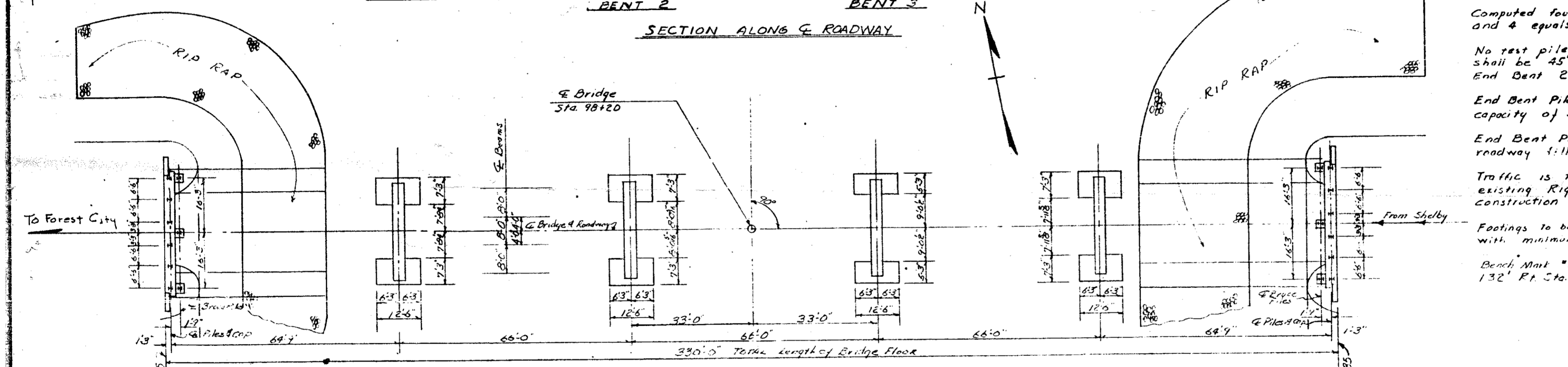


NOTES

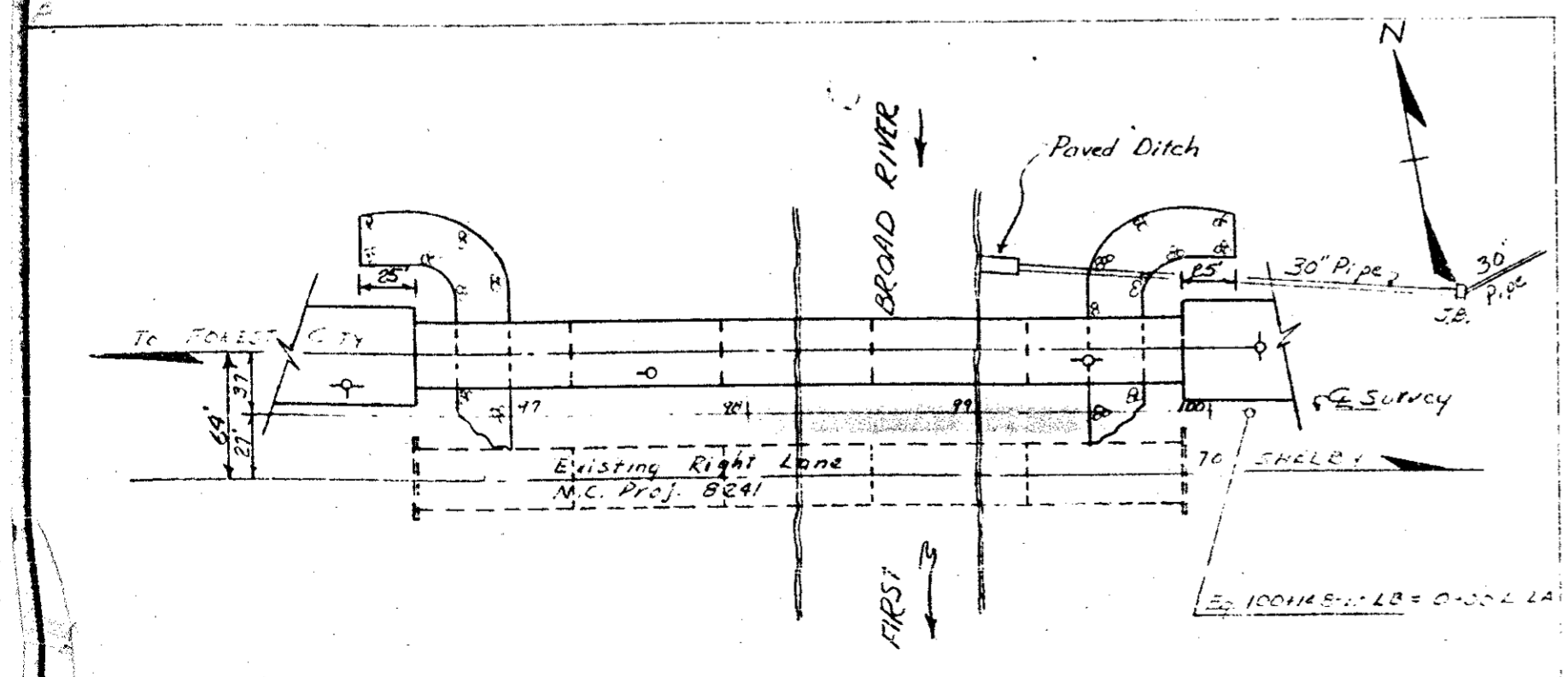
- Assumed Live Load: H 20-S16 (44) or Alternate Loading.
- For other design data and general notes see sheet S-N.
- Computed foundation load for Bents 1, 2, 3 and 4 equals 32 tons per sq. ft.
- No test piles are required, order lengths shall be 45' for End Bent 1 and 55' for End Bent 2.
- End Bent Piles to be driven to a minimum bearing capacity of 30 tons each.
- End Bent Piles to be driven through the roadway fill.
- Traffic is to be maintained on the existing Right Lane of U.S. 74 during construction of the proposed structure.
- Footings to be carried at least 6' into rock with minimum thickness as shown on plans.
- Beach Mat "11" E Nails in base of 24" Oct 132' R. Sta. 1+98 EL. 998.96



PLAN

Reel # 790
Pos # 1

NOTE: THIS STRUCTURE BUILT ACCORDING TO PLANS EXCEPT AS NOTED.
SIGNED: J. E. K. [Signature]
P.E.S. ENG.



LOCATION SKETCH

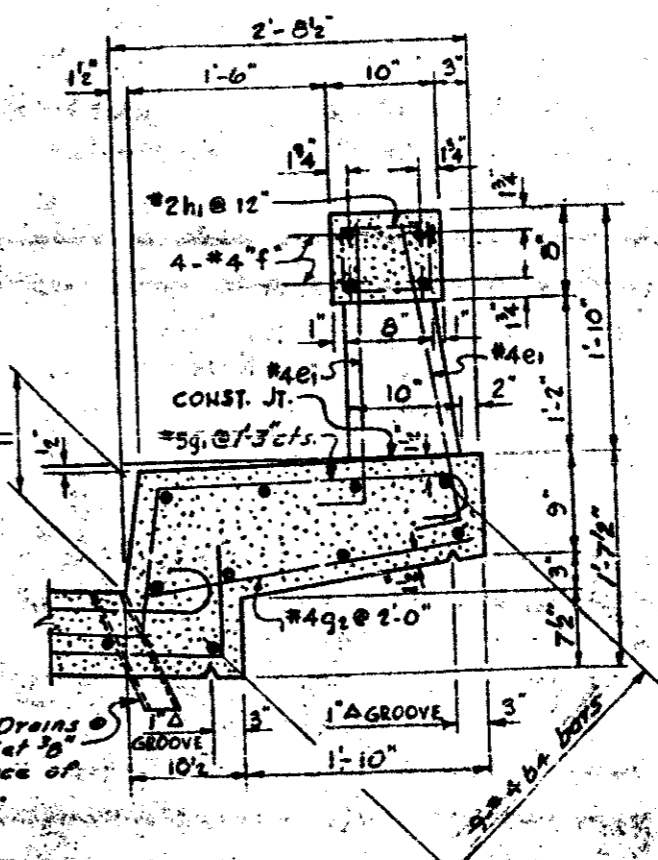
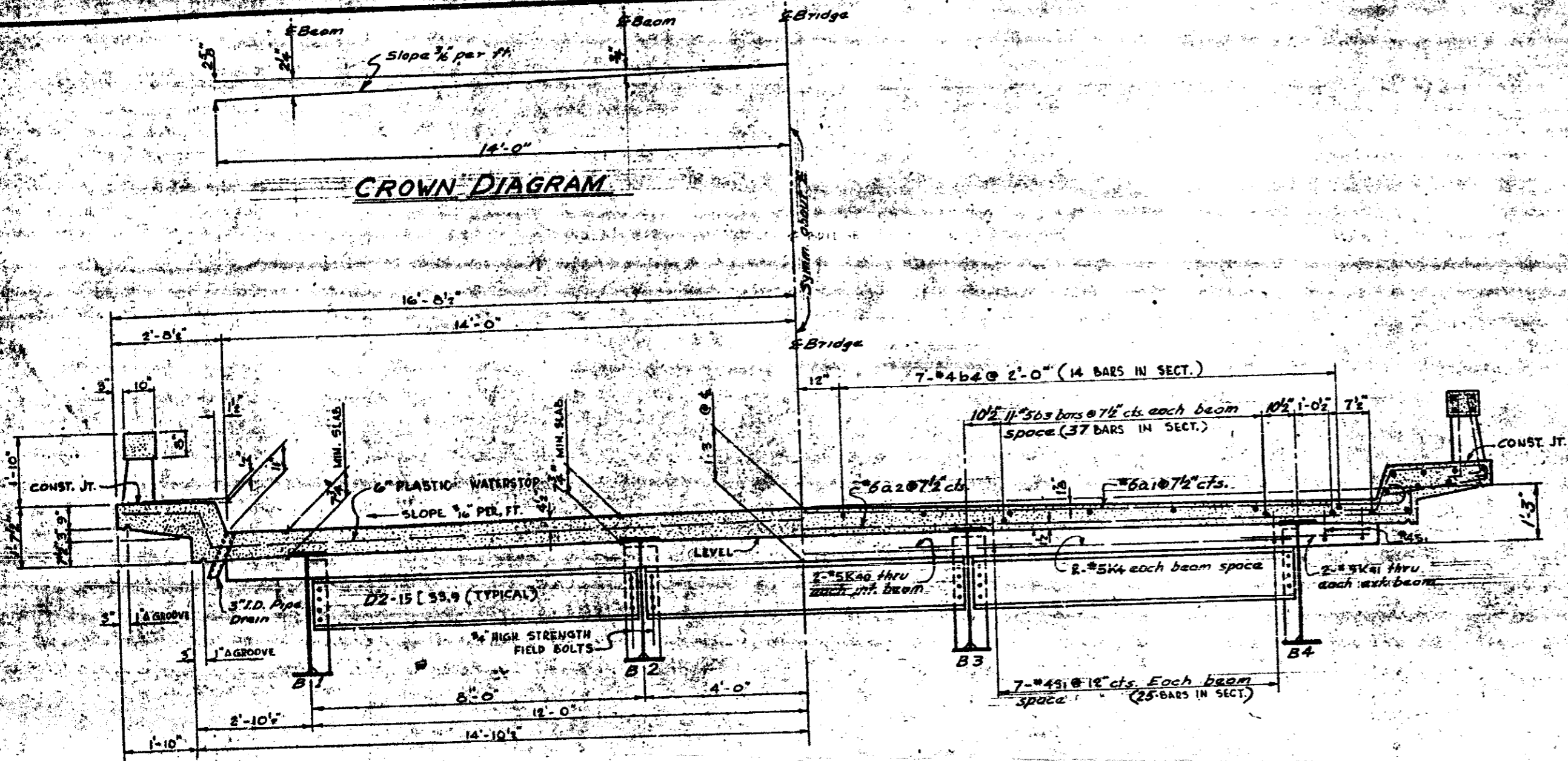
Rev. #1 (June 6, 1963) To correct total quantity of reinforcing steel, by unit, by NMS.

	TOTAL BILL OF MATERIAL		12 H 53 STEEL PILES		NET EXCAVATION Cu Yds	DRY EXCAVATION Cu Yds	RIP RAP PLAIN CLASS 2 Sq. Yds.	12 H 53 STEEL PILE CUT-OFF MIN. FT.	SPlicing STEEL PILES EACH
	CLASS 'A' CONCRETE Cu. Yds.	REIN. STEEL Lbs.	STRUCTURAL STEEL Approx Lbs.	No.					
SUPERSTRUCTURE	327.5	77453	247,200						
END BENT 1	11.7	2479		9	401.76/405			36.01V	5
BENT 1	55.87B	11053			144.81/146	139.62	440.67/443		
BENT 2	61.21B	11859			198.94	141.20			
BENT 3	61.85B	12623			131.04				
BENT 4	63.79B	11723			243.72/241.84	91.68/45	615.38/615.50	56.20	
END BENT 2	11.7	2479		9	526/476.40			18.85	
APPROACH CURBS	3.2	76							
TOTAL	545.7	129745	247,200	18	927	475	372.59	111.14V	94

PROJECT No. 8.18246
#80 CLEVELAND COUNTY
STATION 98+20

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH
GENERAL DRAWING
BRIDGE OVER
FIRST BROAD RIVER
ON US 74 BETWEEN
FOREST CITY & SHELBY
OCTOBER 1962

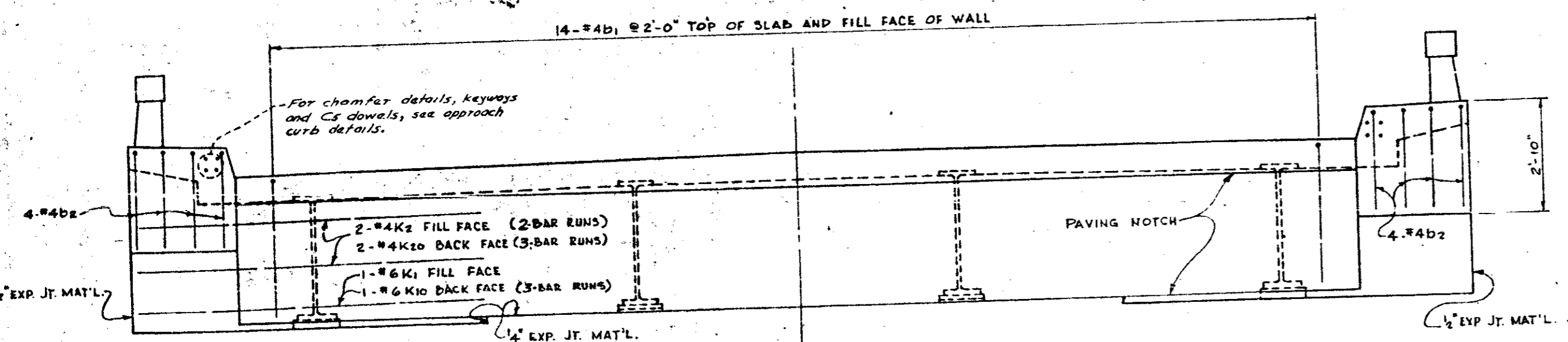
SUBMITTED BY: [Signature]
APPROVED BY: [Signature]
DATE: 10/25/62



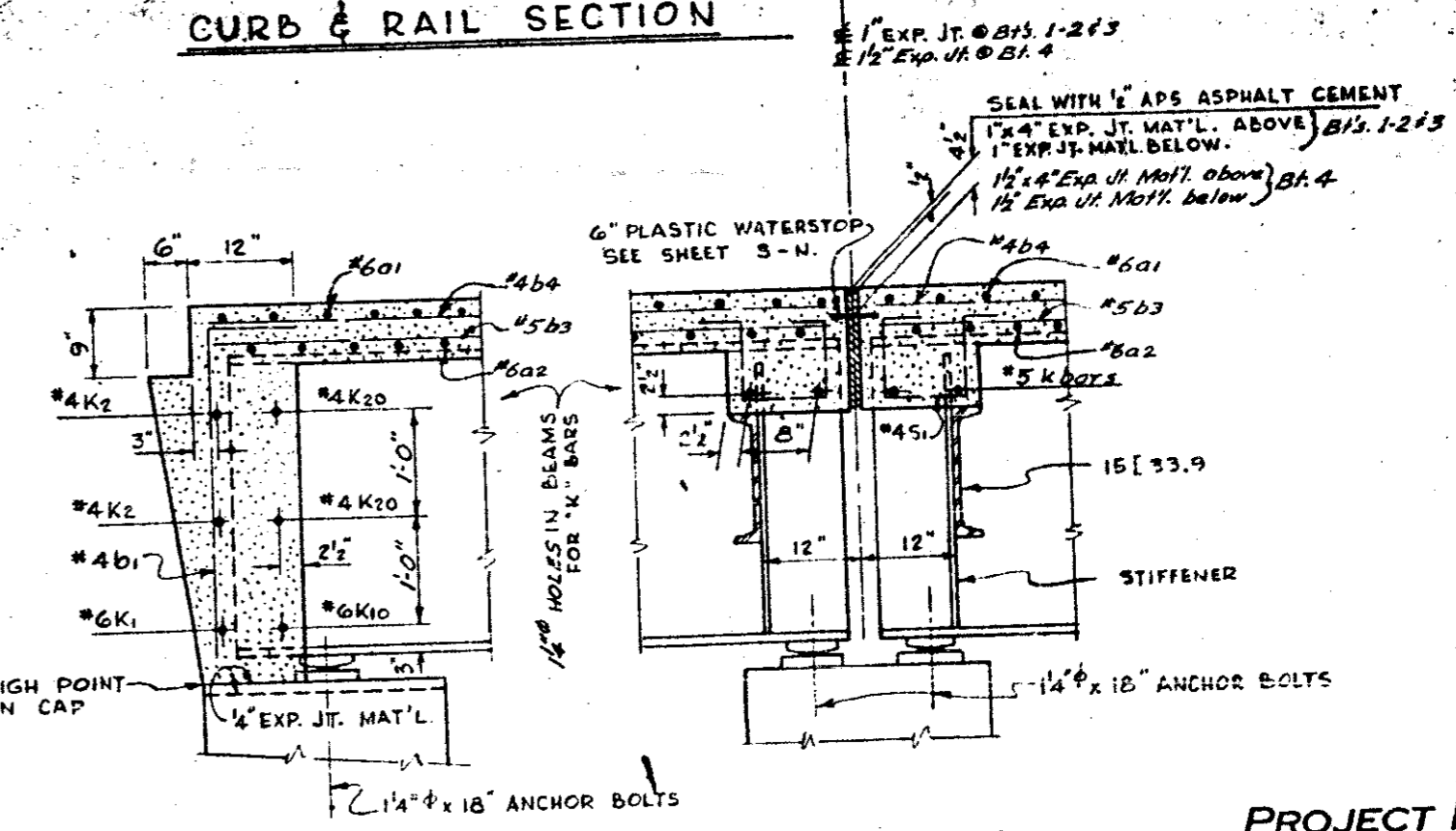
NOTES
ASSUMED LIVE LOAD: H20-S16-44 OR OTHER
loading.
CONCRETE IN COMPRESSION 1100 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION 20,000 LBS. PER SQ. IN.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL 30,000 LBS. PER SQ. IN.
FOR OTHER DESIGN DATA AND GENERAL NOTES SEE SHEET 3-N.
FOR BARS INDICATED AND NO BAR MARK SHOWN SEE CONCRETE PLAN FOR THE DIFFERENT SIZES.
EXPANSION JOINTS TO BE KEPT FREE OF CONCRETE AND SEALED WITH APS ASPHALT CEMENT.

