Sta. 28+25
Fill Face ℄ Survey
Cr. El. 2512.55

Fix

9" Normal to Cap

1:1 Slope

Note: ℄ Existing Jonathan Creek at Sta. 24+75±.
W.S. El. 2486.1 (May, 1961)

El. 2490.0

El. 2489.0±

Rip Rap to El. 10' above base of Channel Change.

Rod Sounding ℄ Sta. 28+50

30 B.P.F.

300 B.P.F.

El. 2483.0±

Top of Ftg. El. ~~2482.48~~

END BENT #1.

SPAN-A

-1.2754 % Grade →

Exp.

Top of Rip Rap El. 2495.0±

El 2490.0±

BENT #1

-30 B.P.F.
-70 B.P.F.
-300 B.P.F.
El. 2481.0±

Rod Sounding ℄ Sta. 29+00

Top of Ftg ~~El 2482.48~~

SPAN-B

Approx. H.W. March, 1961 El 24920

℄ Sta. 29+49 Ramp-B-

Cr. El. 2510.96

Fix

Exp.

El. 2490.0±

BENT #2

El. 2482.0±
Soft Saprolite
Rod Sounding ℄ Sta. 29+50

El. 2468.0±
Hard Rock

SPAN-C

Approx. Ground Line

El. 2490.0±

El. 2489.0±

Gravel & Clay

Rod Sounding ℄ Sta. 30+00
El 2483.0± Rock

Sand & Gravel

BENT #3

Fix

Exp.

Top of Ftg ~~El 2483.33~~

SPAN-D

Sta. 30+73
Fill Face ℄ Survey
Cr. El. 2502.38

Fix

2'-9"

Normal to Cap

1:1 Slope

Top of Rip Rap El. 2496.0±

Rip Rap to El. ~~Shown~~ above base of Channel El. 2490.0±

El. 2491.0±

Rod Sounding ℄ Sta. 30+50

20 B.P.F.

300 B.P.F.

El. 2485.0±

END BENT #2

SECT. SHEET NOS. 100-101-102
FOR TOP FOOTING ELS.

SECTION ALONG ℄ OF SURVEY
(BENTS ON SECTION A-A)

NOTES

Work ~~is~~ not ~~to be~~ started on End Bents 1 and 3 until after fill has been placed.

Piles in End Bents ~~to be~~ driven through roadway fill. Piles ~~to be~~ driven to a min. bearing capacity of 30 tons each.

"The Contractor ~~shall be~~ responsible for determining the lengths of piles required. See Special Provisions.

NOTES

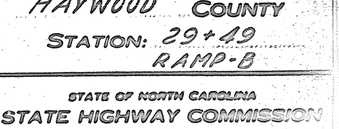
Assumed Live Load ~~H 15-44~~ alternate loading.
For other design data and g... notes, see Sheet S-W.

Computed Foundation Load for ... 1, 2, and 3 = 3½ tons per sq.ft.

Footings for Bents 1, 2, and 3 to be carried at least 12" into rock with a minimum thickness as shown.

Work ~~is~~ not ~~to be~~ started on Ba... 1, 2, and 3 until Channel Change excavation has been made by the Roadway Contractor.

Unclassified Structure Excavation for Bents 1, 2, and 3 ~~below~~ measured from base of Channel Change.



N

1'-9⅞"

60'-2 13/16"

Fill Face

℄ Cap & Piles

8'-4" 8'-4" 8'-4" 8'-4" 8'-4" 8'-4" 8'-4"

35'-0"

25'-0"

W.P.

1:3

To I-40

0'-0"

62'-0"

248'-0" = Length of Bridge Floor

62'-0"

Base of Channel Change

Beams

49°

℄ Survey Sta. 29+49

℄ Bent

7'-3" 5'-0" 7'-3"

15'-10⅝"

5'-0"

Sta. 29+53.0 P.O.T. Ramp 'B' = Sta. 6+00.0 P.O.T. ℄ Chan.

Flow

PLAN

60'-2 13/16"

7'-3" 5'-0" 7'-3"

15'-8¼"

5'-0"

49°

49'-0"

16'-4"

9'-0"

Base of Channel Change

40'-0"

25'-0"

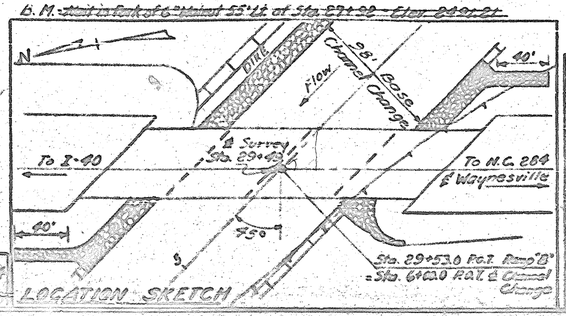
8'-4" 8'-4" 8'-4" 8'-4" 8'-4"

W.P.

