Lbs. 1014  
 Class A Concrete C.Y. 73.2  
 12 H. 53 Steel Piles No. 9 L.P. 235



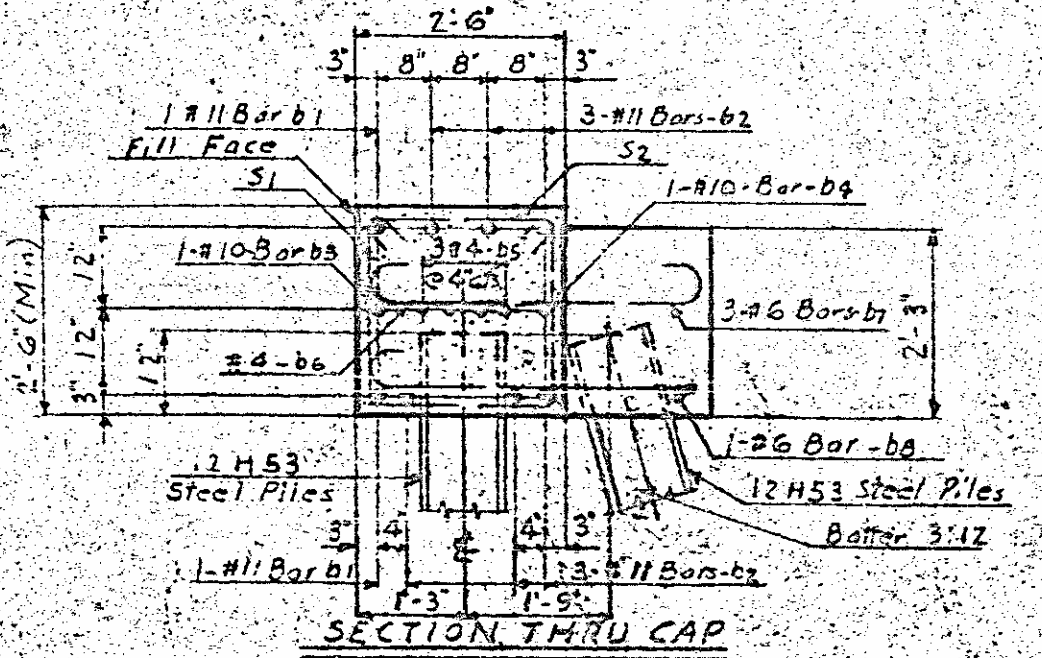
ELEVATION



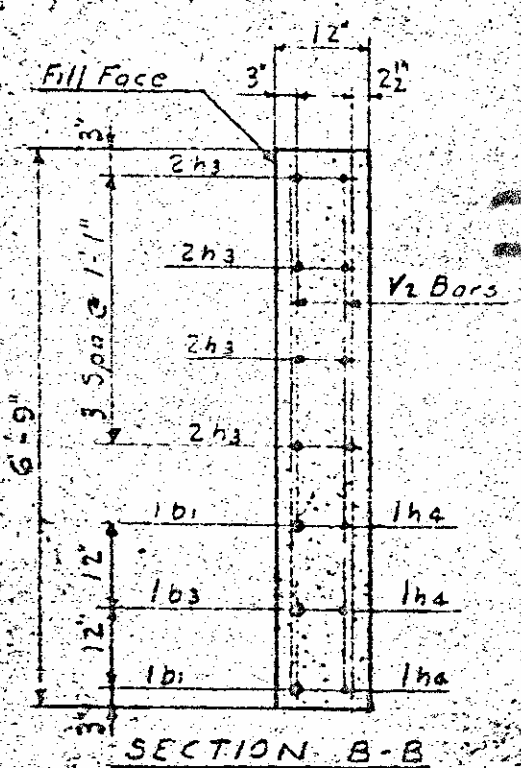
All dimensions are out to out.  
 BAR TYPES



SECTION A-A



SECTION THRU CAP



SECTION B-B

NOTE: For pile splice detail see End Bent No. 1.

819470  
 HAYWOOD  
 457-62-10  
 END BENT NO. 2  
 RIGHT BENT  
 1922