TYPICAL SECTION SHOWING DIAPHRAGMS AT BENTS

CURB & RAIL SECTION



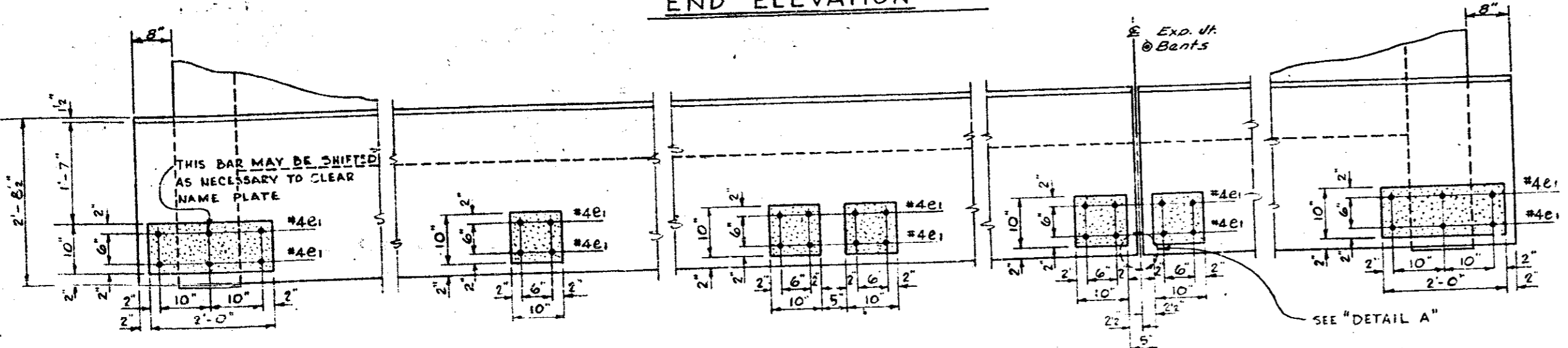
END ELEVATION



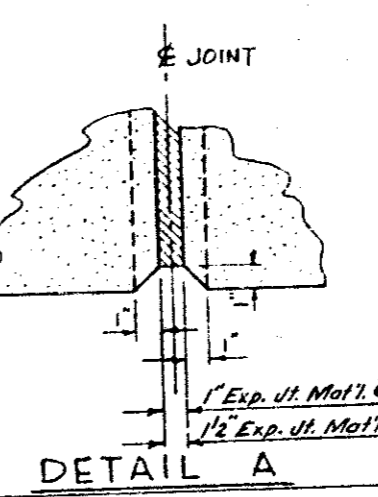
SECTION A-A

SECTION B-B

PROJECT NO. 8.18246
CLEVELAND COUNTY
STATION: 98+20



POST DETAILS



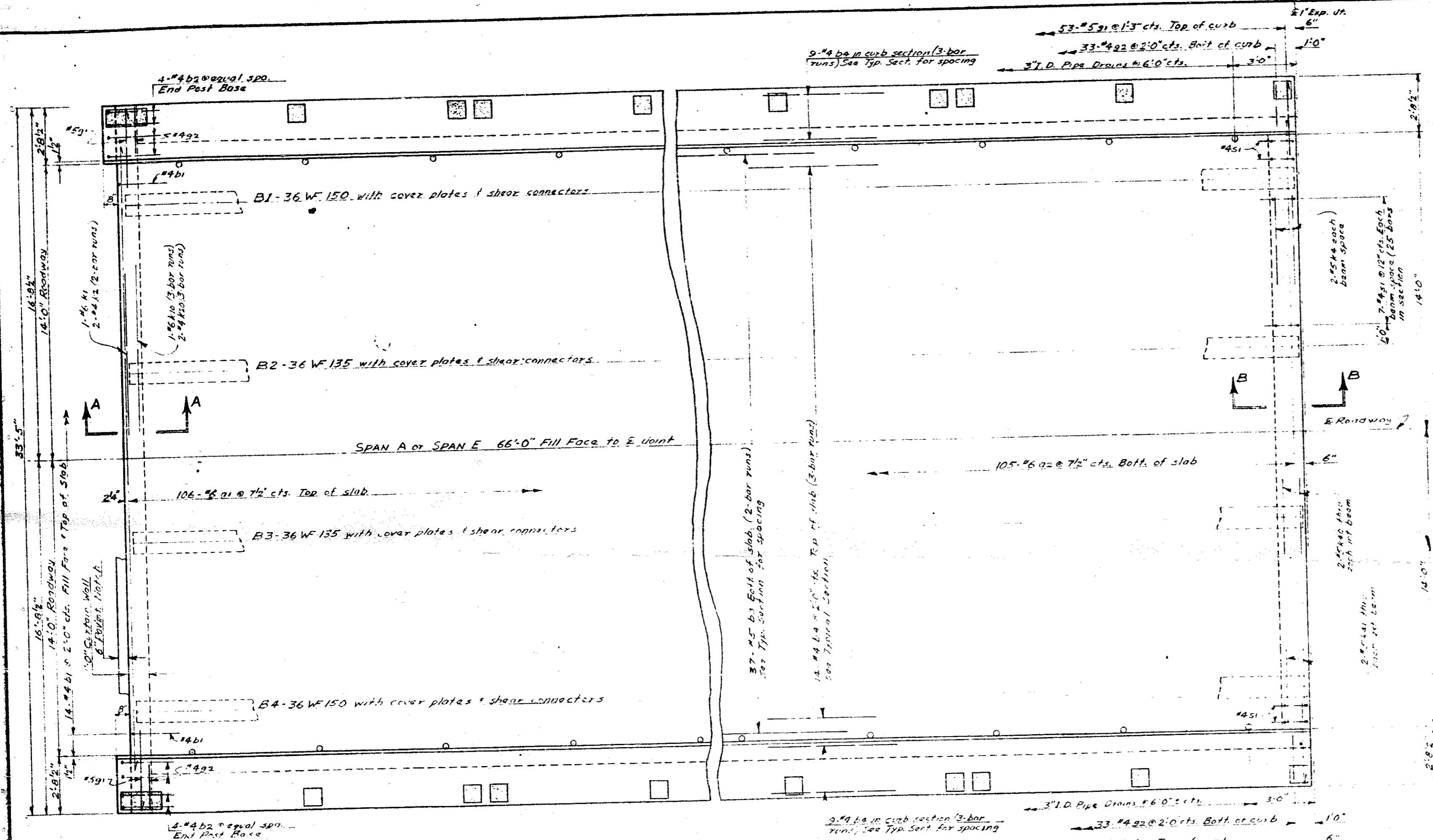
DETAIL A

SPECIAL STANDARD
DRAWN BY Mack Underwood
CHECKED BY W. G. ALFORD, JR.
DATE Oct. 1962
DATE MAY 1962

STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION RALEIGH	
STANDARD TYPICAL SECTIONS 28' ROADWAY - 18" CURBS - 90° SKW 4 STEEL BEAMS - H20-S16 L.L. TAPERED CONC. POST & RAIL	
MAY 1962	
DATE	
REVISIONS	

FILE NO.	DATE	BY
8	10/18/62	MLK
PROJECT NO.	818246	
STATION	98+20	

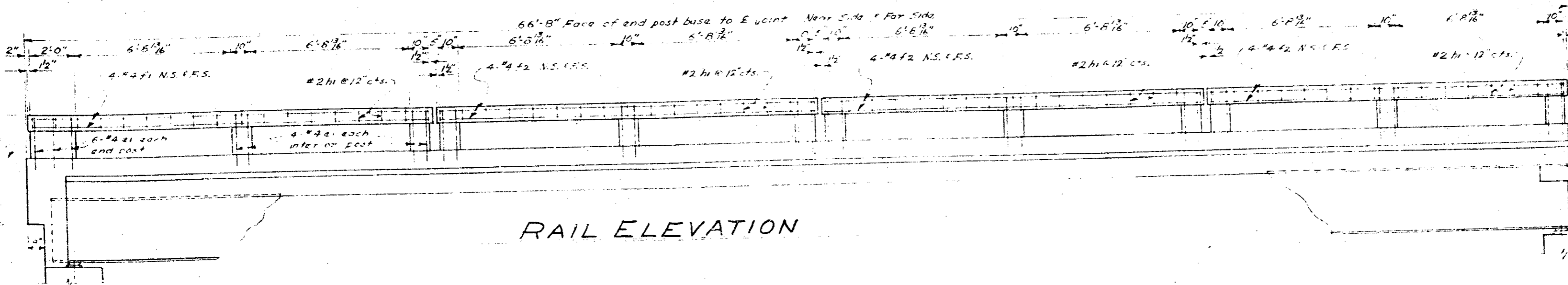
Sheet 65 of 388



DEAD LOAD DEFLECTION

	INT. BRGS.	EXT. BRGS.
Deflection due to weight of beam	14"	36"
Deflection due to superimposed dead load	116"	156"
Total dead load deflection	130"	192"
Required beam camber	130"	192"

PART PLAN - SPAN A OR SPAN E



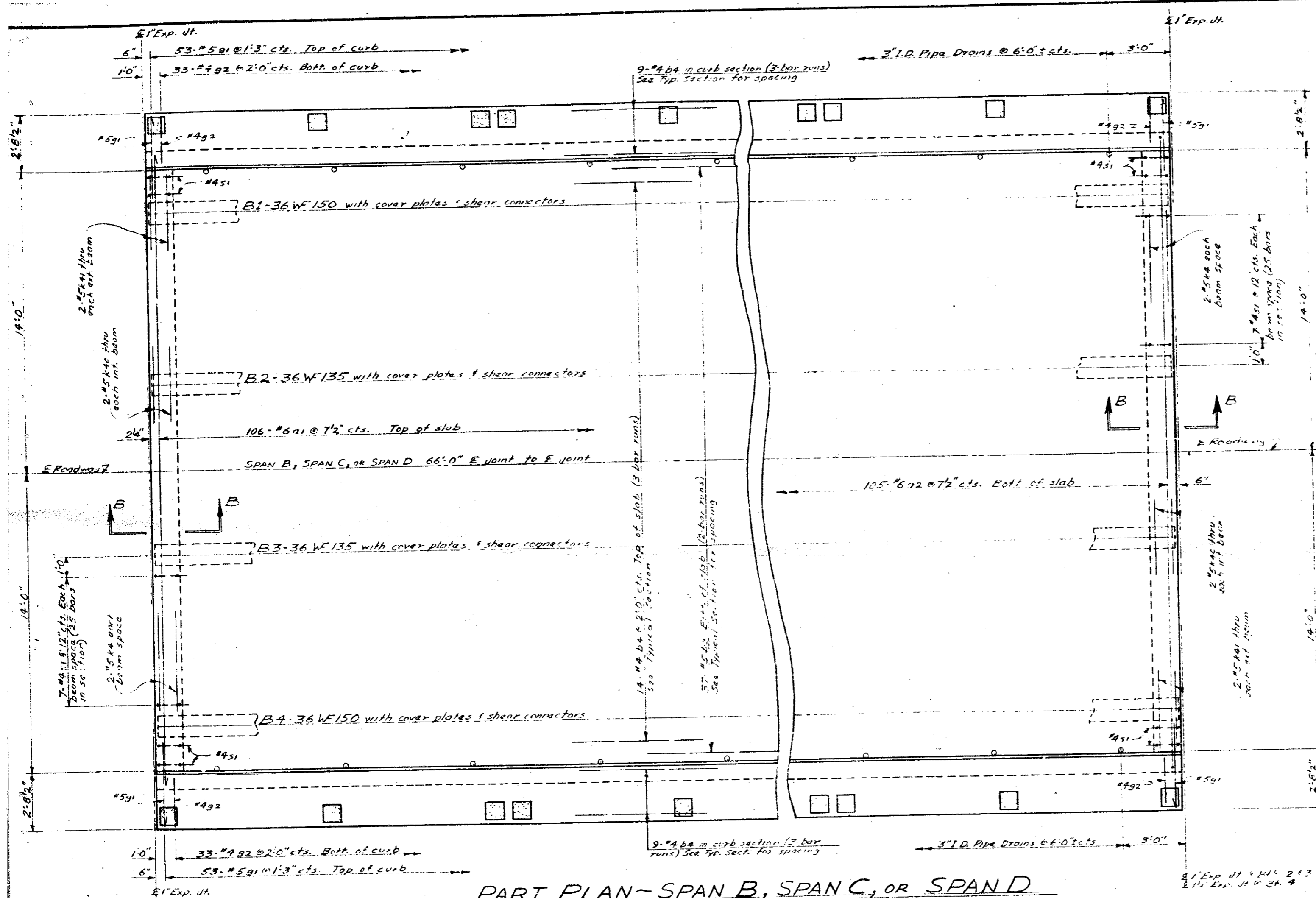
RAIL ELEVATION

PROJECT NO. 818246
 CLEVELAND COUNTY
 STATION 98+20

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 RALEIGH
SUPERSTRUCTURE
 PLAN - SPAN "A" OR SPAN "E"

Oct. 1962

NO.	BY	DATE	REVISIONS



BILL OF MATERIAL

Sheet 69 of 308

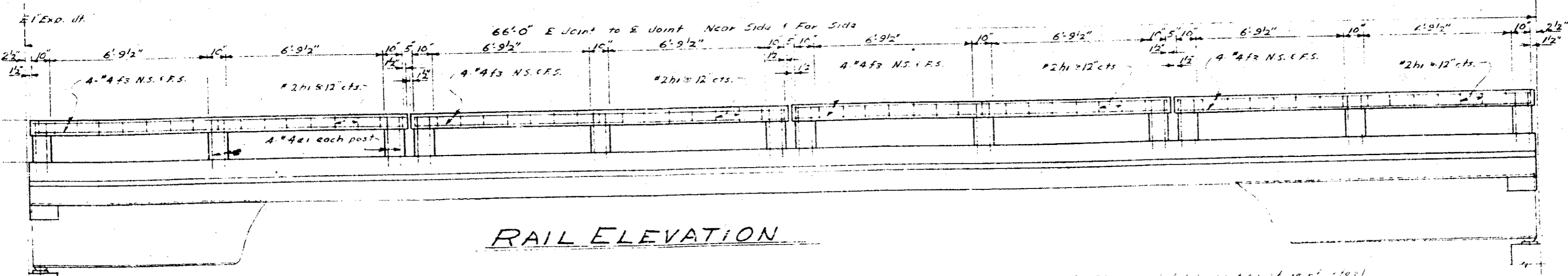
BAR TYPES		REINFORCING STEEL								
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BARS PER SPAN					
A1	#4	3	54.6"	103	74	-	-	-	74	-
A2	#6	2	71.4"	24708	106	106	106	106	106	106
B1	#4	3	54.6"	56	8	-	-	-	8	-
B2	#4	3	54.6"	14024	74	74	74	74	74	74
B3	#4	SP	48.0"	7268	96	96	96	96	96	96
B4	#4	3	25.1"	957	700	96	96	96	96	100
C1	#4	SP	17.0"	182	8	-	-	-	8	-
C2	#4	SP	15.0"	308	24	-	-	-	24	-
C3	#4	SP	16.0"	1026	-	32	32	32	-	-
D1	#5	4	51.4"	2244	106	106	106	106	106	106
D2	#4	SP	21.4"	514	66	66	66	66	66	66
E1	#4	5	24.7"	295	138	138	138	138	138	138
F1	#4	SP	33.0"	99	1	-	-	-	1	-
F2	#4	SP	12.4"	111	3	-	-	-	3	-
F3	#4	SP	17.2"	92	4	-	-	-	4	-
F4	#4	SP	11.10"	95	6	-	-	-	6	-
G1	#4	6	31.2"	423	25	50	50	50	50	25
H1	#5	SP	51.8"	384	6	12	12	12	6	6
H2	#5	SP	31.0"	128	4	8	8	8	4	4
H3	#5	SP	31.9"	125	4	8	8	8	4	4

TOTAL QUANTITIES		Qty	Lbs.
Reinforcing Steel		77,433	1,100,000
Class "A" Concrete		22,100	570,000
Structural Steel		2,100	20,000

DEAD LOAD DEFLECTION

Item	Int. Am.	Ext. Bms.
Deflection due to weight of beam	14"	36"
Deflection due to superimposed dead load	11"	126"
Total dead load deflection	134"	162"
Required beam camber	134"	162"

PART PLAN - SPAN B, SPAN C, OR SPAN D



RAIL ELEVATION

PROJECT No. 8,18246
 CLEVELAND COUNTY
 STATION 98+20

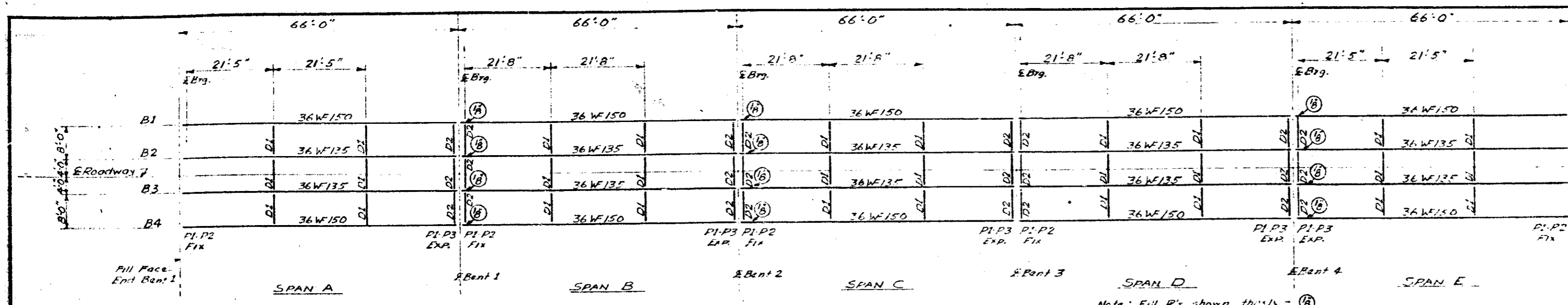
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 BALDWIN
SUPERSTRUCTURE
 PLAN - SPAN "B" "C" OR "D"
 & BILL OF MATERIAL
 Oct. 1962

REVISIONS	DATE	BY
1	10/1/62	J.M.U.

54

For "I" (see 6, 7) To correct no. of bars and total quantities in Bill of Material, by U.M.A. & by NMS.

FED. ROAD DIV. NO.	STATE	PROJECT NO.
8	N.C.	8.1824
K.A. PRIMER F-18-7(4)		

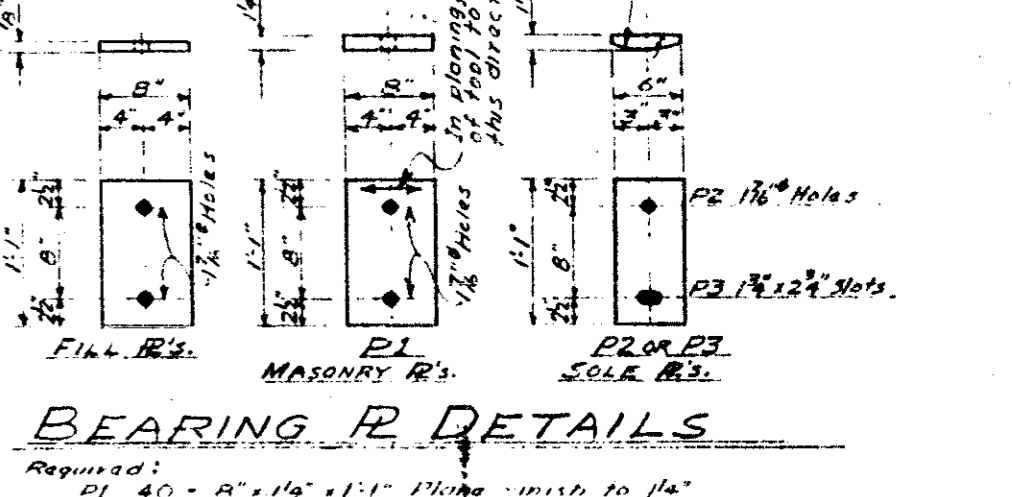
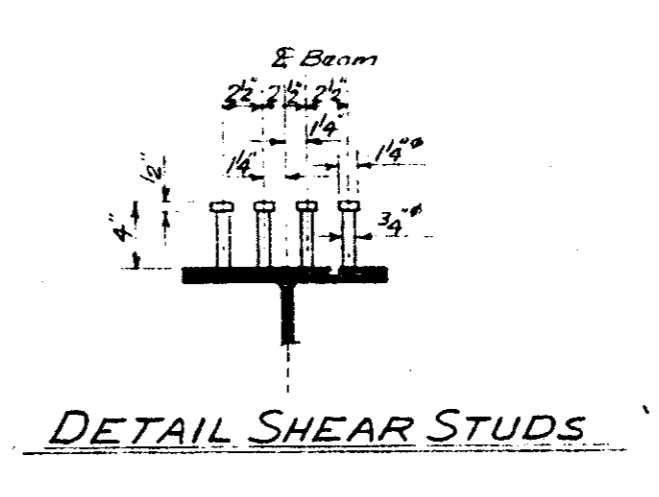
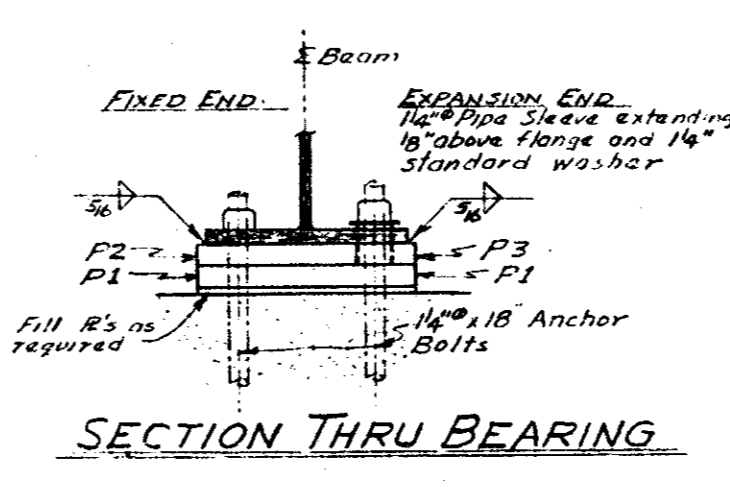
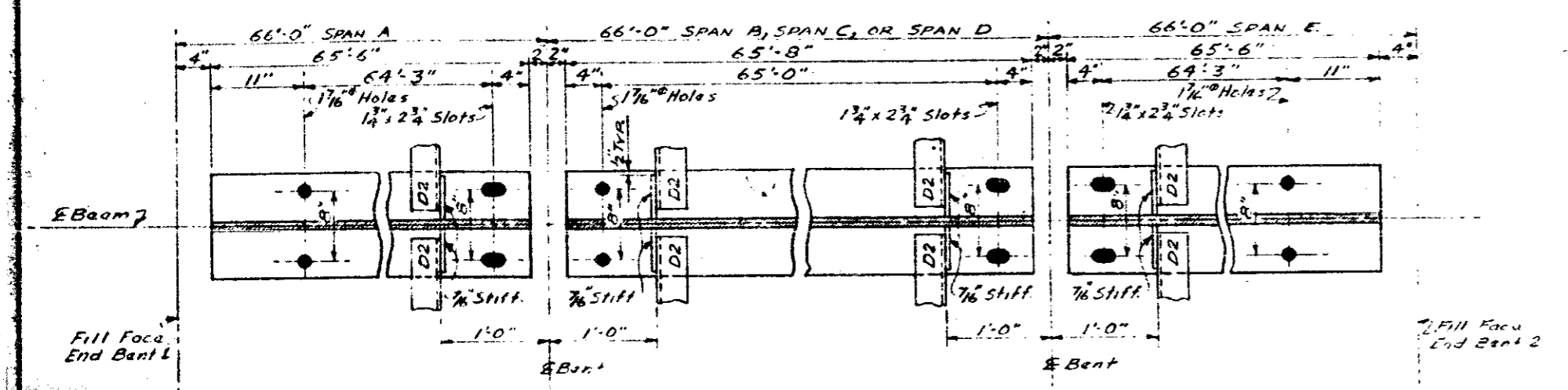


NOTE Beams to be shop numbered as follows:

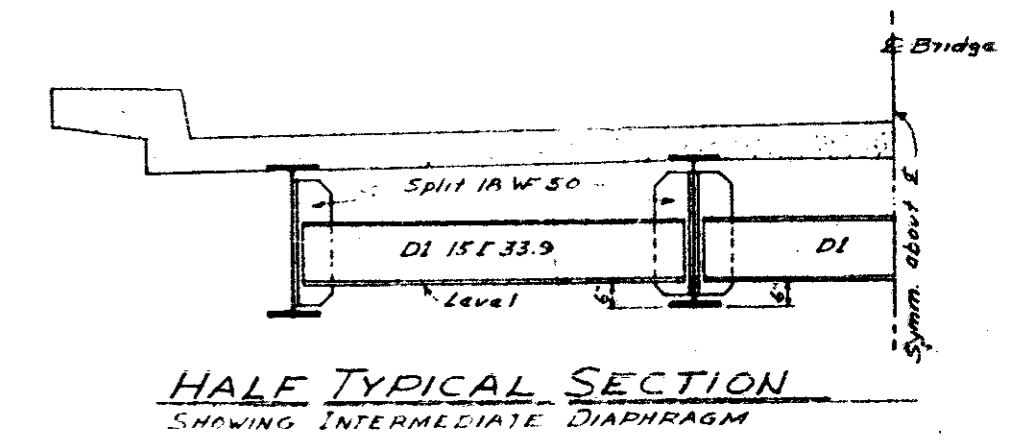
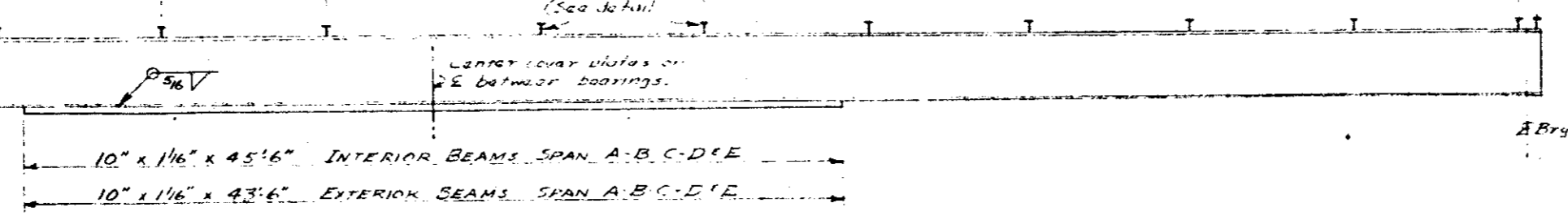
SPAN	INT. BEAMS	EXT. BEAMS
SPAN A	17"	12"
SPAN B	13"	12"
SPAN C	13"	12"
SPAN D	13"	12"
SPAN E	13"	12"

Field connections of diaphragms to beams shall be bolted using 3/4" high strength field bolts in accordance with the Specifications and Special Provisions.