To N.C. 284 & Waynesville

I hereby certify that this structure was built according to this plan except as noted hereon.
S. T. Veazey
Resident Engineer

B.M. ~~Nail in Rock 56' Normal 55'½ of Sta 29+98 - Elev 2490.21~~



LOCATION SKETCH

TOTAL BILL OF MATERIAL

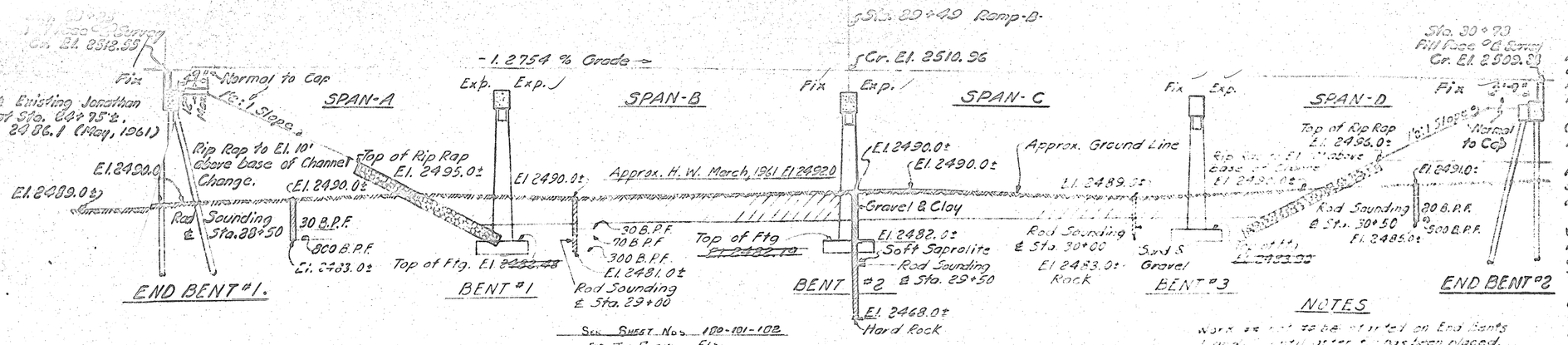
	Class "A" Concrete Cu. Yds.	Reinforcing Steel Lbs.	Structural Steel (Approx.) Lbs	12 H 53 Steel Piles No.	Lin. Ft.	Unclass. Str. Excav. Cu. Yds.	One-Bar Metal Rail Lin. Ft.	Wedge Slope 3'-0" Excav.	Wedge Slope 6'-0"	Wedge Slope 9'-0"
Superstructure	406.6	96,806	307,100	—	—	—	484.83	—		
End Bent #1	26.2	5,200	—	14	490		—	—		
Bent #1	[illegible]	[illegible]	—	—	—	1125.00	—	38.60	0.20	
Bent #2	[illegible]	[illegible]	—	—	—	1081.00	—	32.20	12.60	0.10
Bent #3	[illegible]	[illegible]	—	—	—	[illegible]	—	11.70		
End Bent #2	26.2	5,319	—	14	490	73.71	—	—		
Approach Curbs	3.2	76	—	—	—	—	—	—		
						2279.4				
Total	658.6	[illegible]	307,100	[illegible]	[illegible]	2279.4	484.83	82.50	12.80	0.10

Plans Checked 12-18-81 R.G.G.

PROJECT NO. 8.19468
HAYWOOD COUNTY
STATION: 29+49
RAMP-B

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER JONATHAN CREEK
CONNECTION TO N.C. 284 AT COVE C...
BET. I-40 & N.C. 284 & WAYNESVI...
JUNE, 1964



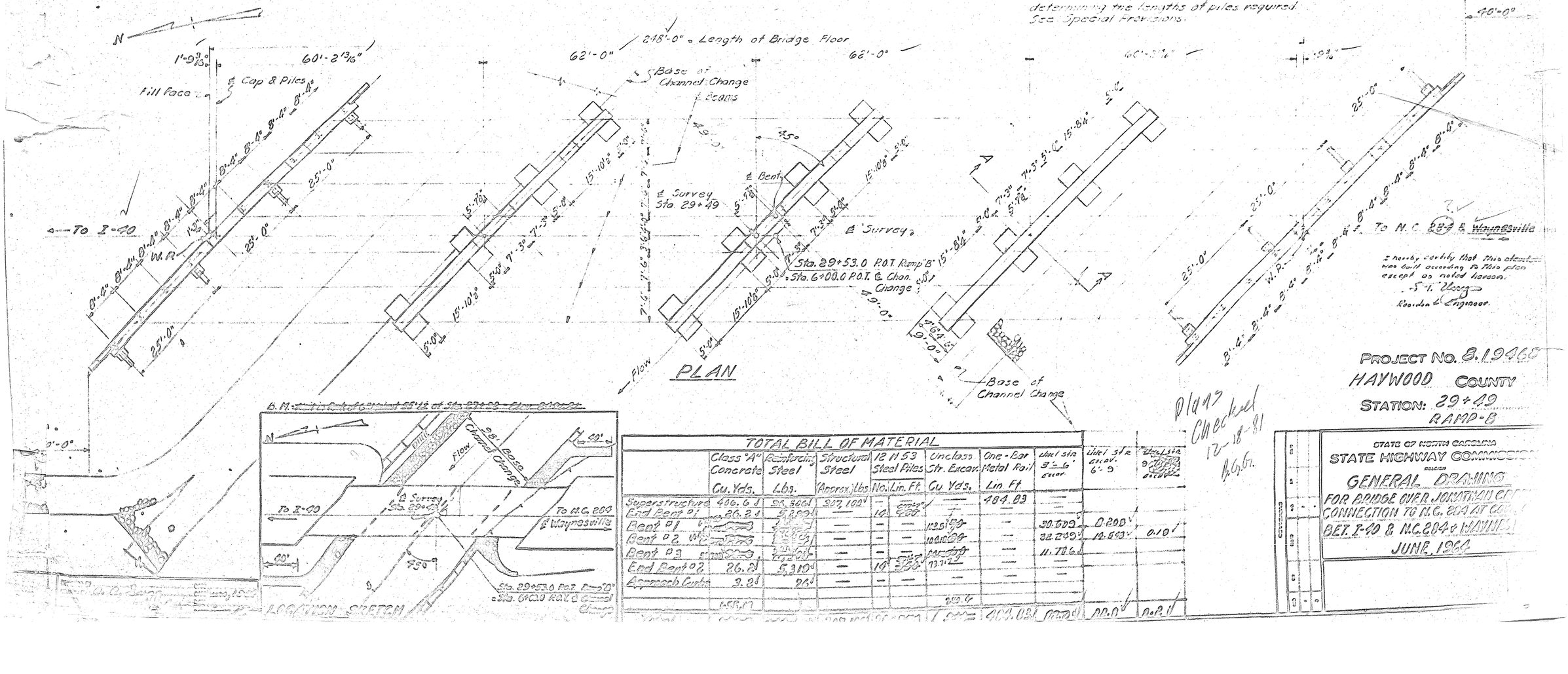
SECTION ALONG ℄ OF SURVEY
(BENTS ON SECTION A-A)

NOTES

Work is not to be started on End Bents 1 and 3 until fill has been placed.

Piles in End Bents to be driven through roadway fill. Piles to be driven to a min. bearing capacity of 30 tons each.

The Contractor shall be responsible for determining the lengths of piles required. See Special Provisions.



TOTAL BILL OF MATERIAL

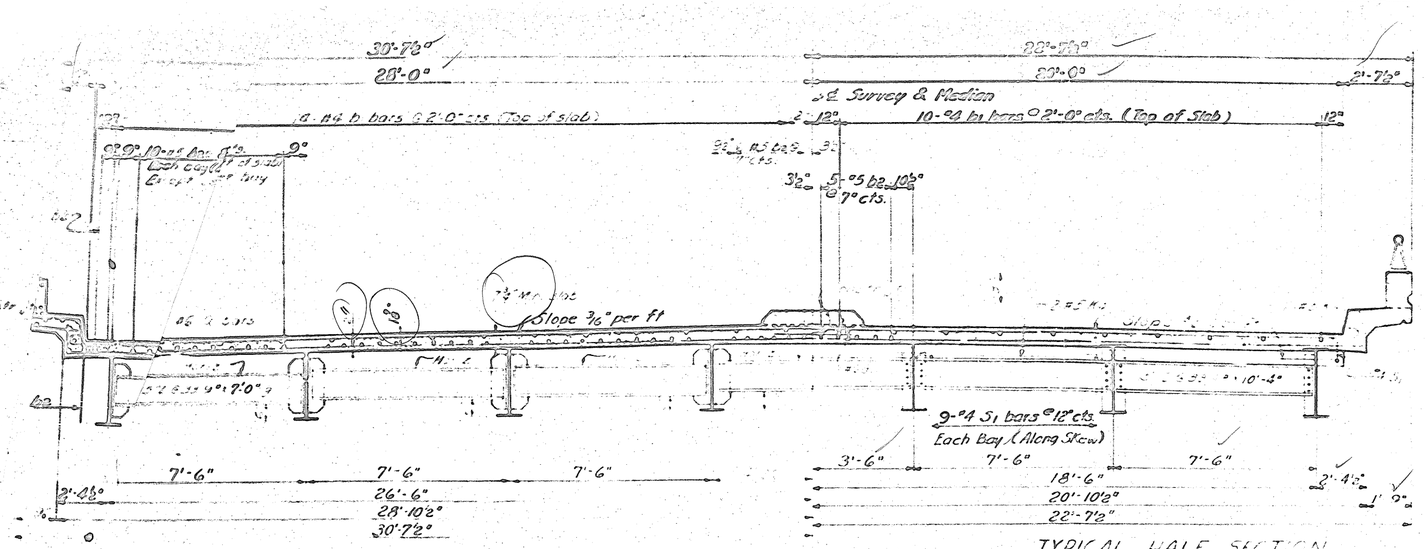
	Class "A" Concrete Cu. Yds.	Reinforcing Steel Lbs.	Structural Steel Approx. Lbs	12 in 53 Steel Piles No.	Lin. Ft.	Unclass. Str. Excav. Cu. Yds.	One-Bar Metal Rail Lin. Ft.	Unit Str. 3'-6" Excav.	Unit Str. Excav. 6'-0"	Unit Str. Backfill
Superstructure	406.6	58,360	207,100	—	—	—	484.83	—		
End Bent #1	26.2	5,200	—	10	300		—	20.6	0.2	
Bent #1	44.1	7,700	—	—	—	112.8	—	32.2	10.6	0.1
Bent #2	44.1	7,700	—	—	—	104.0	—			
Bent #3	44.1	7,700	—	—	—	111.7	—	11.7		
End Bent #2	26.2	5,310	—	10	350	73.7	—	—		
Approach Curbs	3.2	210	—	—	—	—	—	—		
						503.6				
Total	553.7						484.83	70.0	10.8	

Plans Checked 12-8-81 J.G.G.