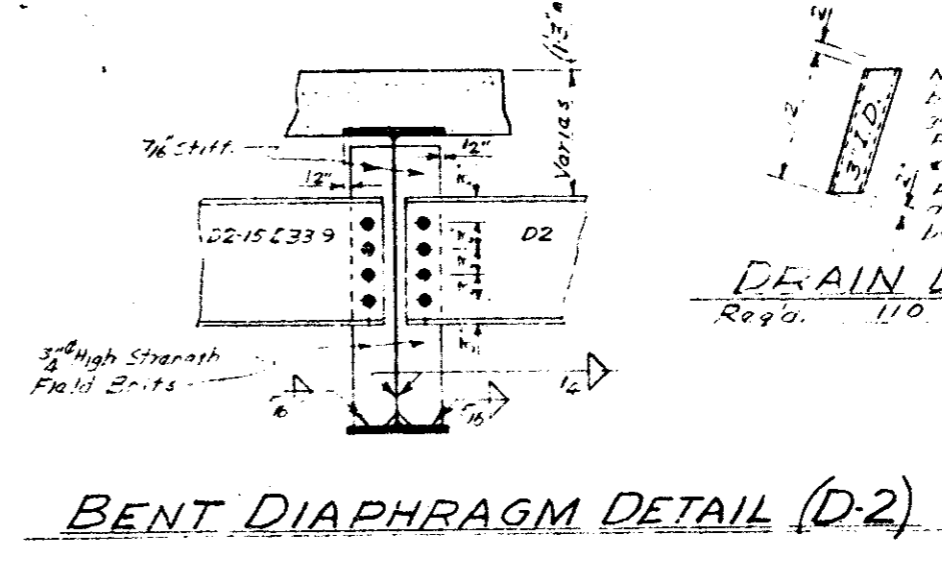
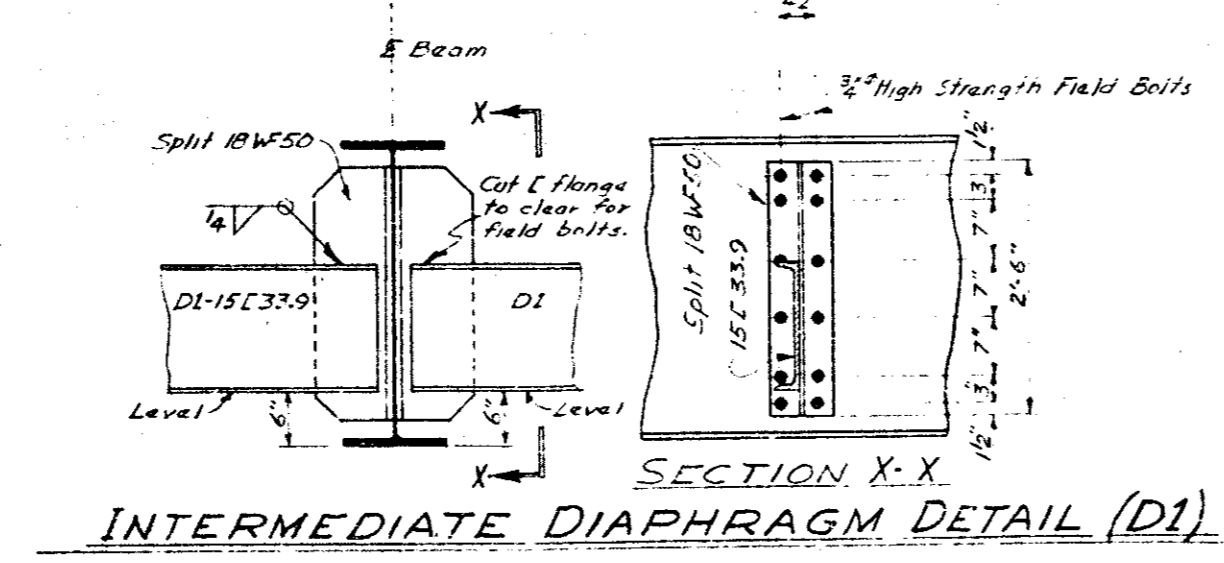
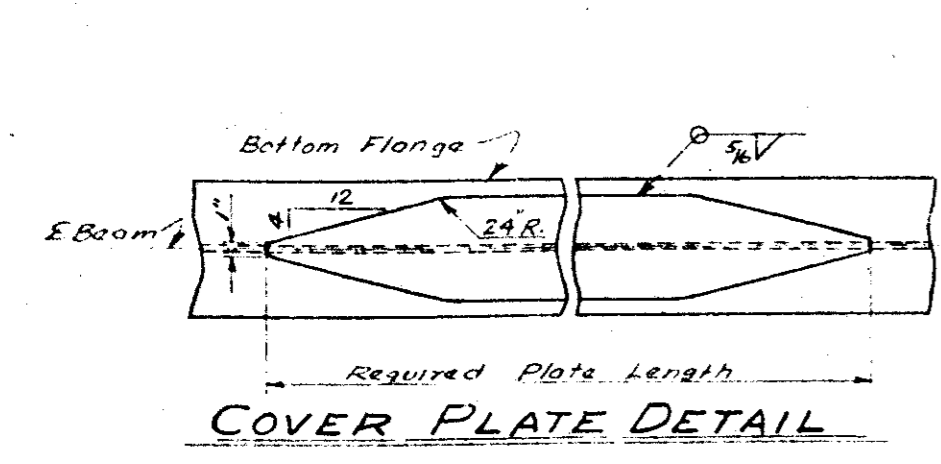
All beams, cover plates, and channel shear connectors shall be of ASTM A36 grade structural steel. See Sheet 5-N.



No. Studs Per Beam	Span A	Span B	Span C	Span D	Span E
396	2" 7 sp. @ 5'2" = 3'2"	15 sp. @ 6'7" = 10'0"	8 sp. @ 7'2" = 5'8"	7 sp. @ 9'5" = 6'7"	4 sp. @ 10'2" = 5'6"
740	2" 10 sp. @ 6' = 5'0"	15 sp. @ 7'2" = 10'0"	7 sp. @ 9'5" = 6'7"	4 sp. @ 10'2" = 5'6"	2 sp. @ 11'3" = 2'3"
396	2" 2 sp. @ 5'2" = 2'9"	15 sp. @ 6'7" = 10'0"	8 sp. @ 7'2" = 5'8"	7 sp. @ 9'5" = 6'7"	4 sp. @ 10'2" = 5'6"
740	2" 10 sp. @ 6' = 5'0"	15 sp. @ 7'2" = 10'0"	7 sp. @ 9'5" = 6'7"	4 sp. @ 10'2" = 5'6"	2 sp. @ 11'3" = 2'3"



Note: Web stiffeners to be parallel to the beam ends.



NOTE: Drawn to be 1/4" high strength field bolts with 2 field bolts of 1/4" minimum diam. Top of bolts shall be set 3/8" below surface of slab.

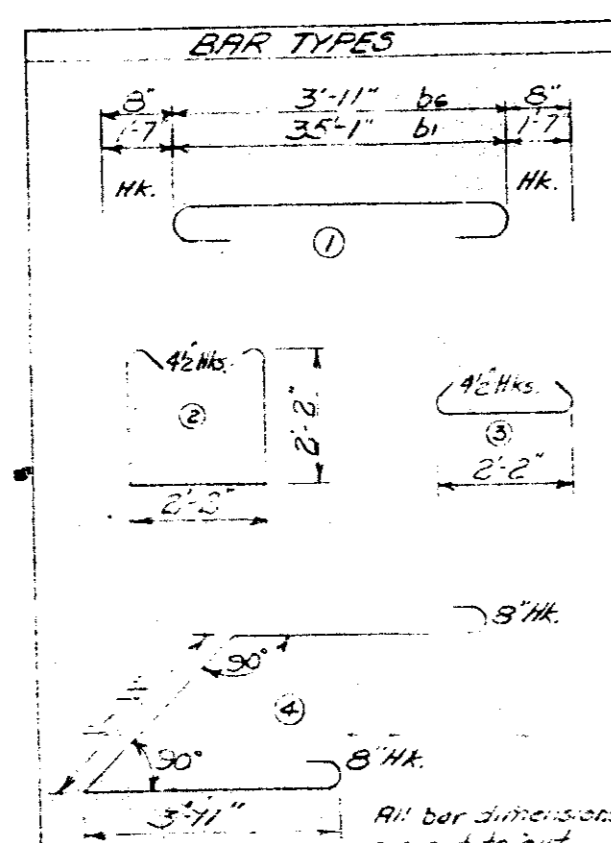
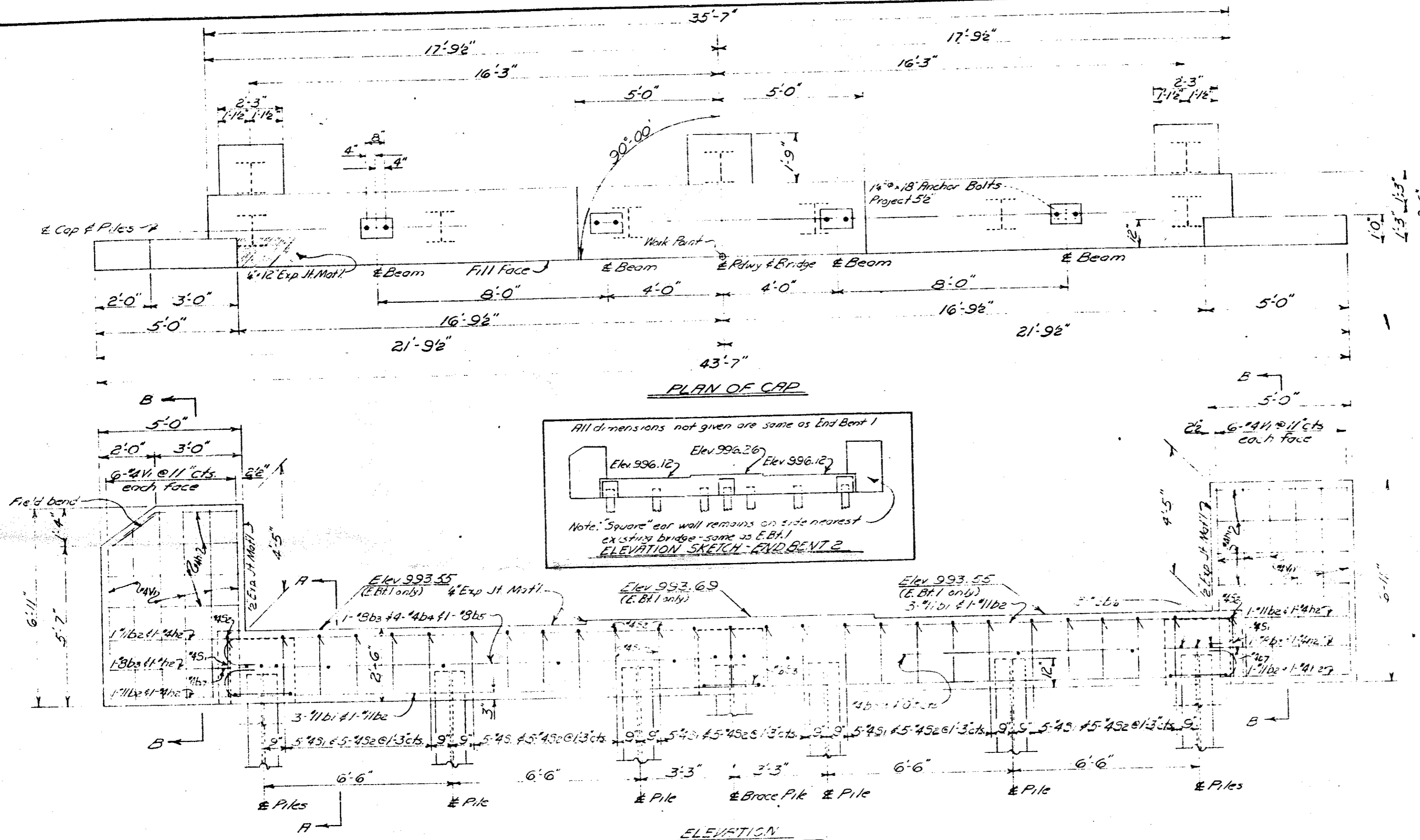
PROJECT No. 8.18246
CLEVELAND COUNTY
STATION 98+20

REVISIONS		DATE	BY
NO.	DATE	BY	

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH
SUPERSTRUCTURE
STRUCTURAL STEEL DETAILS

Oct., 1962

SHEET NO. 20
TOTAL SHEETS 54



BILL OF MATERIAL - FOR ONE END BENT TWO (2) REQUIRED

Bar No.	Size	Type	Length	Weight
b1	6 #11	1	38'-3"	1,215
b2	2 #11	Str.	43'-1"	453
b3	1 #8	Str.	43'-1"	115
b4	8 #4	Str.	18'-2"	57
b5	1 #8	Str.	35'-1"	54
b6	9 #6	1	5'-3"	71
b7	10 #4	Str.	2'-2"	14
n1	10 #4	Str.	4'-8"	50
n2	6 #4	Str.	5'-3"	27
s1	27 #4	2	7'-3"	121
s2	27 #4	3	2'-11"	63
s3	3 #6	4	11'-1"	50
v1	24 #4	Str.	6'-7"	106

Class "A" Concrete
 Reinforcing Steel
 12.153 Steel Piles No. 9 Lin. Ft. 450 End Bent 1 only
 12.153 Steel Piles No. 5 Lin. Ft. 322 End Bent 2 only

Note: Piles to be driven to a minimum bearing capacity of 30 tons each.
 For pile splice detail if required see End Bent 1 & 2 Sta. 63+38.
 The level ear wall is to be on the side nearest the existing bridge.

PROJECT No. 8.18246
 CLEVELAND COUNTY
 STATION 98+20

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 RALPHH
 SUBSTRUCTURE
 END BENTS 1 & 2