PROJECT NO. 8.19468
HAYWOOD COUNTY
STATION: 29+49
RAMP-B

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
DIVISION

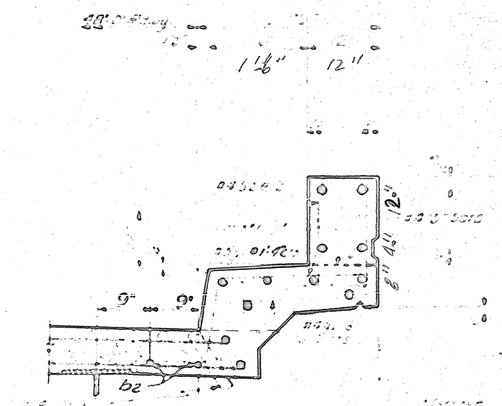
GENERAL DRAWING
FOR BRIDGE OVER JONATHAN CR
CONNECTION TO N.C. 284 AT CO
BET. I-40 & N.C. 284 & WAYNES
JUNE, 1962



TYPICAL HALF SECTION

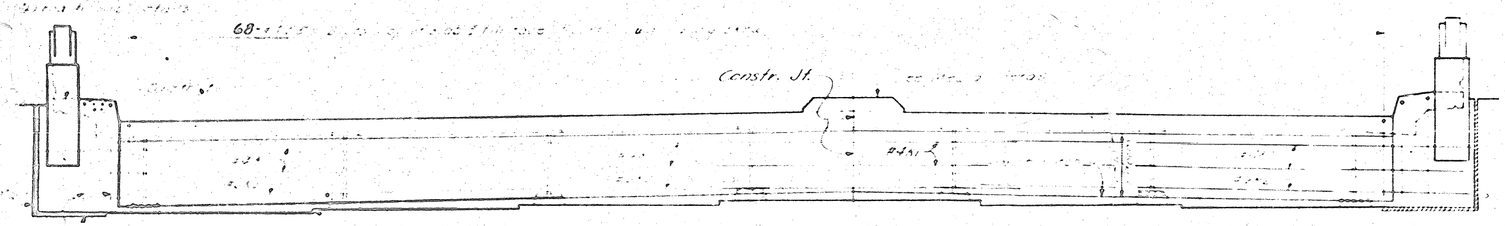
TYPICAL HALF SECTION

Looking Ahead

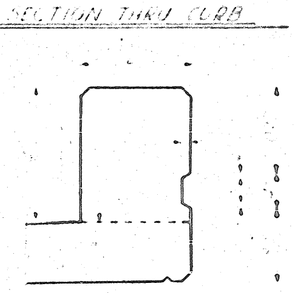


(5cm in B & C only)

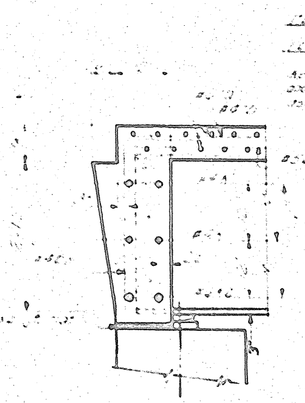
SECTION THRU CURB



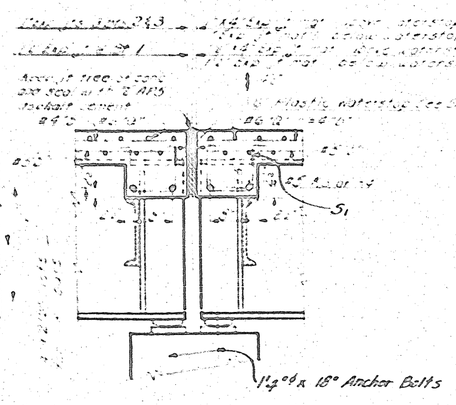
END VIEW



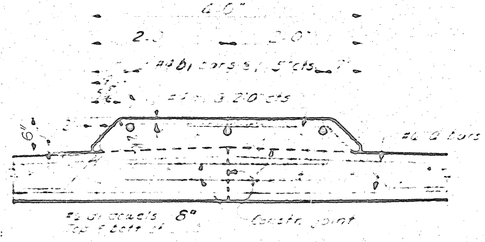
ASPHALT DETAIL



SECTION A-A



SECTION B-B



MEDIAN DETAIL

PROJECT NO. 8.19468

HAYWOOD COUNTY

STATION: 29+49 RAMP-B

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

SUPERSTRUCTURE
SECTIONS & DETAILS

MAY 1964

DESIGNED BY		DATE
DRAWN BY	A.B. Dingy	DATE May 1964
TRACED BY		DATE
CHECKED BY		DATE May 1964

47-#5 30 bars @12" cts. in Parapet
47-#5 91 bars @1'-4" cts. - Top of Curb
32-#4 92 bars @2'-0" cts. - Bott. of Curb