OCTOBER 1962

REVISIONS

NO.	DATE	BY	DATE	BY
1				
2				
3				

5-2
 3-2

BILL OF MATERIAL
BENT 1

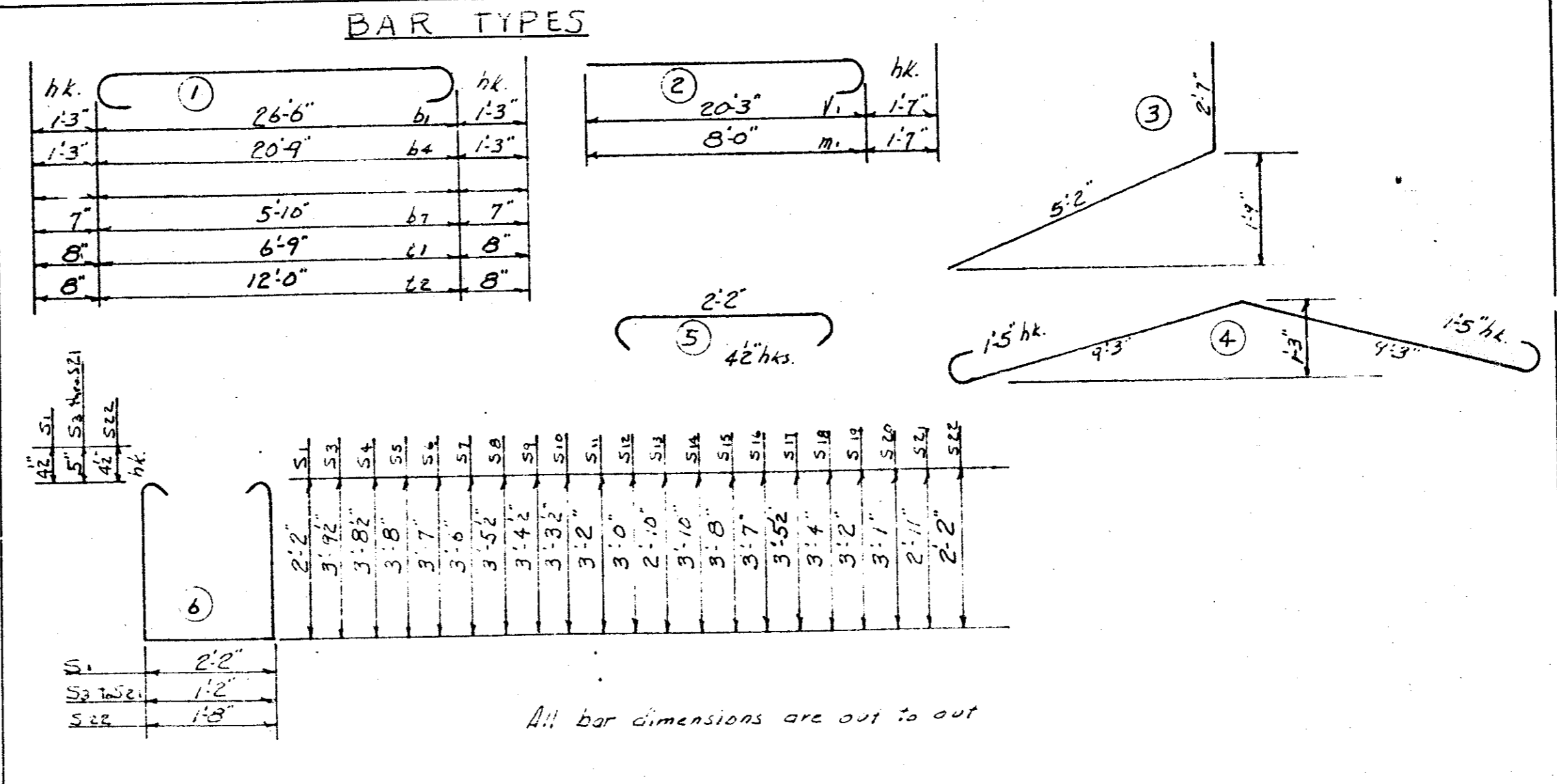
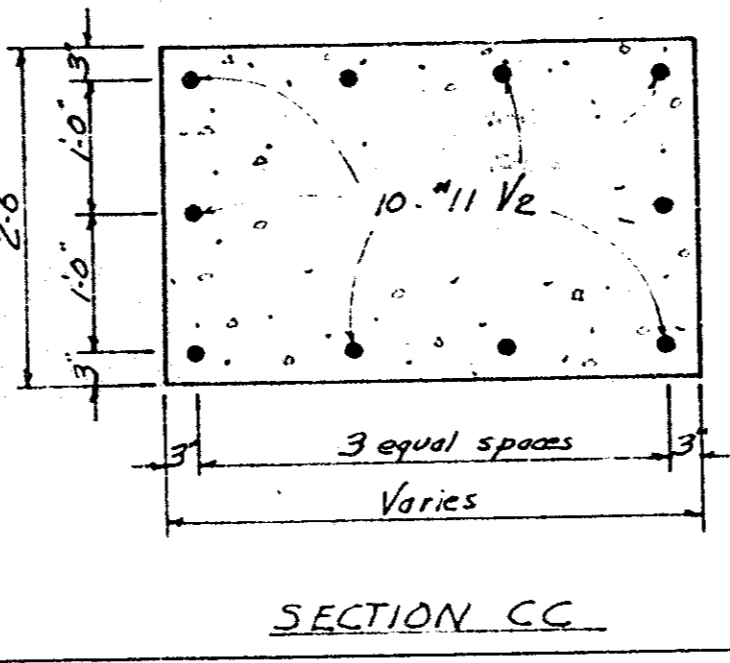
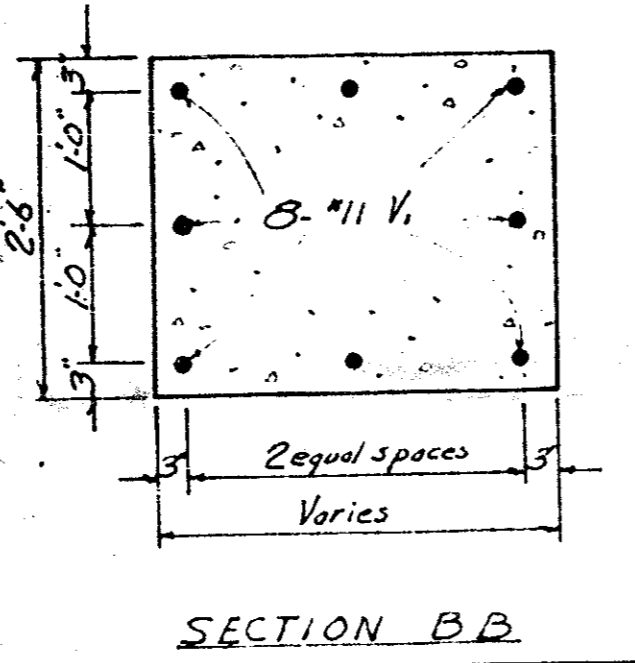
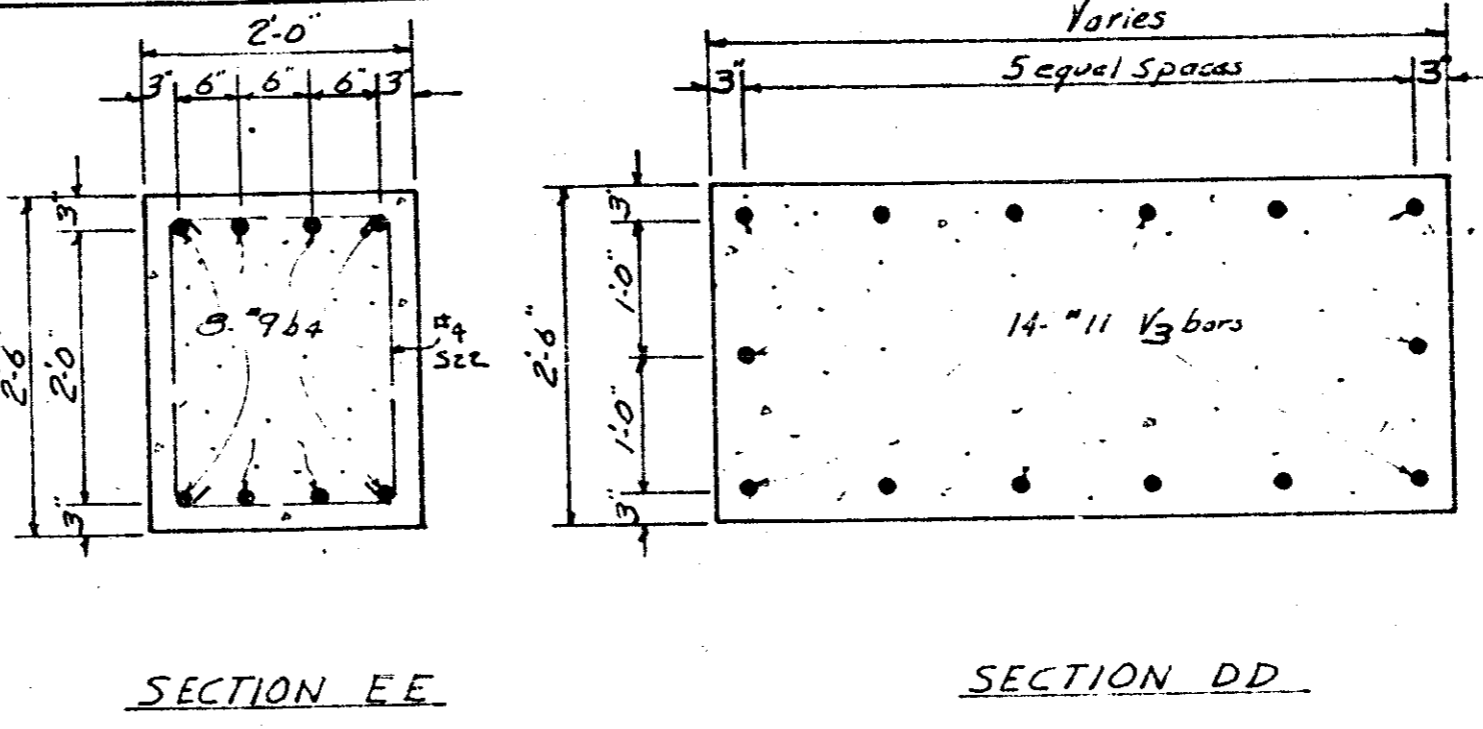
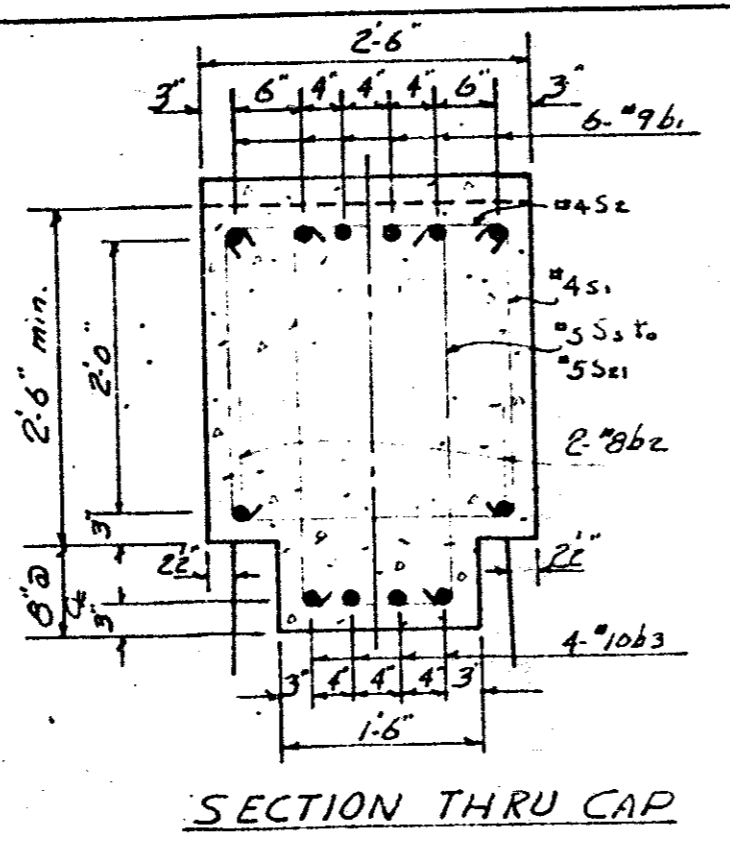
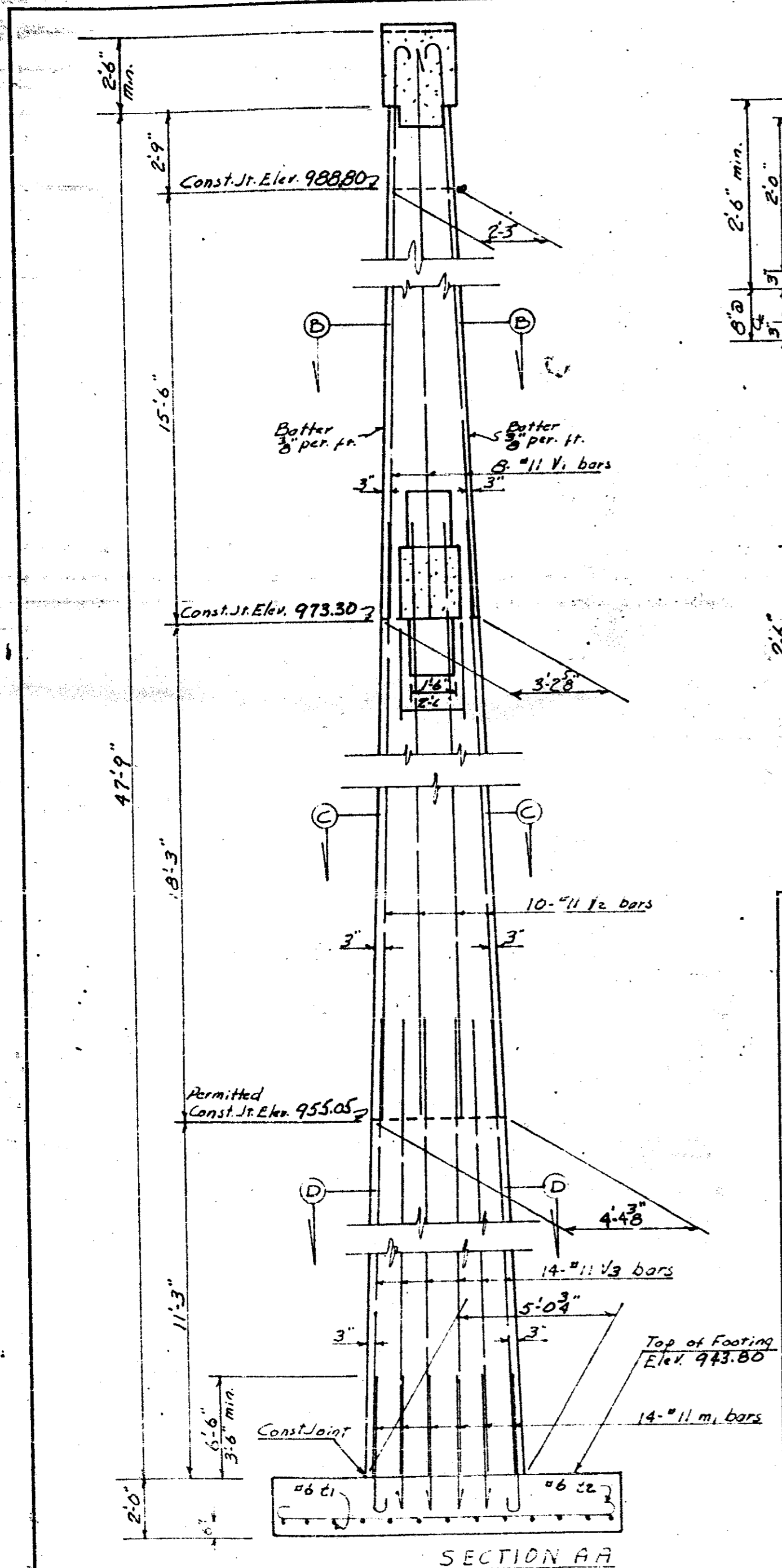
BAR NO	NO	SIZE	TYPE	LENGTH	WEIGHT
b1	6	#9	1	29'0"	92
b2	2	#8	Str.	26'6"	42
b3	4	#10	4	21'4"	37
b4	8	#9	1	23'3"	82
b5	2	#8	Str.	26'6"	42
b6	6	#5	3	7'9"	40
b7	12	#5	1	7'0"	98
s1	18	#4	6	7'3"	87
s2	16	#4	5	2'11"	37
s3	2	#5	6	9'7"	20
s4	2	#5	6	9'5"	20
s5	2	#5	6	9'4"	19
s6	2	#5	6	9'5"	19
s7	2	#5	6	9'8"	19
s8	2	#5	6	8'11"	19
s9	2	#5	6	8'9"	18
s10	2	#5	6	8'7"	18
s11	2	#5	6	8'4"	17
s12	2	#5	6	8'0"	17
s13	1	#5	6	7'8"	17
s14	2	#5	6	9'8"	20
s15	2	#5	6	9'6"	19
s16	2	#5	6	9'2"	19
s17	2	#5	6	8'11"	19
s18	2	#5	6	8'8"	18
s19	2	#5	6	8'4"	17
s20	2	#5	6	8'2"	17
s21	2	#5	6	7'10"	16
s22	14	#4	6	6'9"	63
v1	16	#11	2	21'10"	156
v2	20	#11	Str.	21'9"	211
v3	28	#11	Str.	18'9"	294
m1	28	#11	2	9'7"	126
c1	26	#6	1	8'1"	316
c2	28	#6	1	13'4"	561

NOTES
Computed foundation pressure equals 3 1/2 tons per sq. ft.
Reinforcing steel in cap may be shifted to clear anchor bolts.

PROJECT NO. 8.18246
CLEVELAND COUNTY
STATION: 98+20
Sheet 2 of 2

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH
SUBSTRUCTURE
BENT 1

October 1928
SHEET NO. 523
TOTAL SHEETS 54



DRAWN BY James N. Palmer DATE OCT. 1928
CHECKED BY Neil M. Selman DATE Nov. 1928

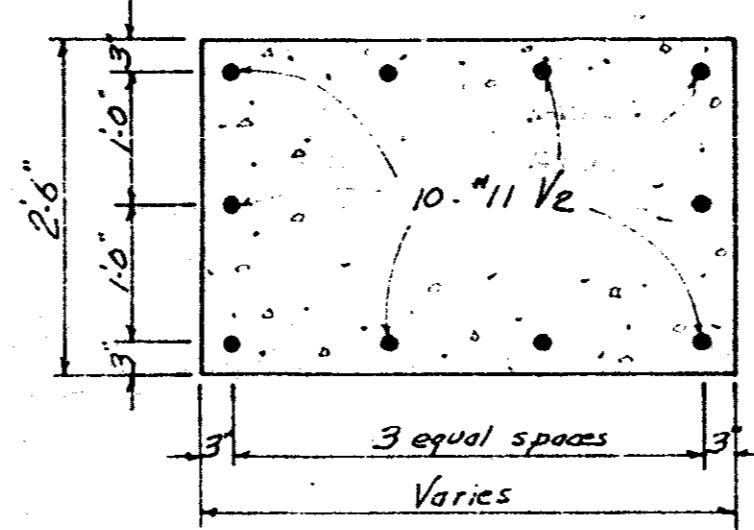
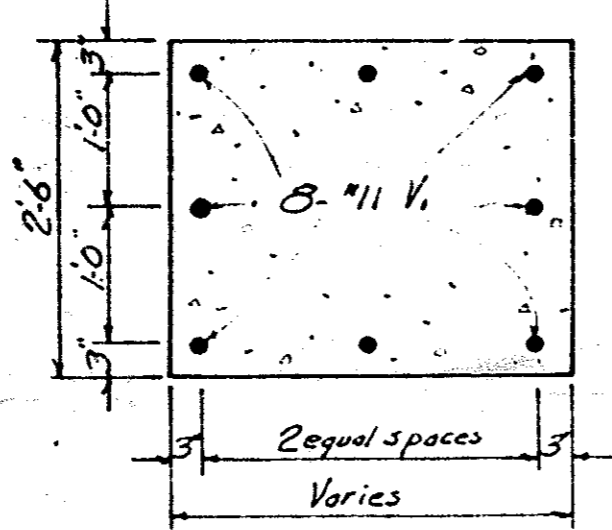
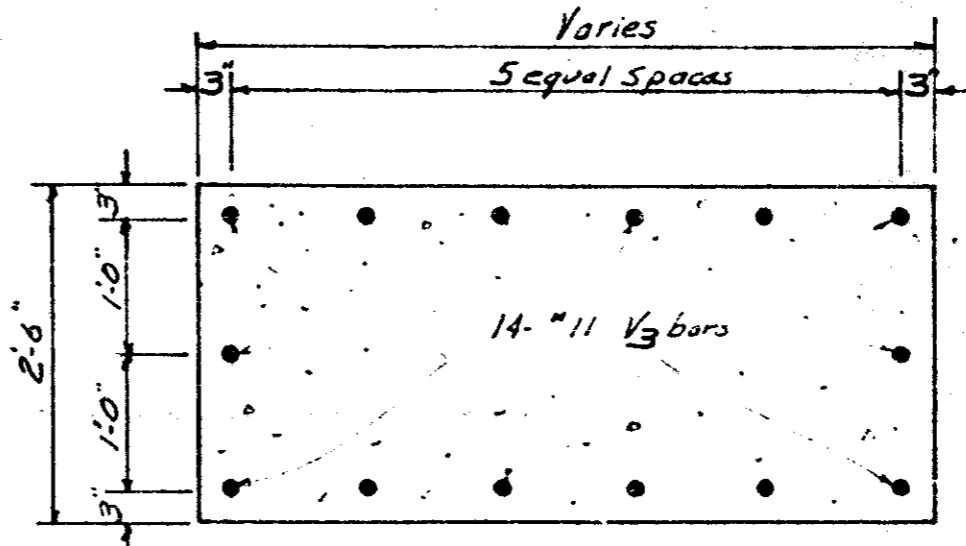
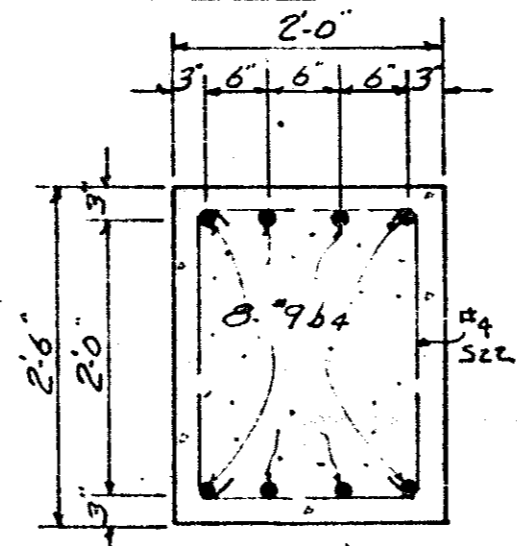
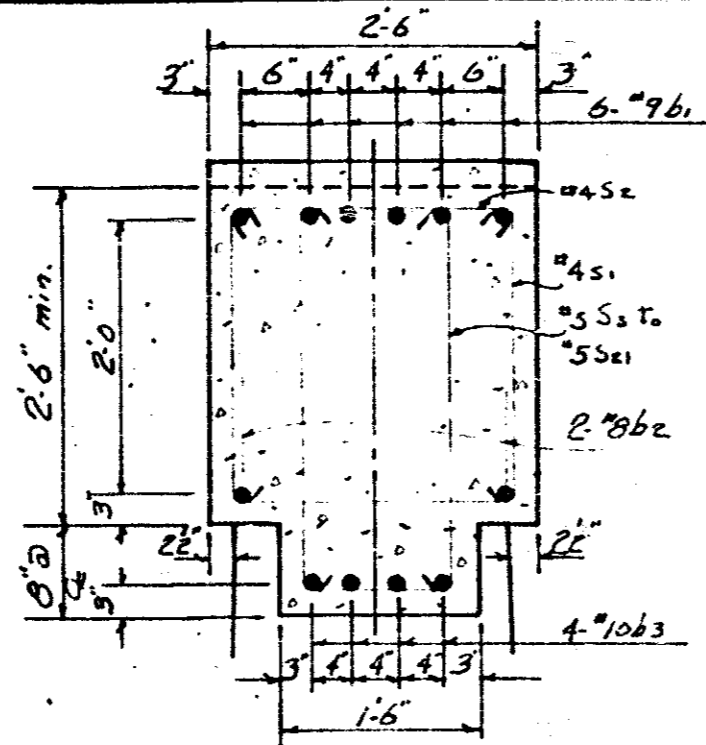
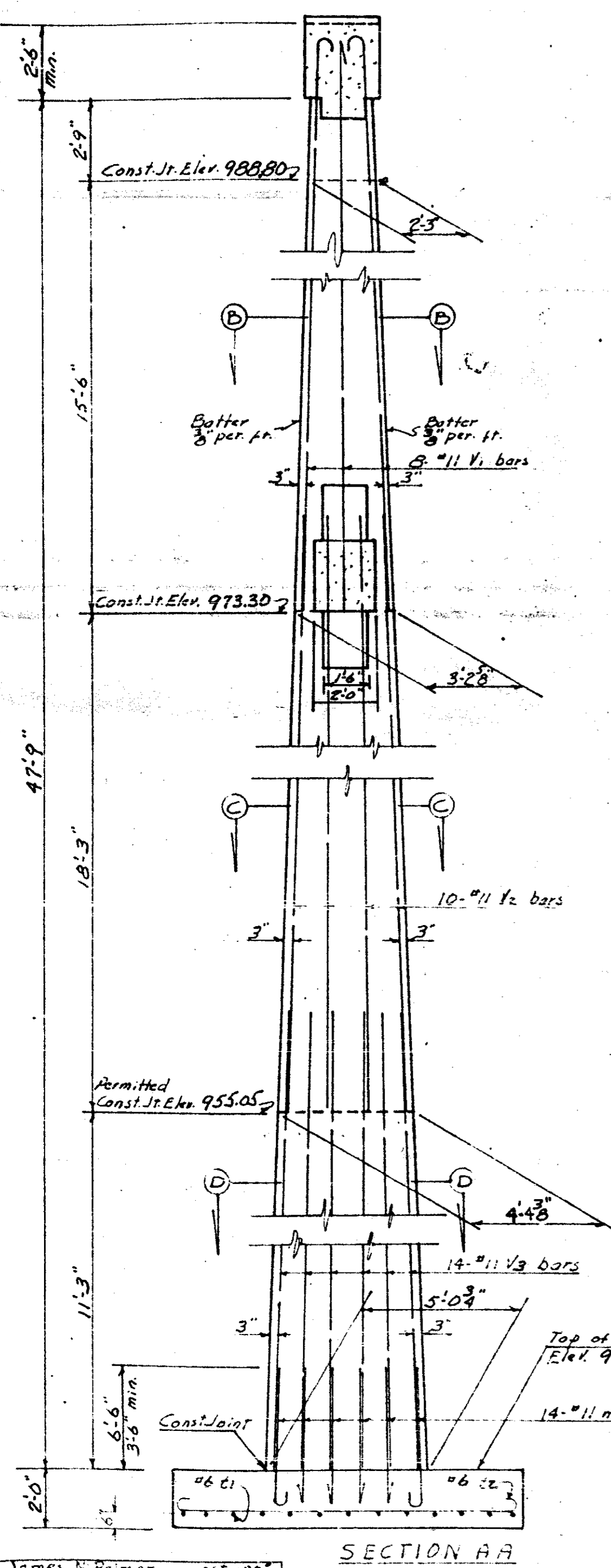
FED. ROAD DIV. NO.	STATE	PROJECT NO.
3	N.C.	818246
P.A. PROJECT F-18-174		
Sheet 73 of 308		