2-#4 b2

4-#4 b1 in Parapet (3 runs)

8-#4 b1 in Curb (3 runs)

9'8"

1'-7½"

℄ 36" WF @135°

52-#6 a1 bars @8" cts. - Top of Slab

51-#6 a2 bars @8" cts. - Bott. of Slab

#6 bars @8" cts. - a45 thru a63 Top of Slab (2 bars each mark)

#6 bars @8" cts. - a65 thru a84 Bott. of Slab (2 bars ea. mark)

2-#6 a3 Field Bend

S1

4"

8"

℄ 36" WF @135°

#6 bars @8" cts. - a5 thru a23 Top of Slab (2 bars ea. mark)

#6 bars @8" cts. - a25 thru a43 Bott. of Slab (2 bars each mark)

℄ 36" WF @135°

68-#4 b5 bars @12" cts. (Top of Slab & Fill Face of Curt. Wall

63'-0"

62'-0"

32-#4 m1 bars @2'-0" cts. - each side of Median (64 Total)

94-#6 a1 bars @8" cts. - top & bott. of slab (188 Total)

45°

3-#4 b1 bars in Median ℄ 36" WF @135° (3 runs)

6" Survey & Constr. Jt.

4'-0" Median

12" Curtain Wall

6" Parapet Notch

m1

℄ 36" WF @135°

64-#6 a3 bars @8" cts. - Top of Slab

63-#6 a4 bars @8" cts. - Bott. of Slab

℄ 36" WF @135°

20'-0"

#6 bars @8" cts. - a51 thru a63 Top of Slab (2 bars ea. mark)

#6 bars @8" cts. - a71 thru a84 Bott. of Slab (2 bars each mark)

8"

8"

℄ 36" WF @135°

24-#4 b1 bars @2'-0" cts. Top of Slab (3 bar runs)

(65-#5 b2 bars - Bott. of Slab (2-bar runs) See Typ. Section for Spacing 4"

2" Chamfer

2'-10½"

1'-5½"

2'-0"

2-#4 b4

4-#4 b3 in Parapet (3 runs)

8-#4 b3 in Curb (3-runs)

47-#5 a1 bars @1'-4" cts. - Top of Curb

32-#4 a2 bars @2'-0" cts. - Bott. of Curb

66-#4 S2 bars @12" cts. - in Parapet

65'-1" Near Side of Span "A"; Far Side of Span "D"

℄ 1" Exp. Jt. @ Bt. #3

1½" Exp. Jt. @ Bt. #1

PLAN OF SPAN "A" OR "D"

9'-4" @ 45°-0" Each Bay

#6 bars @8" cts. - a11 thru a23 Top of Slab (2 bars ea. mark)

#6 bars @8" cts. - a31 thru a43 - Bott. of Slab (2 bars ea. mark)

2-#6 a3

S1

PROJECT NO. 8.19468

HAYWOOD COUNTY

STATION: 29+49

RAMP -B-

STATE OF NORTH CAROLINA

STATE HIGHWAY COMMISSION

RALEIGH

SUPERSTRUCTURE

SPANS A & D

MAY, 1964

NO.	BY	DATE	NO.	BY	DATE
1			D		
2			O		

62'-0"

63-#4 S2 bars @ 12" cts. in Footing

47-#5 g1 bars @ 1'-4" cts. - Top of Slab

32-#4 g2 bars @ 2'-0" cts. - Top of Slab

℄ 1½" Exp. Jt. @ Bt. #1

℄ 1" Exp. Jt. @ Bt. #2

℄ 1" Exp. Jt. @ Bts. #3 & #4

2" Chamfer

4-#4 b1 in Parapet
3 runs

3"ϕ Drains @ 6'-0" cts.

51 - #5 g2 bars @ 8" cts. - Top of Slab

℄ E 36" R = 135'

(@ Bt. #1)

(@ Bt. #2)

3½"

12"

45°

℄ Survey & Constr.

20'-0"

2'-7½"

2-#6 g3 Field Bend

6-#4 b1 in Cant
5 runs

4-#5 g1 bars @ 1'-4" cts. - Top of Slab

32-#4 g2 bars @ 2'-0" cts. - Top of Slab

63-#4 S2 bars @ 12" cts. - Top of Slab

62'-0"

PLAN OF SPAN "B" & "C"