BILL OF MATERIAL
BENT 1

BAR NO	SIZE	TYPE	LENGTH	WEIGHT
b1	6 #9	1	27'-0"	598
b2	2 #8 Str.	2	24'-6"	142
b3	4 #10	4	21'-4"	367
b4	8 #9	1	23'-3"	632
b5				
b6	6 #5	3	7'-9"	48
b7	12 #5	1	7'-0"	88
s1	18 #4	6	7'-3"	87
s2	16 #4	5	2'-11"	31
s3	2 #5	6	9'-7"	22
s4	2 #5	6	9'-5"	20
s5	2 #5	6	9'-4"	19
s6	2 #5	6	9'-5"	19
s7	2 #5	6	9'-8"	19
s8	2 #5	6	8'-11"	17
s9	2 #5	6	8'-9"	16
s10	2 #5	6	8'-7"	16
s11	2 #5	6	8'-4"	17
s12	2 #5	6	8'-0"	17
s13	1 #5	6	7'-8"	8
s14	2 #5	6	9'-8"	20
s15	2 #5	6	9'-4"	19
s16	2 #5	6	9'-8"	19
s17	2 #5	6	8'-11"	19
s18	2 #5	6	8'-8"	18
s19	2 #5	6	8'-4"	17
s20	2 #5	6	8'-2"	17
s21	2 #5	6	7'-10"	16
s22	14 #4	6	6'-9"	63
v1	16 #11	2	21'-10"	1856
v2	20 #11 Str.	2	21'-9"	2311
v3	28 #11 Str.	1	16'-7"	2194
m1	28 #11	2	9'-7"	1426
c1	26 #6	1	8'-1"	316
c2	28 #6	1	13'-4"	561

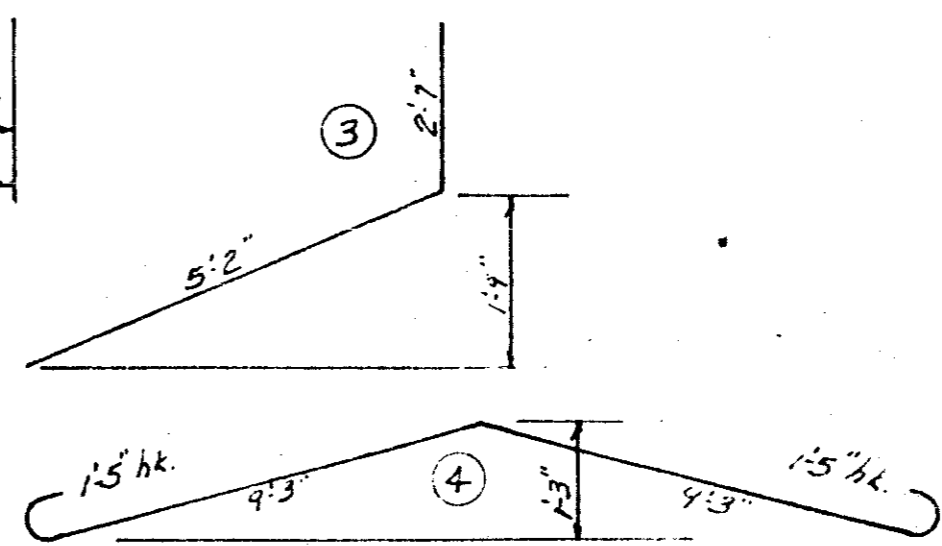
NOTES

Computed foundation pressure equals 3 1/2 tons per sq. ft.
Reinforcing steel in cap may be shifted to clear Anchor bolts.



BAR TYPES

hk. 1-3"	① 26'-6"	b1	1-3"	hk. 2-2"	② 20'-3"	v1	1-7"
1-3"	20'-9"	b4	1-3"		8'-0"	m.	1-7"
7"	5'-10"	b7	7"				
8"	6'-9"	c1	8"				
8"	12'-0"	c2	8"				



142	s1	2'-2"	s1
145	s2	3'-9 1/2"	s2
148	s3	3'-8 1/2"	s3
151	s4	3'-8"	s4
154	s5	3'-7"	s5
157	s6	3'-6"	s6
160	s7	3'-5 1/2"	s7
163	s8	3'-4 1/2"	s8
166	s9	3'-4 1/2"	s9
169	s10	3'-3 1/2"	s10
172	s11	3'-2"	s11
175	s12	3'-0"	s12
178	s13	2'-10"	s13
181	s14	3'-10"	s14
184	s15	3'-8"	s15
187	s16	3'-7"	s16
190	s17	3'-5 1/2"	s17
193	s18	3'-4"	s18
196	s19	3'-2"	s19
199	s20	3'-1"	s20
202	s21	2'-11"	s21
205	s22	2'-2"	s22

All bar dimensions are out to out

PROJECT No. 818246
CLEVELAND COUNTY
STATION: 98+20

Sheet 2 of 2

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH
SUBSTRUCTURE
BENT 1

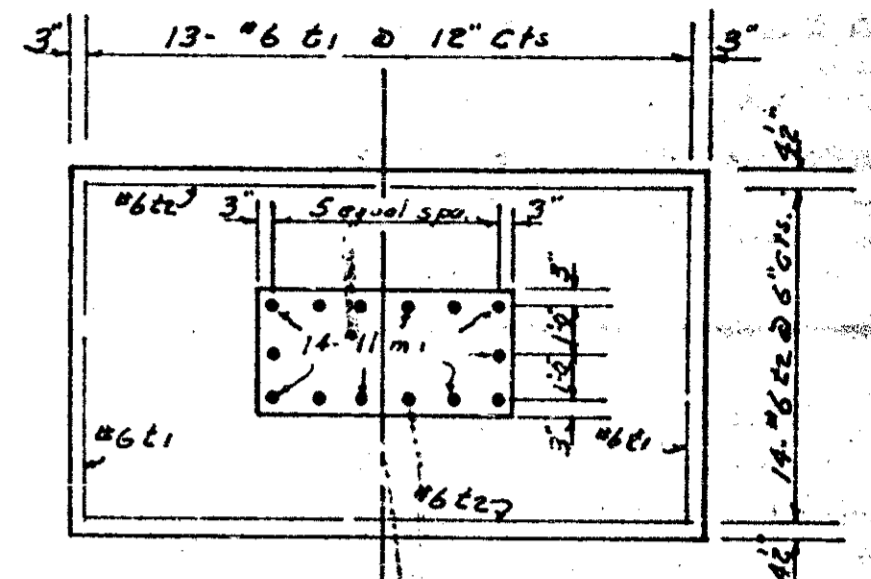
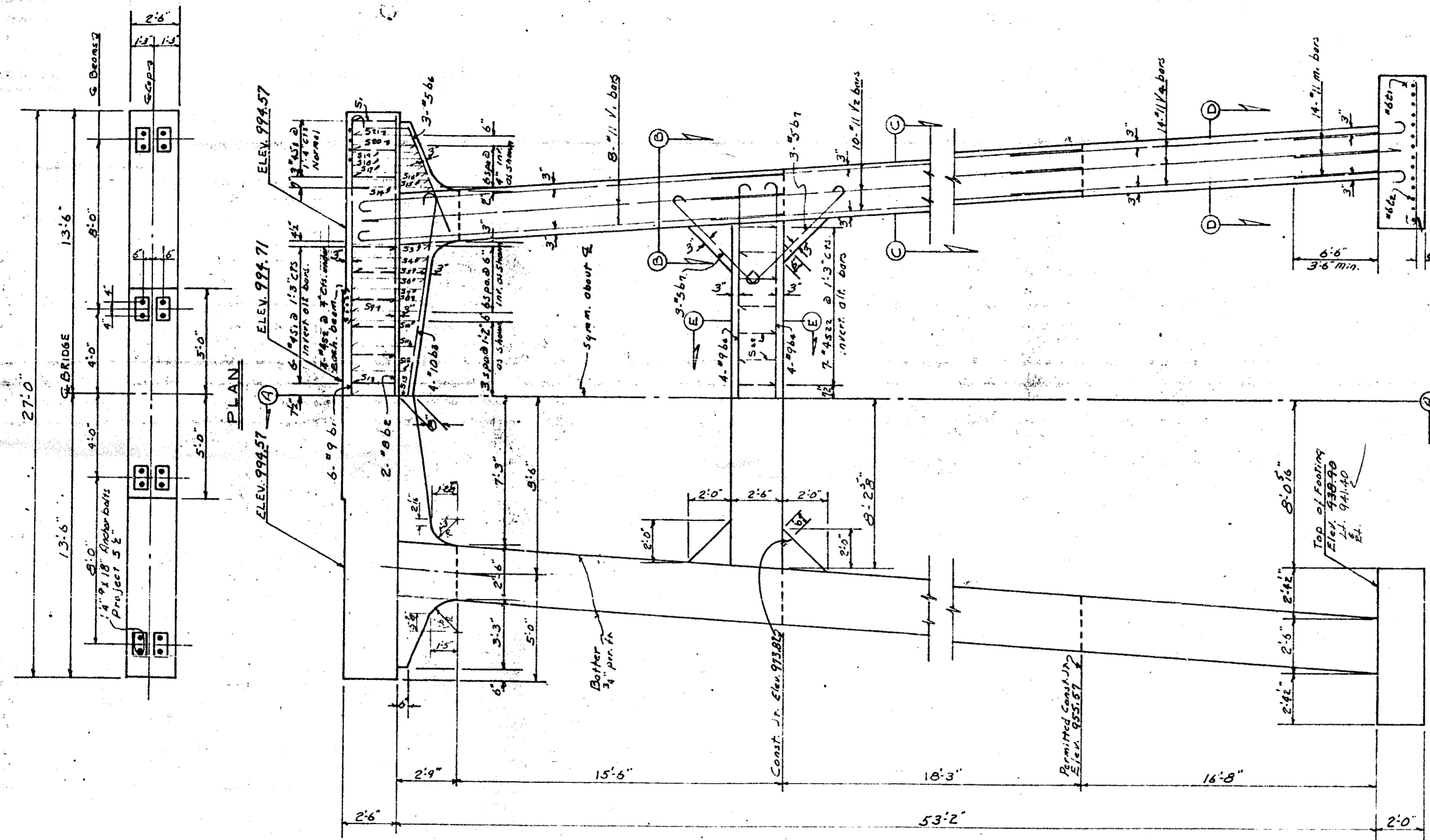
October

1962

NO.	DATE	REVISIONS

SHEET NO.	5-23
TOTAL SHEETS	54

DRAWN BY James N. Palmer DATE OCT 17 1962
CHECKED BY Neil M. Johnson DATE NOV 1962



ELEVATION

PLAN OF FOOTING

PROJECT NO. 818246
 CLEVELAND COUNTY
 STATION: 98+20
 Sheet 1 of 2

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 RALEIGH
 SUBSTRUCTURE
 BENT 2

OCTOBER 1962

SHEET NO. 5-24
 TOTAL SHEETS 54

DRAWN BY: James N. Palmer DATE: Oct. 1962
 CHECKED BY: Fred M. Salomon DATE: Nov. 1962

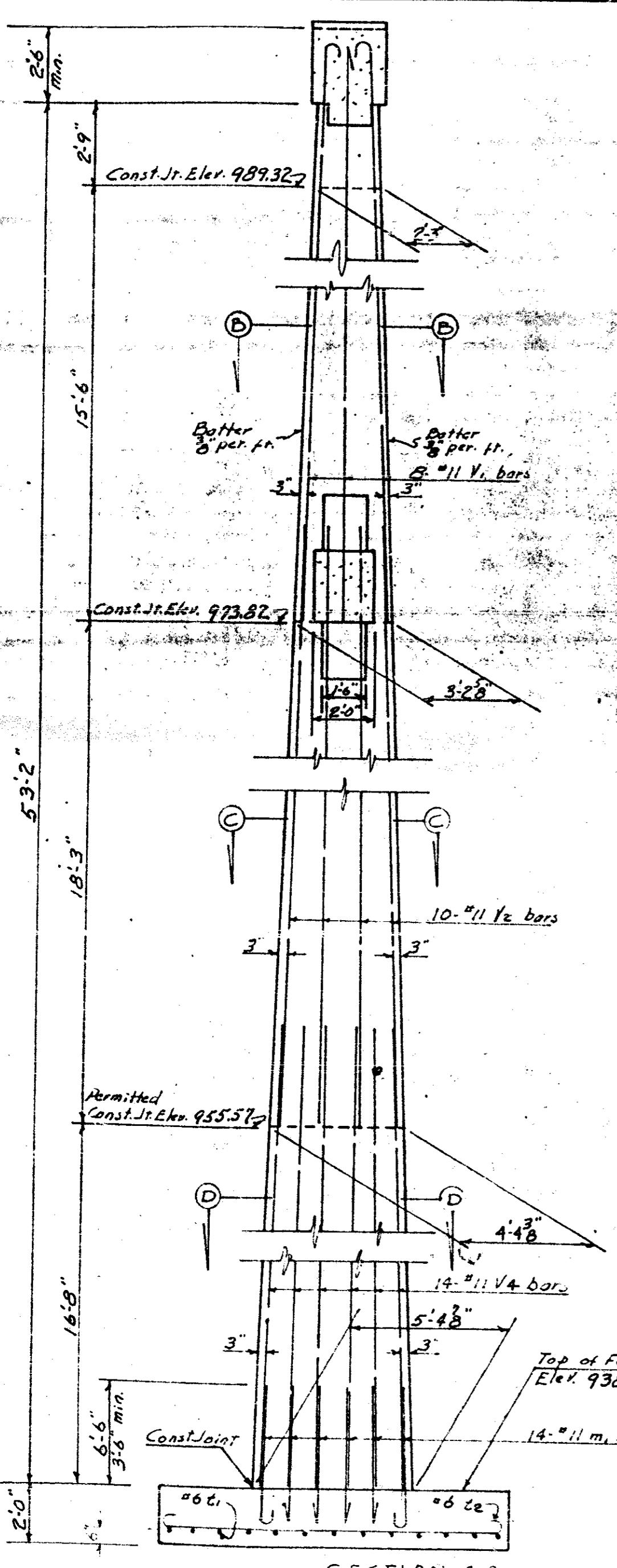
BILL OF MATERIAL
BENT 2

BAR NO	SIZE	TYPE	LENGTH	WEIGHT
b1	6	"9	1 29'0"	57
b2	2	"8 Str	26'6"	142
b3	4	"10	4 21'4"	347
b4	8	"9	1 23'3"	82
b5	6	"5	3 7'9"	40
b7	12	"5	1 7'0"	28
s1	18	"4	6 7'3"	27
s2	16	"4	5 2'11"	3
s3	2	"5	6 9'7"	2
s4	2	"5	6 9'5"	2
s5	2	"5	6 9'4"	1
s6	2	"5	6 9'2"	1
s7	2	"5	6 9'0"	1
s8	2	"5	6 8'11"	1
s9	2	"5	6 8'9"	1
s10	2	"5	6 8'7"	1
s11	2	"5	6 8'4"	1
s12	2	"5	6 8'0"	1
s13	1	"5	6 7'8"	1
s14	2	"5	6 9'0"	2
s15	2	"5	6 9'4"	1
s16	2	"5	6 9'2"	1
s17	2	"5	6 8'11"	1
s18	2	"5	6 8'8"	1
s19	2	"5	6 8'4"	1
s20	2	"5	6 8'2"	1
s21	2	"5	6 7'10"	1
s22	14	"4	6 6'9"	63
v1	16	"11	2 21'10"	185
v2	20	"11 Str	21'9"	231
v4	28	"11 Str	20'2"	300
m1	28	"11	2 9'7"	142
c1	26	"6	1 8'1"	314
c2	28	"6	1 13'4"	561

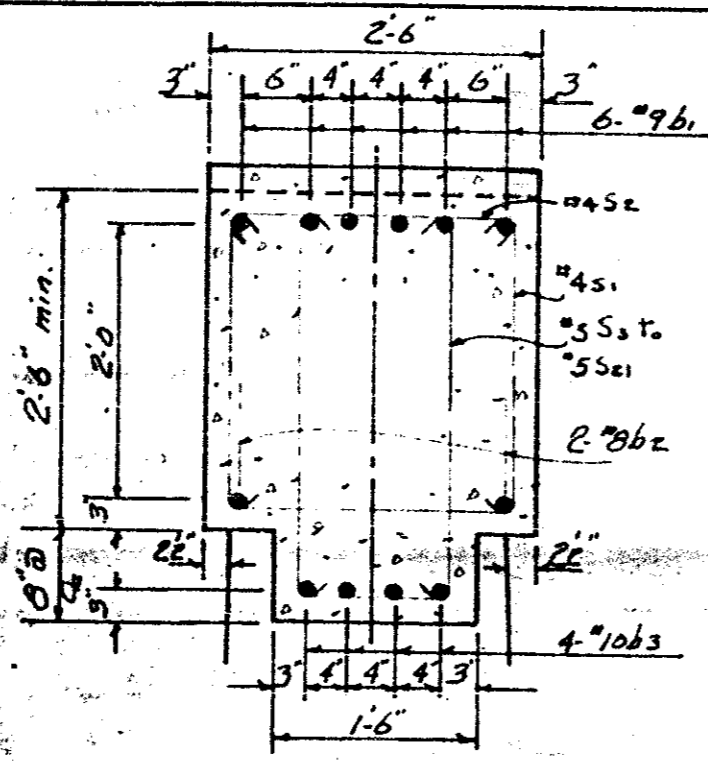
Class A Concrete Cu. Yds. 561.0
 Rein. Steel Lbs. 11859
 Dry Excavation Cu. Yds. 140.22
 Wet Excavation Cu. Yds. 225.94

NOTES

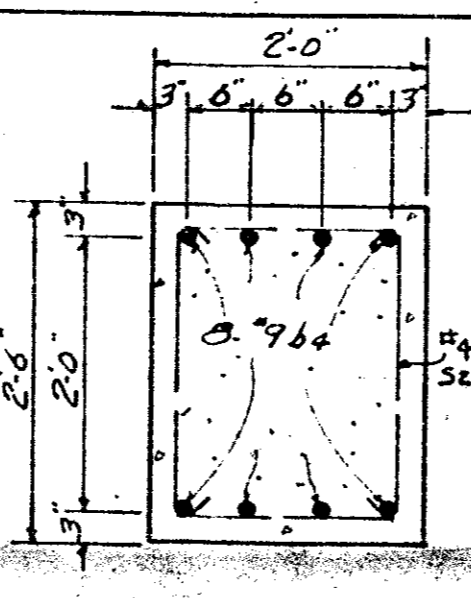
Computed foundation pressure equals 3t tons per sq. ft.
 Reinforcing steel in cap may be shifted to clear Anchor bolts.



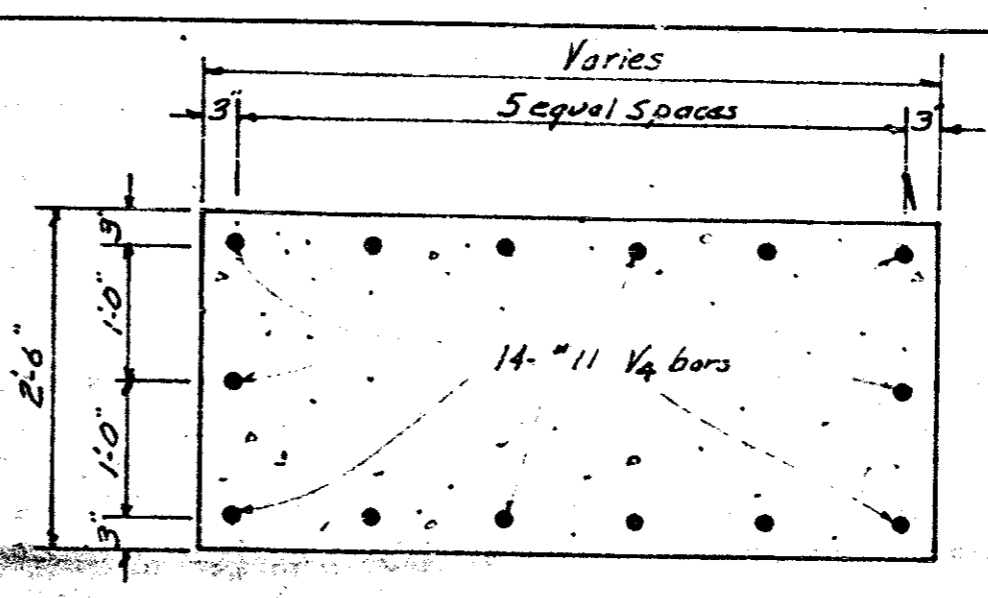
SECTION AA



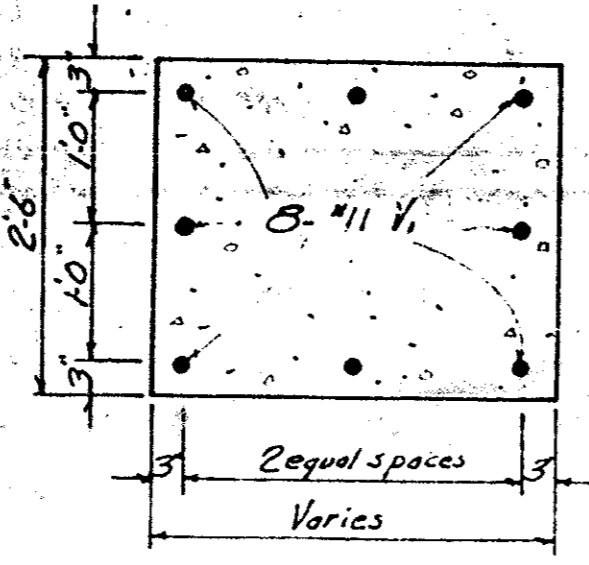
SECTION THRU CAP



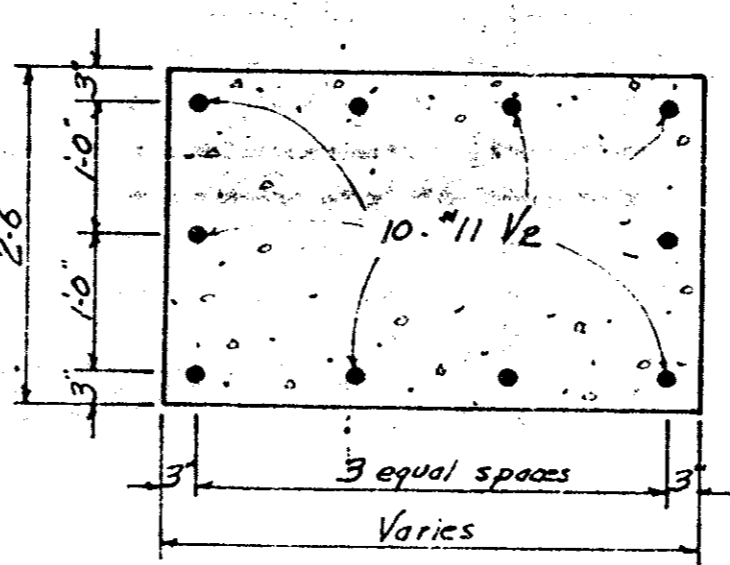
SECTION EE



SECTION DD



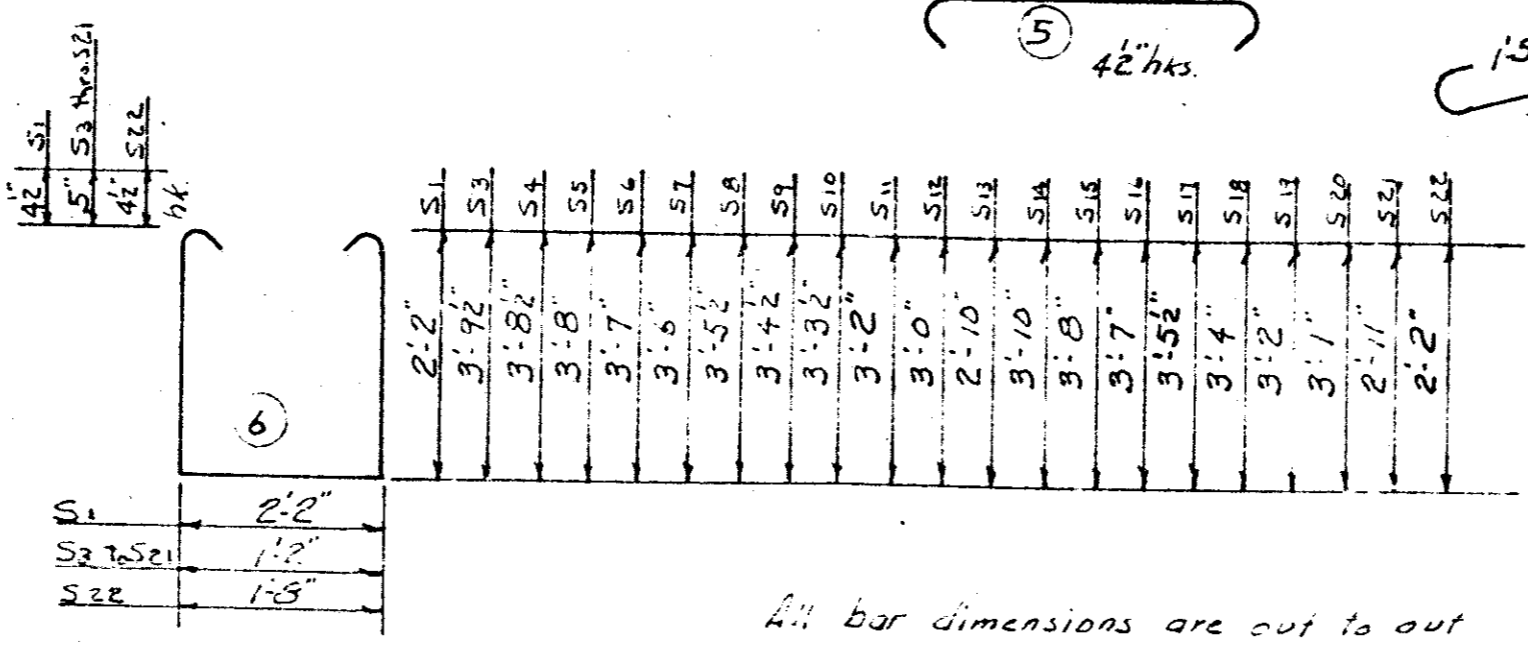
SECTION BB



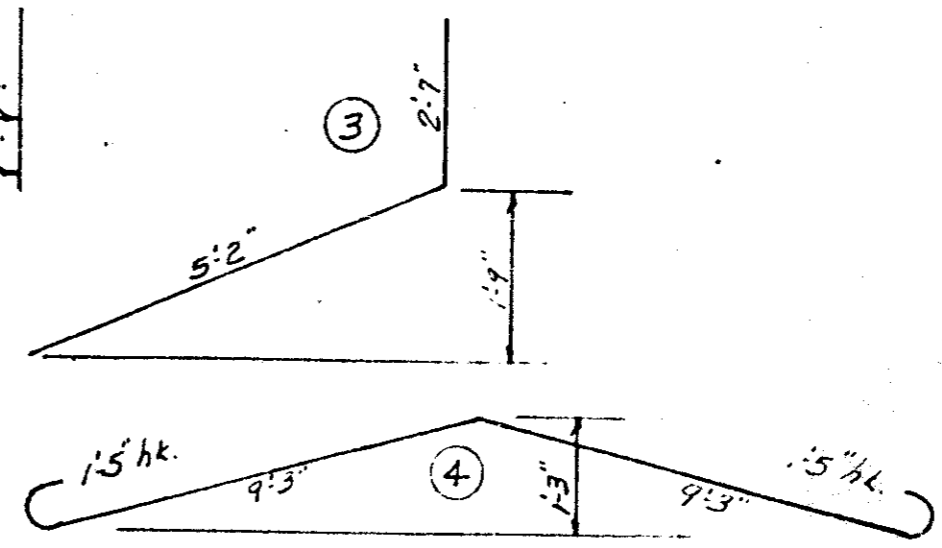
SECTION CC

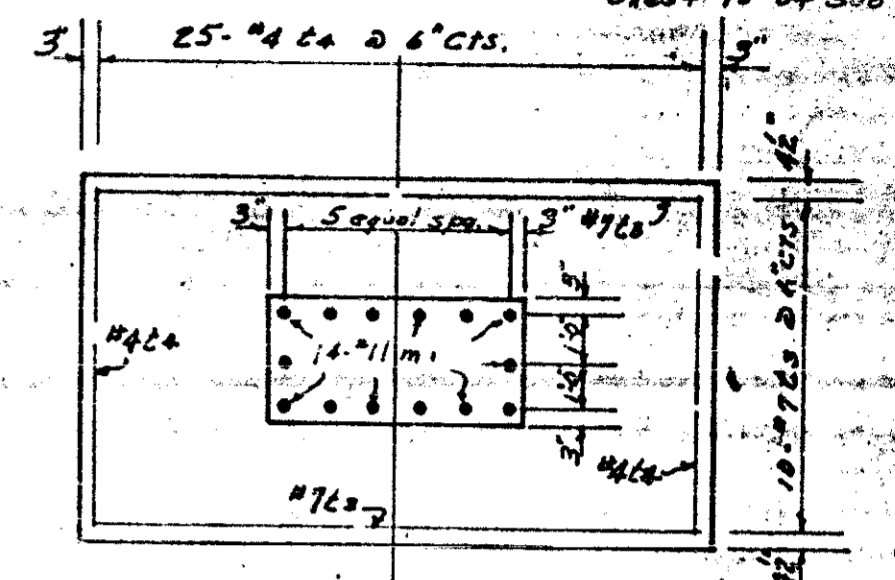
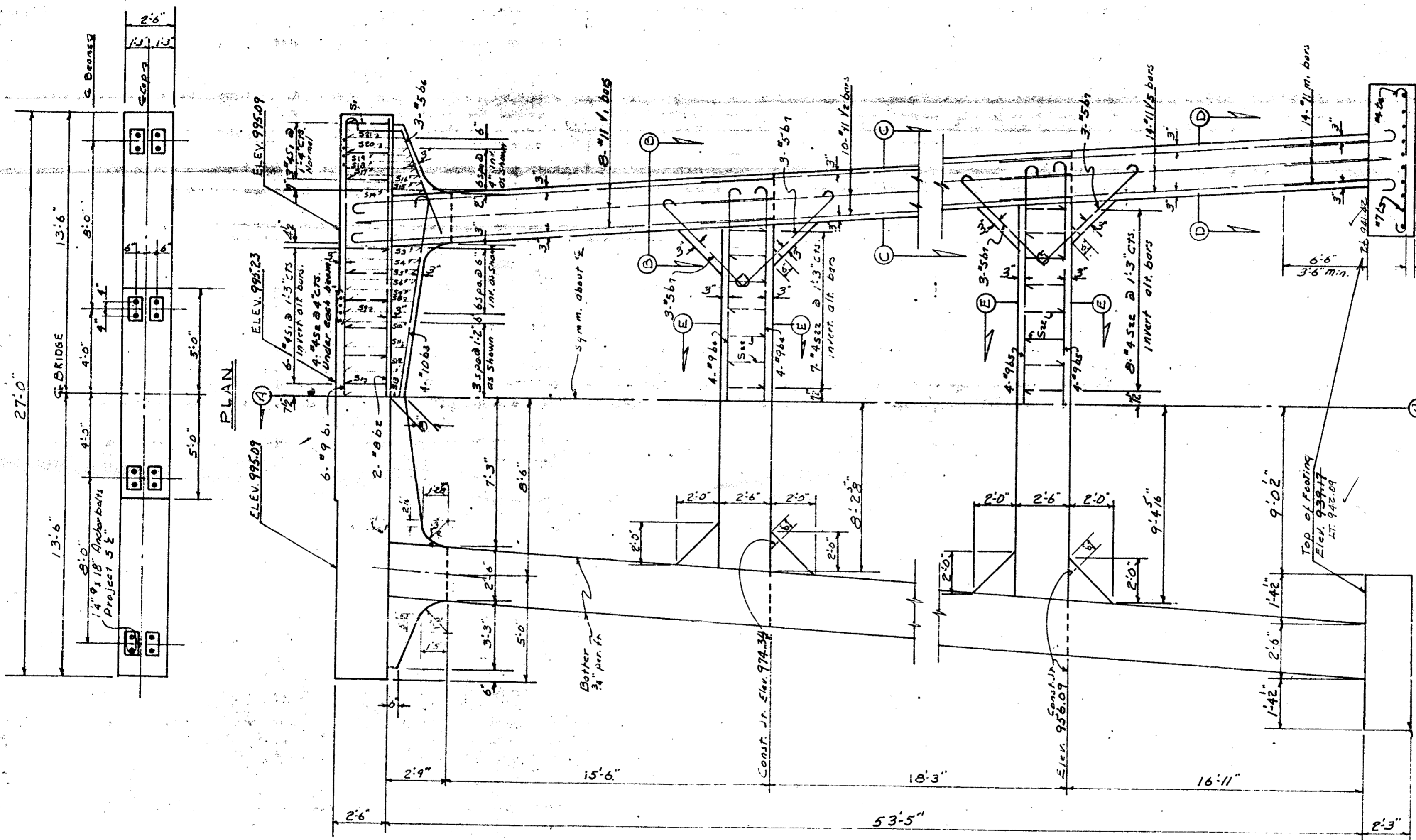
BAR TYPES

hk	13"	26'6"	b1	1'3"
	1'3"	20'9"	b4	1'3"
	1'5"		b5	1'3"
	7"	5'10"	b7	7"
	8"	6'9"	c1	8"
	8"	12'0"	c2	8"

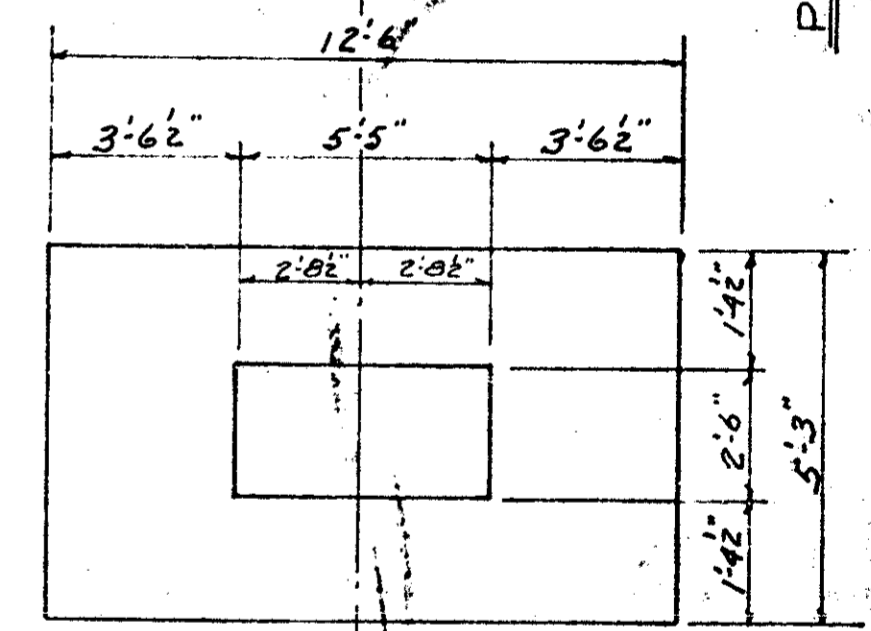


All bar dimensions are out to out





ELEVATION



PLAN OF FOOTING

PROJECT No. 818246
 CLEVELAND COUNTY
 STATION: 98+20
 Sheet 1 of 2

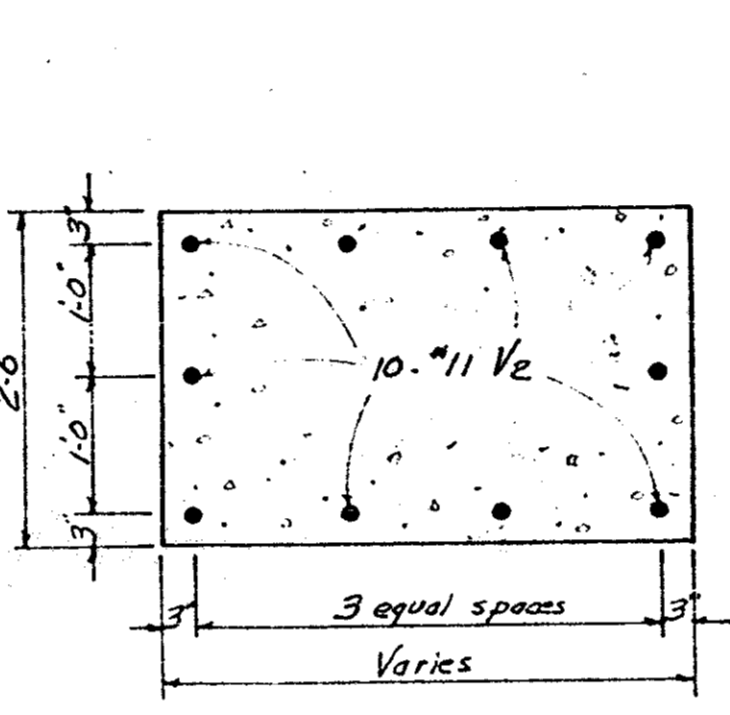
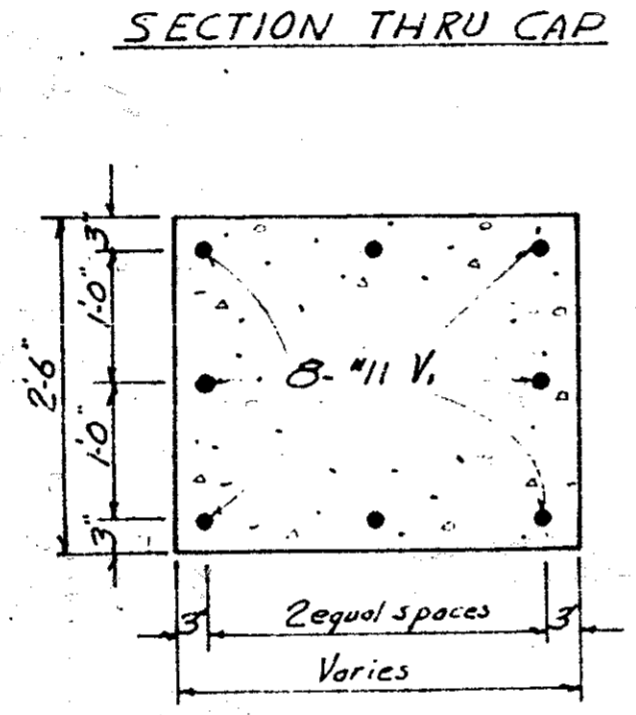
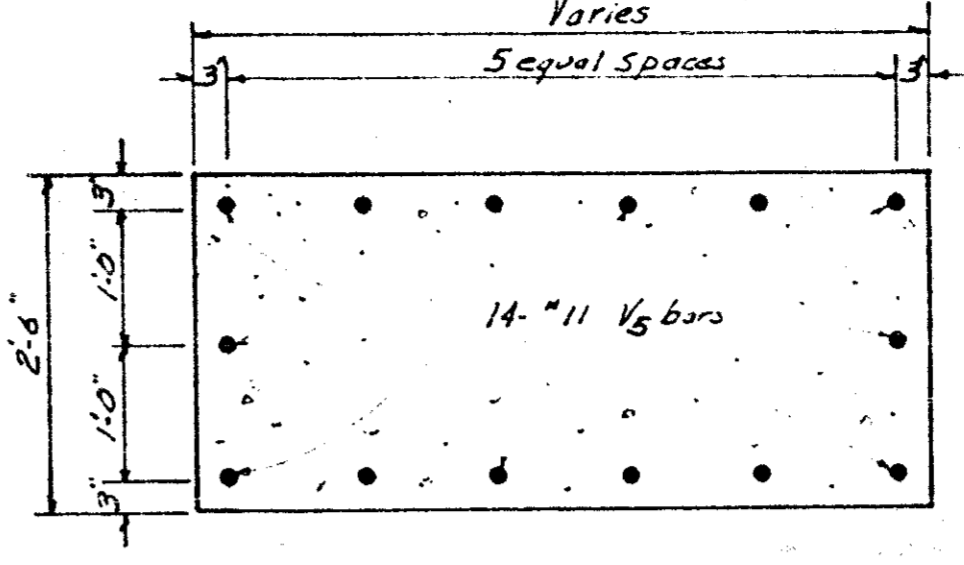
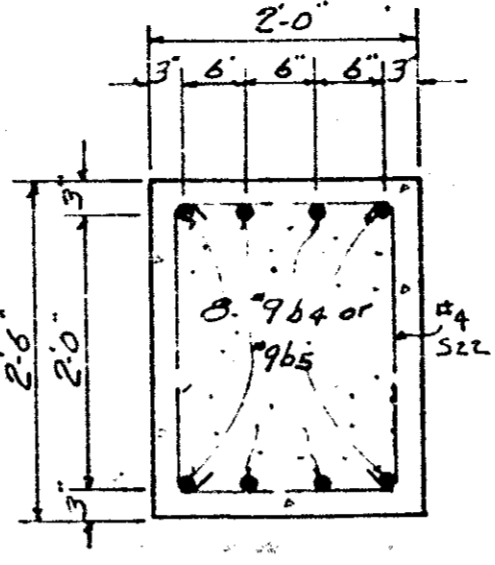
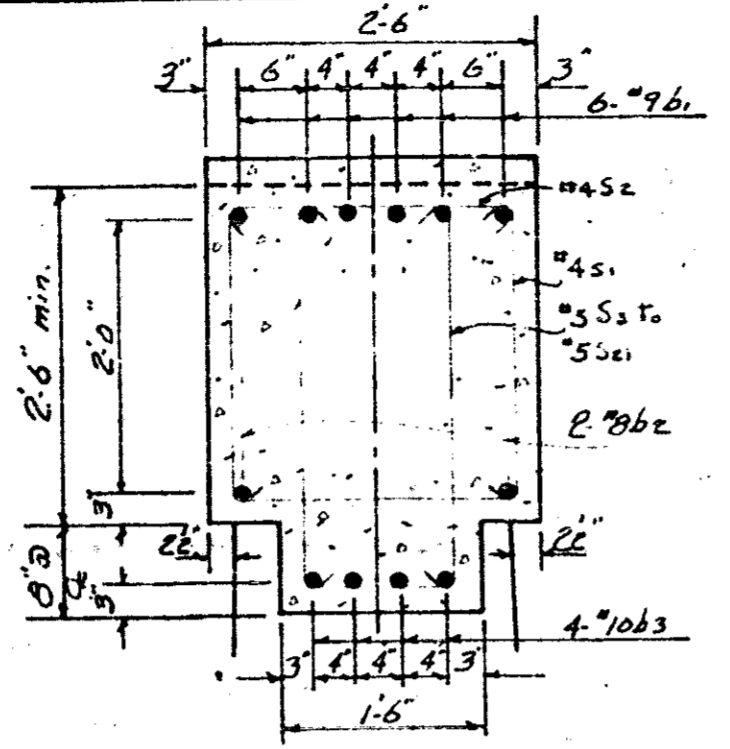
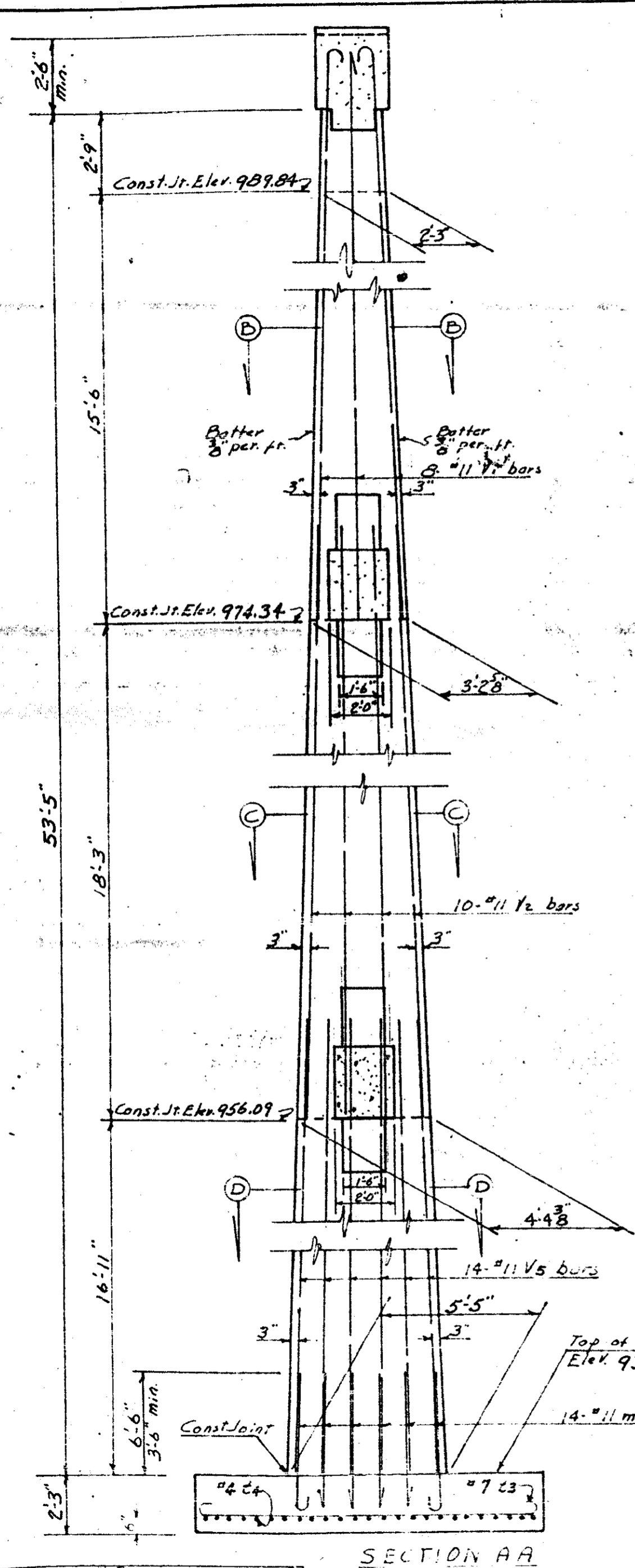
STATE OF NORTH CAROLINA	
STATE HIGHWAY COMMISSION	
RALEIGH	
SUBSTRUCTURE	
BENT 3	
OCTOBER 1962	
SHEET No. 5-26	
TOTAL SHEETS 54	