PROJECT NO. B-1946B

HWY. NO. _____ COUNTY

STATION 29+49

RAMP-B

STATE OF NORTH CAROLINA

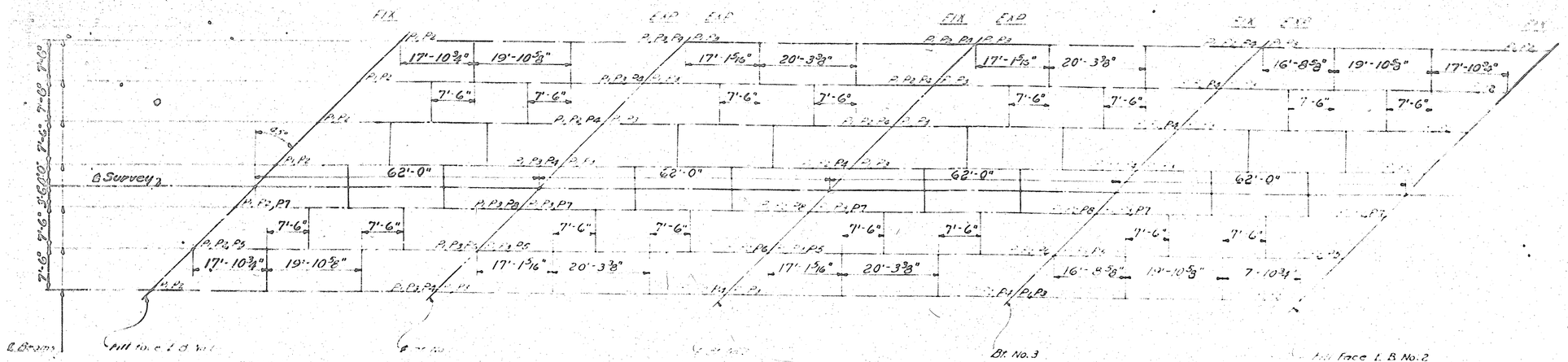
STATE HIGHWAY COMMISSION

DIVISION

BRIDGE STRUCTURE

PLAN "B" & "C"

MAY, 1964



STRUCTURAL STEEL, (APPROX.) LBS.

Span - A	75,100
Span - B	70,900
Span - C	70,900
Span - D	95,000
TOTAL	307,100

27 Spaces @ 5" = 11'-3"	16 Spaces @ 7" = 9'-4"	11 Spaces @ 10" = 9'-2"	336.5
27 Spaces @ 5" = 11'-3"	17 Spaces @ 7" = 9'-11"	11 Spaces @ 10" = 9'-2"	344
25 Spaces @ 7" = 14'-7"	9 Spaces @ 11" = 8'-3"	6	3.4

Span A to "D"		Span A to "C"	
		Int.	Ext.
3/16"	3/16"	3/16"	3/16"
15/16"	1⅜"	1⅜"	1⅜"
1"	1⅛"	1⅛"	1⅛"
1⅜"	1⅜"	1⅜"	1⅜"

A3677

3@WP35 Int. & Ext. Brgs. at Spans

Note: See Concrete Section for web holes in beams.

SHEAR STUD SPACING

SECTION THRU BM.

SLOPE WALL DETAIL

SECTION A-A

SECTION B-B

SECTION C-C

Note: Web stiffeners to be parallel to ends of beams.

Note: Fill Rs may be combined with Masonry Rs.

PROJECT NO 8.19460
HAYWOOD COUNTY
STATION 29+49
RAMP-B

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

BILL OF MATERIAL FOR SPANS A, B, C & D

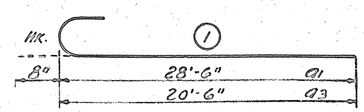
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
A1	208	#6	1	29'-2"	9112
A2	204	#6	2	29'-6"	9022
A3	256	#6	1	21'-2"	8130
A4	252	#6	2	21'-6"	8130
A5	8	#6	Str.	26'-5"	318
A6	↓	↓	↓	25'-1"	301
A7				23'-9"	285
A8				22'-5"	269
A9				21'-1"	253
A10	8	#6	Str.	19'-9"	237
A11	16	#6	Str.	18'-5"	443
A12	↓	↓	↓	17'-1"	411
A13				15'-9"	378
A14				14'-5"	346
A15				13'-1"	314
A16				11'-9"	282
A17				10'-5"	250
A18				9'-1"	218
A19				7'-9"	186
A20				6'-5"	154
A21				5'-1"	122
A22				3'-9"	90
A23	16	#6	Str.	2'-5"	58
A25	8	#6	Str.	26'-9"	322
A26	↓	↓	↓	25'-5"	306
A27				24'-1"	289
A28				22'-9"	273
A29				21'-5"	257
A30	8	#6	Str.	20'-1"	241
A31	16	#6	Str.	18'-9"	451
A32	↓	↓	↓	17'-5"	419
A33				16'-1"	386
A34				14'-9"	354
A35				13'-5"	322
A36				12'-1"	290
A37				10'-9"	258
A38				9'-5"	226
A39				8'-1"	194
A40				6'-9"	162
A41				5'-5"	130
A42				4'-1"	98
A43	16	#6	Str.	2'-9"	66
A45	8	#6	3	27'-11"	336
A46	↓	↓	↓	26'-7"	320
A47				25'-3"	304
A48				23'-11"	287
A49				22'-7"	271
A50	8	#6	3	21'-3"	255
A51	16	#6	3	19'-11"	479
A52	↓	↓	↓	18'-7"	447
A53				17'-3"	415
A54				15'-11"	382
A55				14'-7"	350
A56				13'-3"	318
A57				11'-11"	286
A58				10'-7"	254
A59				9'-3"	222
A60				7'-11"	190
A61				6'-7"	158
A62				5'-3"	126
A63	16	#6a	3	3'-11"	94
A65	8	#6	4	28'-7"	344
A66	↓	↓	↓	27'-3"	328
A67				25'-11"	312
A68				24'-7"	295
A69				23'-3"	279
A70	8	#6	4	21'-11"	263
A71	16	#6	4	20'-7"	495
A72	16	#6	4	19'-3"	463