DRAWN BY: James N. Palmer, DATE: Oct. 1962
 CHECKED BY: Paul M. Salmon, DATE: Nov. 1962

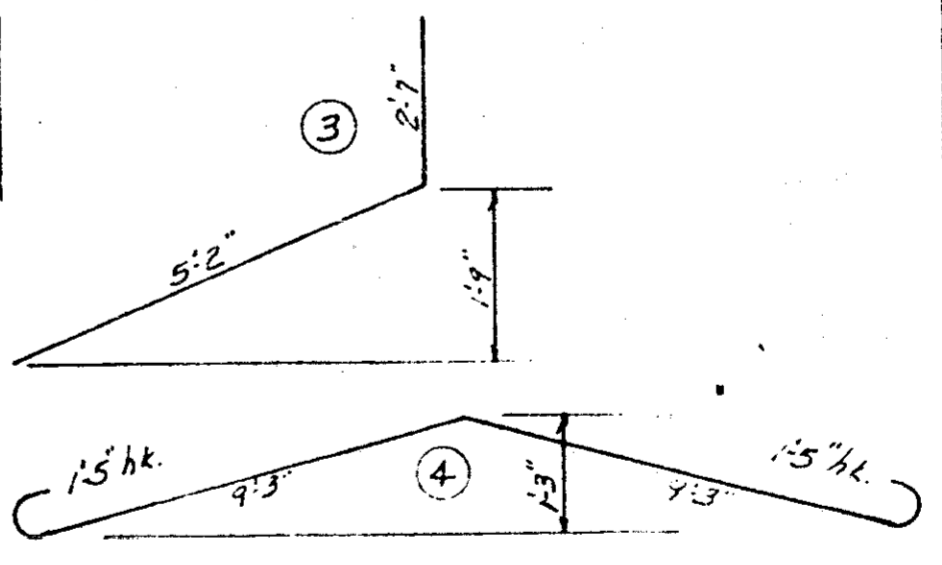
BILL OF MATERIAL					
BENT 3					
BAR NO	NO	SIZE	TYPE	LENGTH	WEIGHT
b1	6	#9	1	29'-0"	592
b2	2	#8	Str.	26'-0"	142
b3	4	#10	4	21'-4"	347
b4	8	#9	1	23'-3"	620
b5	8	#9	1	25'-6"	694
b6	6	#5	3	7'-9"	45
b7	24	#5	1	7'-0"	175
s1	18	#4	6	7'-3"	87
s2	16	#4	5	2'-11"	31
s3	2	#5	6	9'-7"	20
s4	2	#5	6	9'-5"	20
s5	2	#5	6	9'-4"	19
s6	2	#5	6	9'-2"	19
s7	2	#5	6	9'-0"	19
s8	2	#5	6	8'-11"	19
s9	2	#5	6	8'-9"	18
s10	2	#5	6	8'-7"	18
s11	2	#5	6	8'-5"	17
s12	2	#5	6	8'-0"	17
s13	1	#5	6	7'-8"	16
s14	2	#5	6	9'-8"	20
s15	2	#5	6	9'-4"	19
s16	2	#5	6	9'-2"	19
s17	2	#5	6	8'-11"	18
s18	2	#5	6	8'-8"	18
s19	2	#5	6	8'-4"	17
s20	2	#5	6	8'-2"	17
s21	2	#5	6	7'-10"	16
s22	30	#4	6	6'-9"	135
v1	16	#11	2	21'-10"	185
v2	20	#11	Str.	21'-9"	231
v5	28	#11	Str.	20'-5"	303
m1	28	#11	2	9'-7"	143
c3	20	#7	1	13'-0"	53
c4	50	#4	1	5'-9"	192

NOTES

Computed foundation pressure equals 32 tons per sq. ft.
Reinforcing steel in cap may be shifted to clear Anchor bolts.



BAR TYPES			
hk. 1'-3"	① 26'-6"	b1 1'-3"	hk. 1'-3"
1'-3"	20'-9"	b4 1'-3"	② 20'-3"
1'-3"	23'-0"	b5 1'-3"	8'-0"
7"	5'-10"	b7 7"	m1 1'-7"
10"	12'-0"	c3 10"	
6"	4'-9"	c4 6"	



SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL
42	51	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
2'-2"	3'-7"	3'-8"	3'-8"	3'-7"	3'-6"	3'-5"	3'-4"	3'-3"	3'-2"	3'-0"	2'-10"	3'-10"	3'-8"	3'-7"	3'-5"	3'-4"	3'-2"	3'-1"	2'-11"
hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.
2'-2"	1'-2"	1'-8"	1'-8"	1'-7"	1'-6"	1'-5"	1'-4"	1'-3"	1'-2"	1'-0"	1'-10"	1'-10"	1'-8"	1'-7"	1'-5"	1'-4"	1'-2"	1'-1"	1'-11"
hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.	hk.

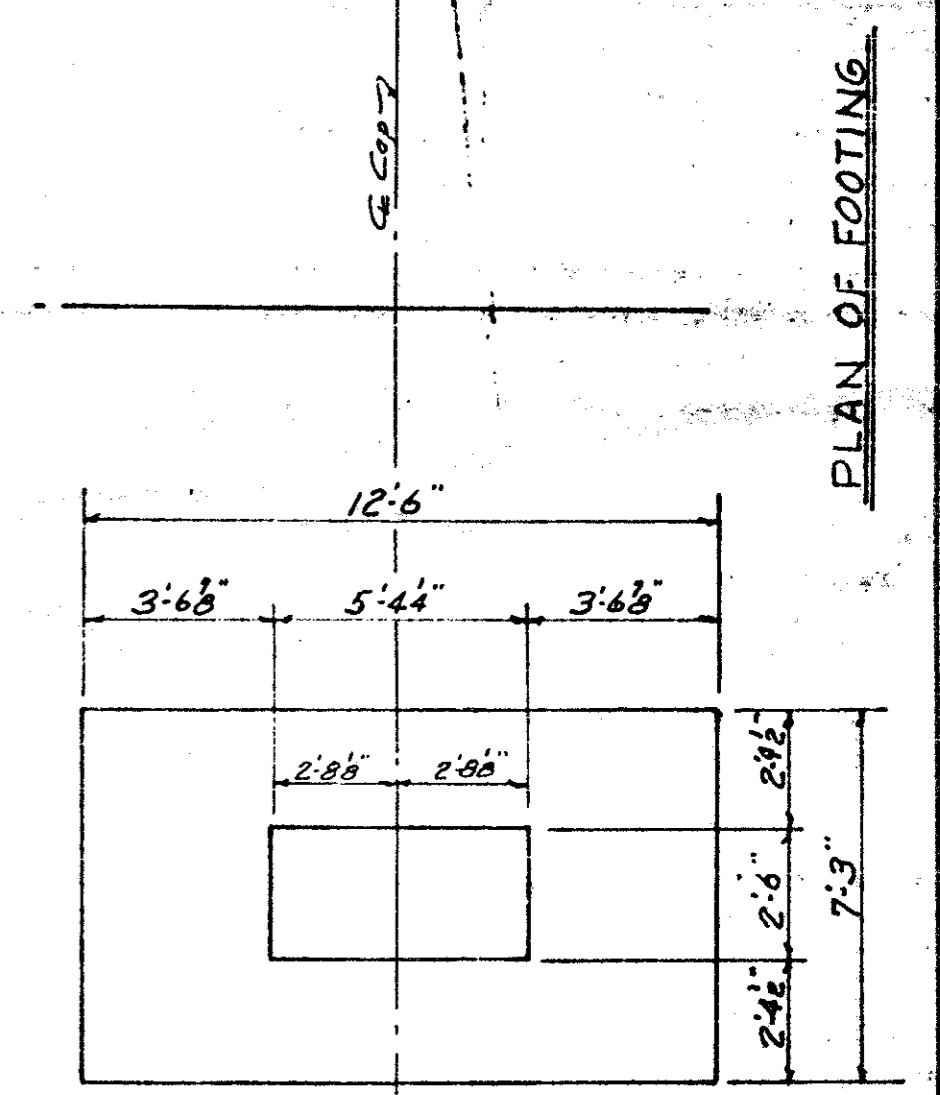
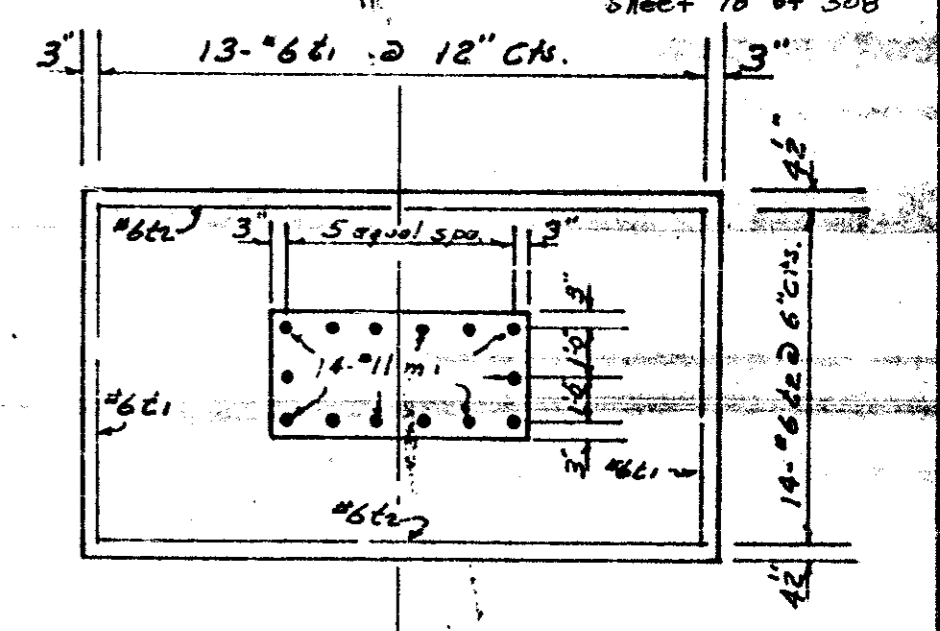
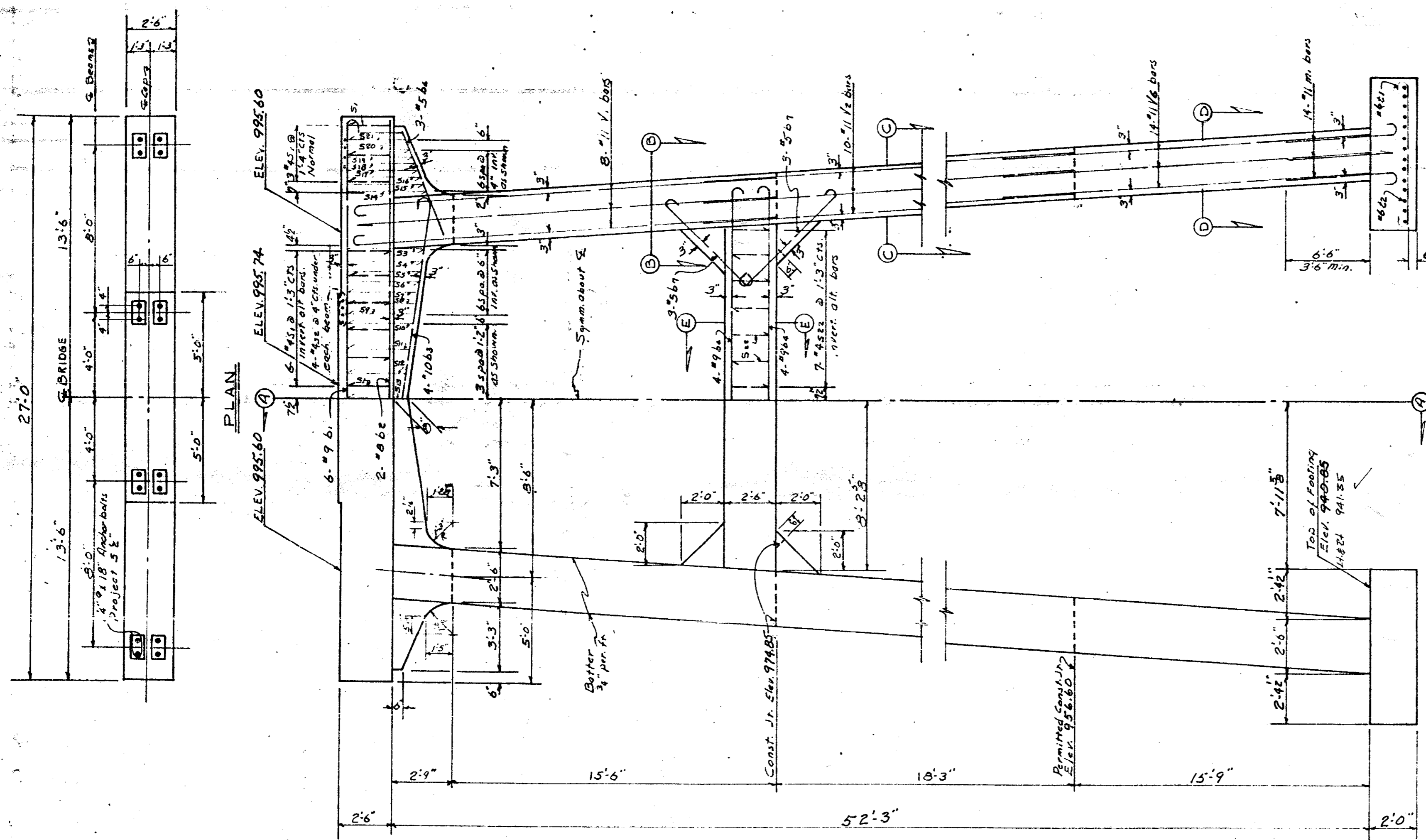
All bar dimensions are out to out

DRAWN BY: James K. Palmer DATE: Oct. 1962
CHECKED BY: Neil M. Salmon DATE: Nov. 1962

PROJECT No. 818246
CLEVELAND COUNTY
STATION: 98+20
Sheet 2 of 2

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH
SUBSTRUCTURE
BENT 3

October 1962
SHOET NO. 5-27
TOTAL SHEETS 54

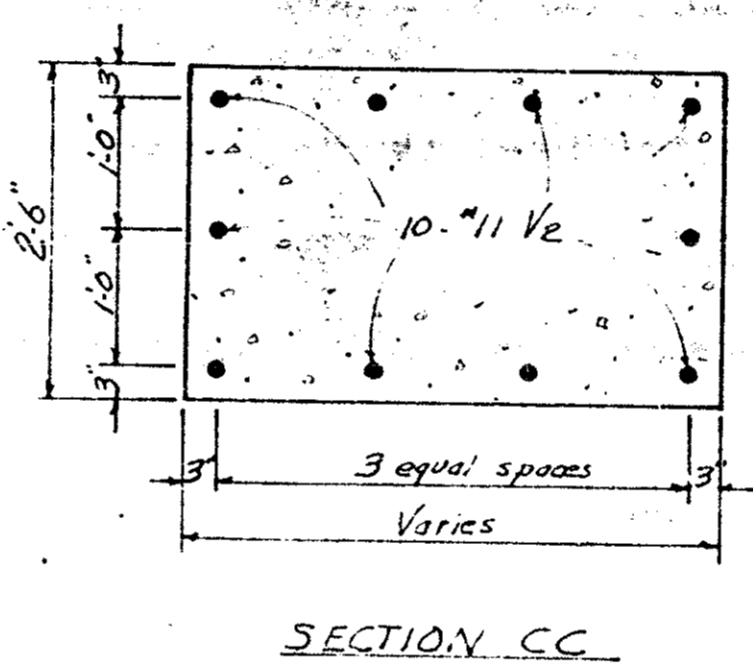
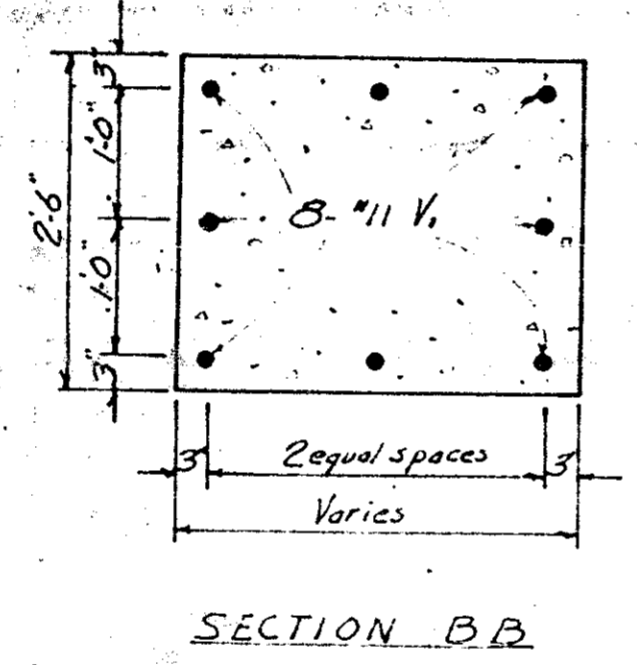
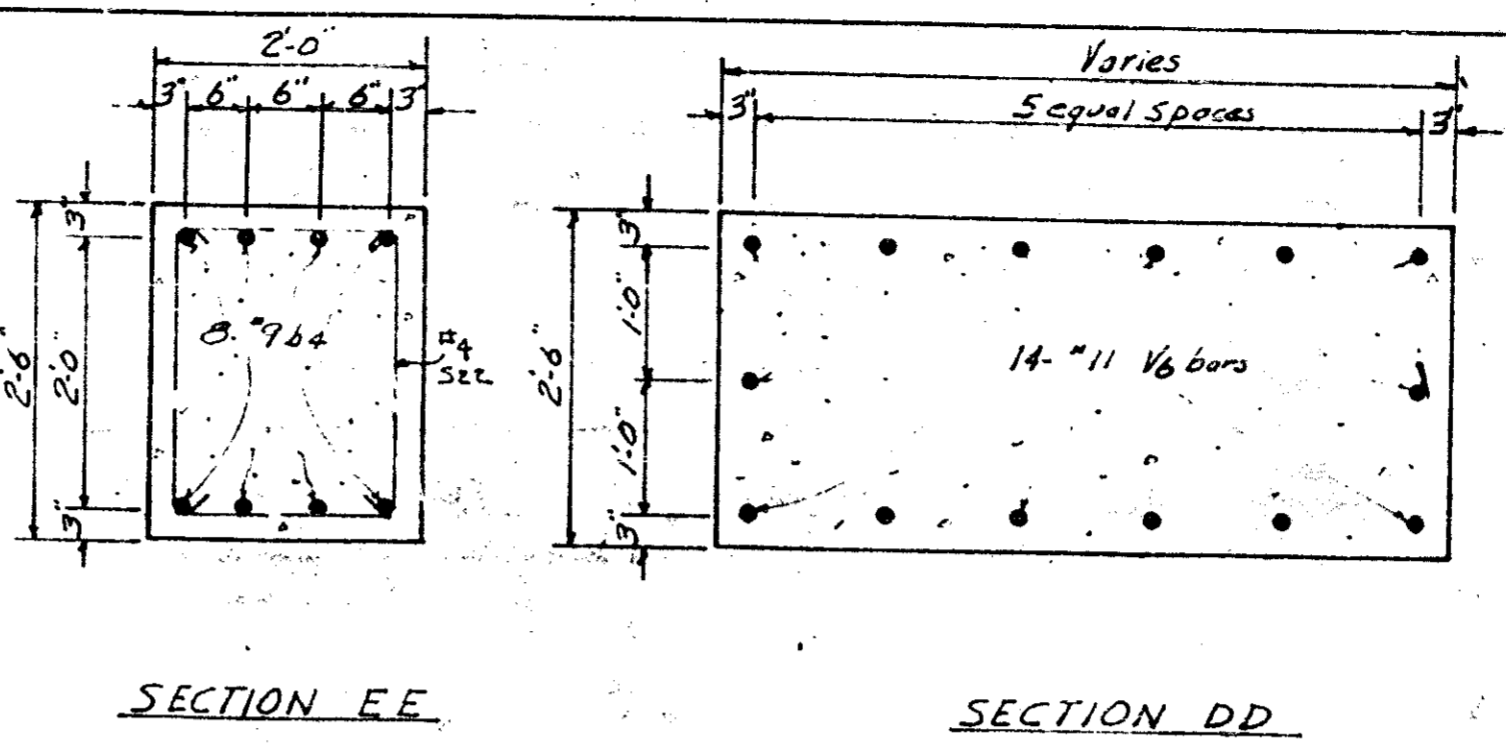
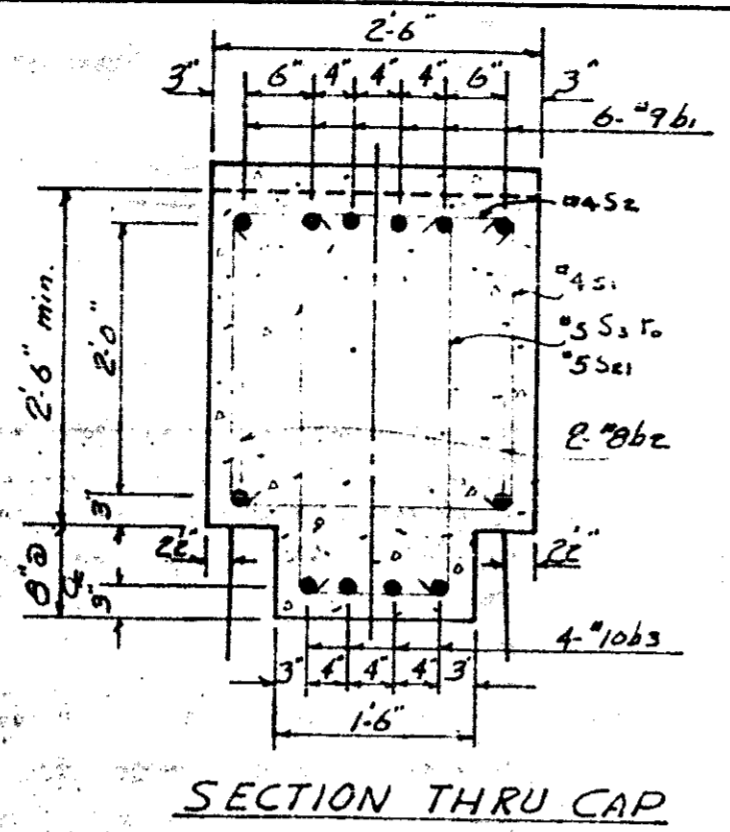
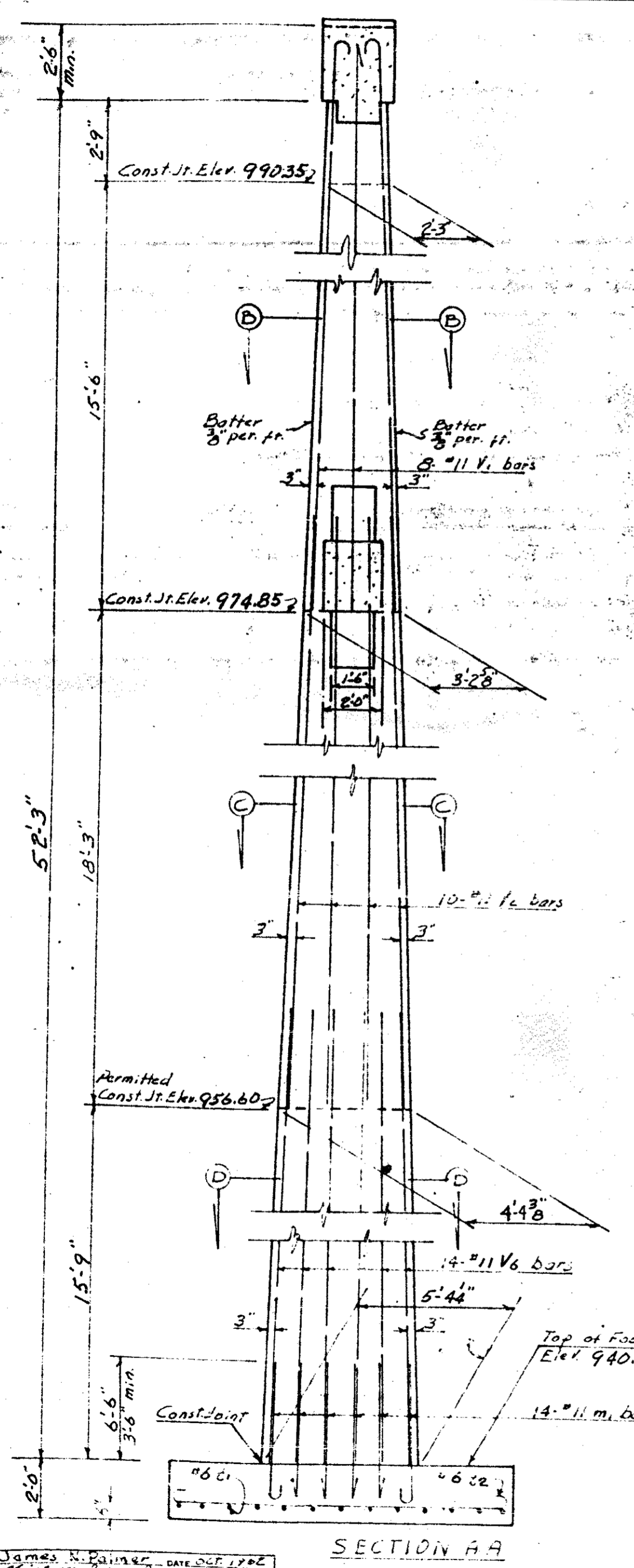


NOTE: Changed To 12" STEEL "H" PILE FOOTING.

PROJECT No. 818246
 CLEVELAND COUNTY
 STATION: 98+20
 Sheet 1 of 2

DRAWN BY James N. Palmer DATE Oct. 1962
 CHECKED BY Paul W. Salmon Jr. DATE Nov. 1962

STATE OF NORTH CAROLINA	
STATE HIGHWAY COMMISSION	
RALEIGH	
SUBSTRUCTURE	
BENT 4	
OCTOBER 1962	
RELATIONS	SHEET NO. 5-28
DATE	TOTAL SHEETS 54



BAR TYPES!

hk	1-3"	26'-0"	b1	1-3"
hk	1-3"	20'-4"	b4	1-3"
hk	7'-3"		b5	1-3"
hk	7"	5'-10"	b7	7"
hk	8"	6'-9"	b1	8"
hk	8"	12'-0"	b2	8"

hk	2'-2"	26'-0"	b1	1-3"
hk	3'-9"	20'-4"	b4	1-3"
hk	3'-8"		b5	1-3"
hk	3'-7"		b7	7"
hk	3'-6"		b1	8"
hk	3'-5 1/2"		b2	8"
hk	3'-4 1/2"		b7	7"
hk	3'-3 1/2"		b1	8"
hk	3'-2"		b2	8"
hk	3'-0"		b7	7"
hk	2'-10"		b1	8"
hk	3'-10"		b2	8"
hk	3'-8"		b7	7"
hk	3'-7"		b1	8"
hk	3'-5 1/2"		b2	8"
hk	3'-4"		b7	7"
hk	3'-2"		b1	8"
hk	2'-7"		b2	8"
hk	2'-2"		b7	7"

b1	2'-2"
b2	1'-2"
b7	1'-8"

All bar dimensions are out to out

BILL OF MATERIAL BENT 4

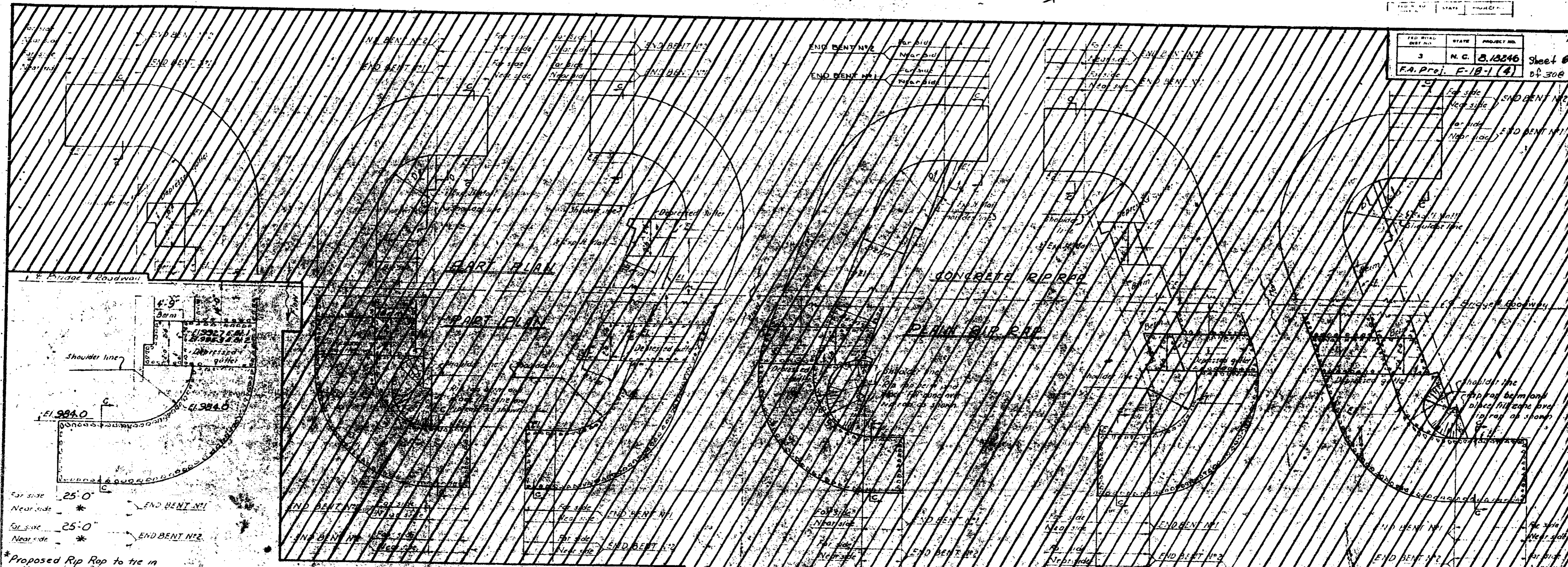
BAR NO	SIZE	TYPE	LENGTH	WEIGHT
b1	6	#9	1 27'-0	392
b2	2	#8	26'-0	442
b3	4	#10	21'-4	137
b4	8	#9	23'-3	482
b5				
b6	6	#5	7'-9	48
b7	12	#5	7'-0	58
b8				
b9				
b10				
b11				
b12				
b13				
b14				
b15				
b16				
b17				
b18				
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b97				
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b99				
b100				

NOTES:
 Computed foundation pressure equals 3 1/2 tons per sq. ft.
 Reinforcing steel in cap may be shifted to clear Anchor bolts.

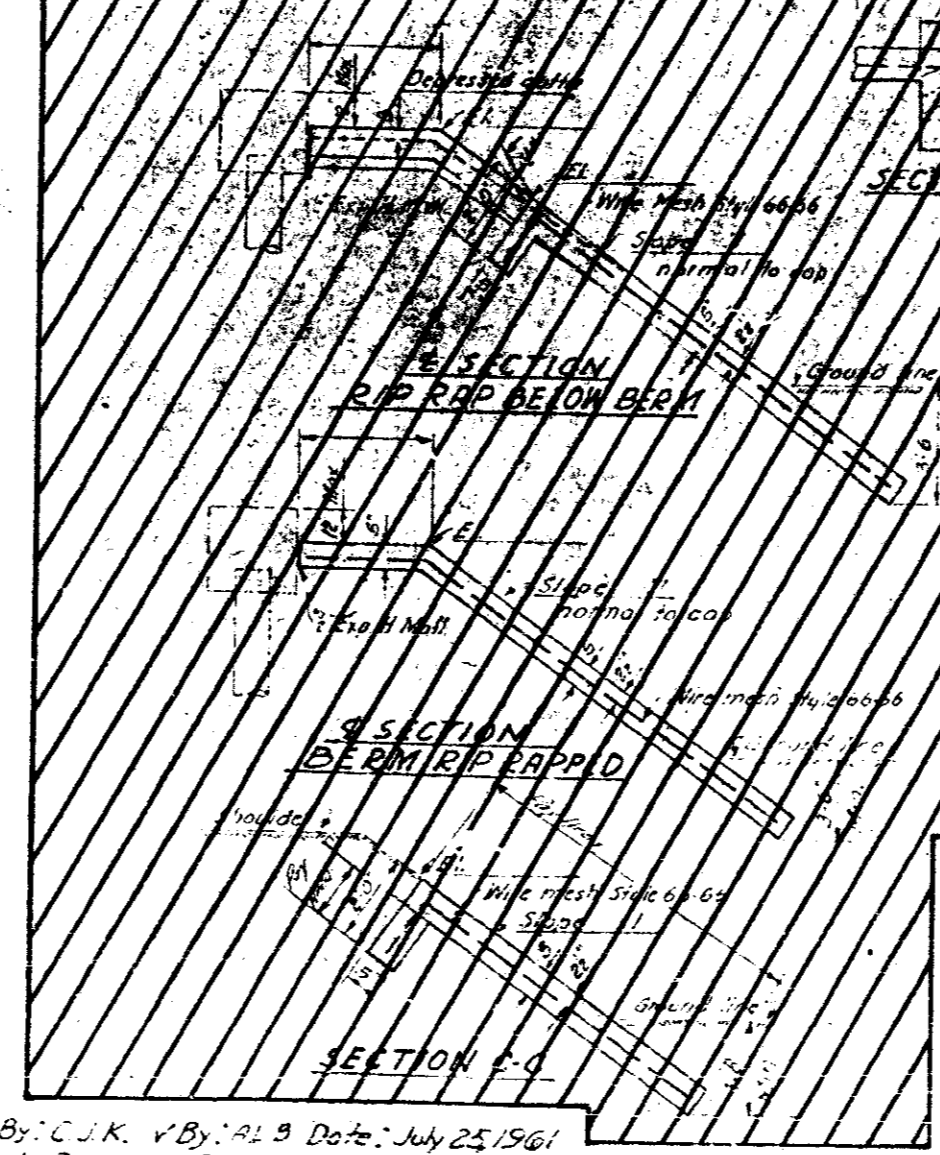
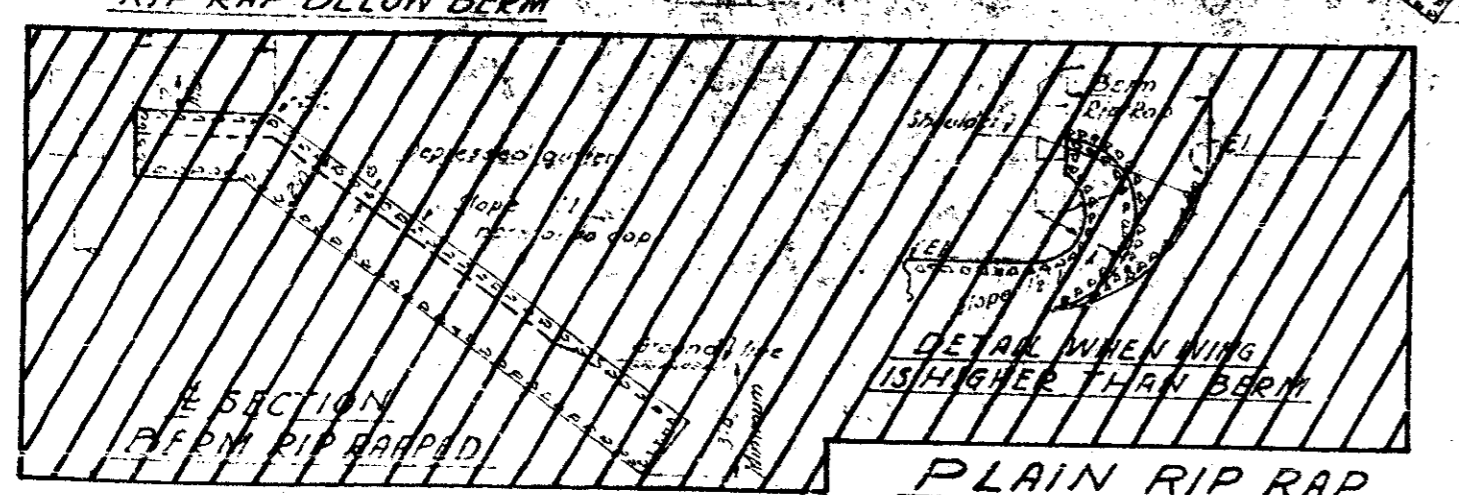
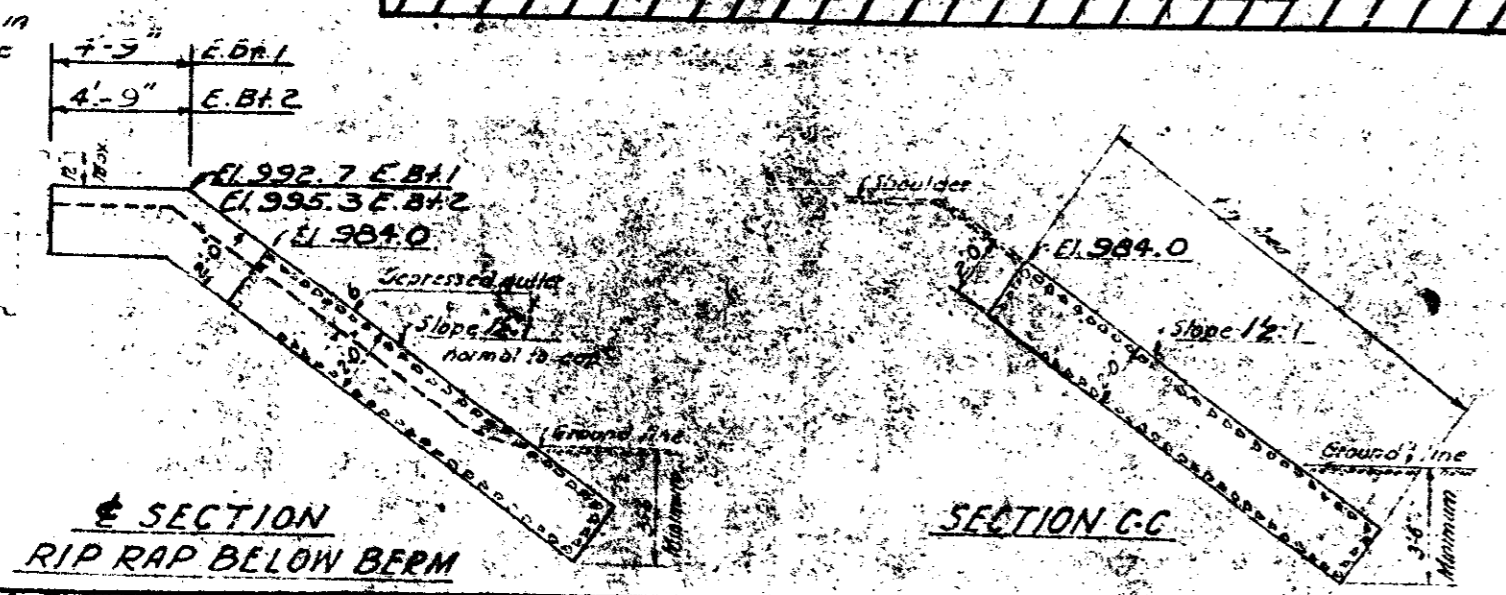
Class 'A' Concrete Cu. Yds. 606.3
 Reinf. Steel Lbs. 11720
 Dry Excavation Cu. Yds. 9591.8
 Wet Excavation Cu. Yds. 2692.0

PROJECT NO. 818246
 CLEVELAND COUNTY
 STATION: 98+20
 Sheet 2 of 2

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 RALEIGH
SUBSTRUCTURE
 BENT 4



*Proposed Rip Rap to tie in with existing Rip Rap. See General Drawing.



NOTE
 CONCRETE RIP RAP shall be Class B Concrete using Std size No. 3 coarse aggregate. Wire mesh reinforcing to be 3/4" 66-66-60 wide adjacent runs of wire mesh to lap at least 6'. Concrete rip rap to be poured in alternate 4' x 5' strips as shown in Pouring Detail.
 TIE WALLS shall be constructed at ends of rip rap similar to that shown for the top of the rip rap. (For Concrete Rip Rap Only)
 DEPRESSED GUTTERS to be formed as indicated for type of rip rap specified. Outlet area in Plain Rip Rap to be grouted with 1:3 cement mortar. All work and material incidental to forming and grouting shall be included in the unit price bid for Rip Rap.
 Note: Concrete a width of end bent wings as indicated by cross hatched areas in Section E and F will not be measured or paid for as a separate item. In the outlet area at corners shall be included in the price bid. See Sec. 4d for Conc. rip rap.

PROJECT NO. 8,18246
 CLEVELAND COUNTY
 STATION: 98+20
 #80

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION

STANDARD
 RIP RAP
 DETAILS
 AUGUST 1953

ESTIMATED QUANTITIES

Bridge @	Plain Rip Rap Class B	
	EB #1	EB #2
98+20	440	560
	440	560
	440	560

SPECIAL	DESIGNED BY: Carl J. Kiser	DATE: Oct 18, 1962
	CHECKED BY: Paul M. Salmon, Jr.	DATE: Jan 2, 1962
STANDARD	DESIGNED BY: [Blank]	DATE: [Blank]
	CHECKED BY: [Blank]	DATE: [Blank]
	TRACED BY: [Blank]	DATE: [Blank]
	APPROVED BY: [Blank]	DATE: [Blank]

Revision No. 2 - Revised to eliminate toe wall for plain Rip Rap --- By: C.J.K. V.B.: A.L.S. Date: July 25, 1961
 Revision No. 1 - Revised to show wing dimensions from end of End Bent. Oct 1958 RTJ V.B.S.