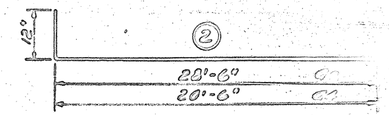
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
A73	16	#6	4	17'-11"	431
A74	↓	↓	↓	16'-7"	398
A75				15'-3"	366
A76				13'-11"	334
A77				12'-7"	302
A78				11'-3"	270
A79				9'-11"	238
A80				8'-7"	206
A81				7'-3"	174
A82				5'-11"	142
A83	↓	↓	↓	4'-7"	110
A84	16	#6	4	3'-3"	78
b1	540	#4	Str.	21'-6"	7755
b2	520	#5	Str.	31'-10"	17,265
b3	72	#4	Str.	22'-6"	1082
b4	8	#4	5	6'-4"	34
b5	136	#7	5	5'-5"	492
d1	752	#6	Str.	4'-6"	5083
e1	8	#4	9	6'-2"	44
e2	8	#4	Str.	5'-2"	28
e3	16	#4	Str.	2'-6"	27
f1	4	#4	Str.	1'-6"	4
f2	4	#4	Str.	2'-6"	7
f3	4	#4	Str.	2'-3"	6
f4	4	#4	Str.	3'-0"	8
f5	8	#4	Str.	3'-4"	18
g1	376	#5	6	5'-8"	2222
g2	256	#4	Str.	2'-2"	371
g3	24	#6	Str.	36'-0"	1298
K1	24	#4	Str.	26'-8"	427
K2	12	#6	Str.	27'-2"	490
K3	84	#5	Str.	4'-0"	350
K4	72	#5	Str.	10'-3"	770
m1	256	#4	10	4'-0"	684
S1	336	#4	8	3'-4"	748
S2	508	#4	7	4'-8"	1584

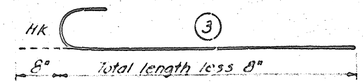
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT

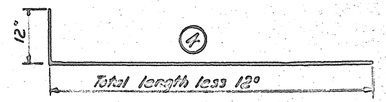
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT

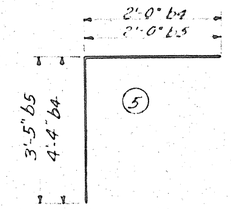
BAR DETAILS

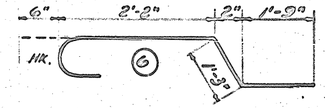


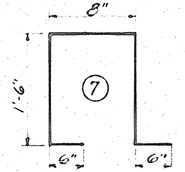


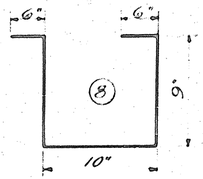


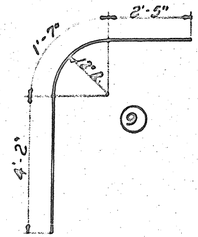


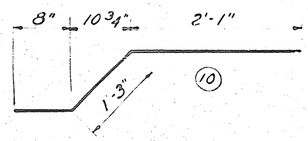












Note: All bar dimensions are out to out.

PROJECT NO. 8.19466
HAYWOOD COUNTY
STATION: 29+49
RAMP-B

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

BILL OF MATERIAL
FOR SPANS A, B, C & D

MAY, 1964

SPECIAL	DESIGNED BY: A.A. Khoury	May, 1964
	TRACED BY:	
	CHECKED BY: A.A. Khoury	May, 1964

* Concrete in Median is included in conc. above C.J. @ Top of curb.

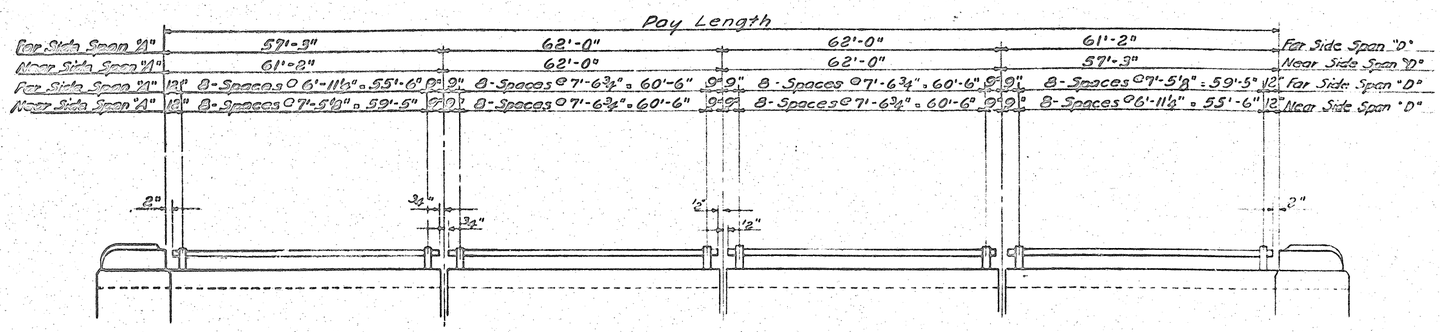
TOTAL QUANTITIES

REINFORCING STEEL, LBS.	96,506
STRUCTURAL STEEL, APPROX. LBS.	307,100
CLASS "A" CONCRETE, CU. YDS.	406.6

DIVISION OF CLASS "A" CONCRETE

	SPAN A or D	SPAN B or C
Deck Constr. @ Top of curb, Cu. Yds.	96.0	86.7
Abuts Constr. @ Top of Curb, Cu. Yds. ☆	10.7	10.0
TOTAL CU. YDS.	106.7	96.7

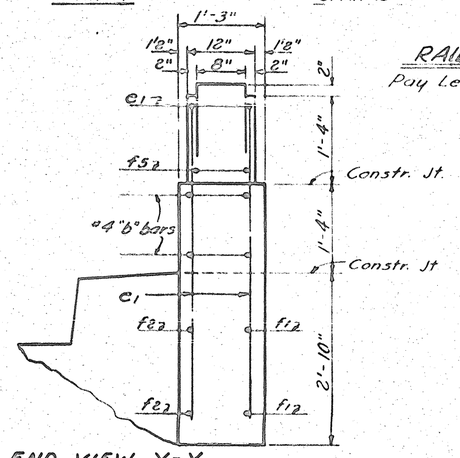
NOTE:
Aluminum posts are ~~to be~~ furnished with test coupons attached and are ~~to be~~ in accordance with the requirements of AASHO Specification M 193-60.



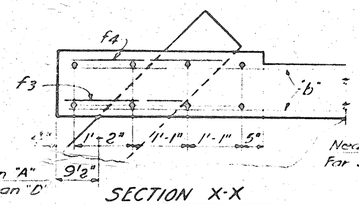
SPAN "A" SPAN "B" SPAN "C" SPAN "D"

RAIL ELEVATION

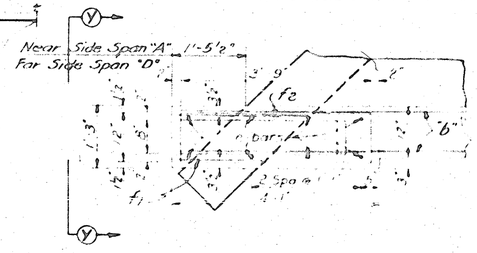
Pay Length = 484.83 Lin. Ft

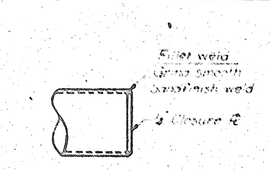


END VIEW Y-Y

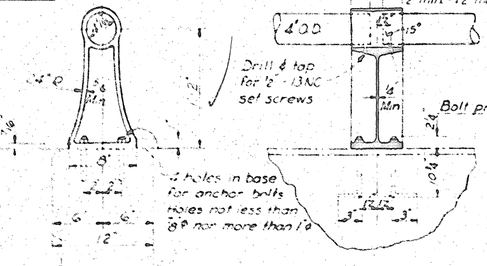


SECTION X-X

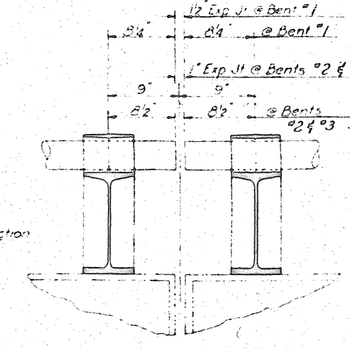




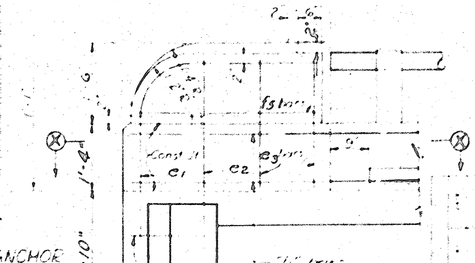
DETAIL END CLOSURE



POST DETAIL



DETAIL @ EXPANSION JOINT



DETAIL OF ANCHOR BOLTS

END POST DETAIL

SECTION C-C

At the Contractor's option metal rail may be either Aluminum ~~fabricated~~ with the requirements of the general notes and the following specifications for the ~~different~~ materials; however, the Contractor ~~will be required~~ to use the same rail material on ~~all~~ 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 trim."

End of rail to clearface of concrete End Post by 1½".

~~One~~ middle panel runs of rail, set screws shall be ~~on~~ right of center post and snug at ends to allow for expansion.

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

¾" dia. 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.

Note: Rail Posts ~~to be~~ set normal to curb grade.

Method of measurement for Metal Rails:
Unless otherwise stated, the length of Metal Rail ~~to be~~ paid for shall be the continuous horizontal length measured from inside to inside of concrete posts, but without deductions for spaces between rail sections.

Concrete and reinforcing steel in End Post are included with Superstructure or End Posts.

ALUMINUM RAILS

Aluminum alloys are ~~to be~~ as follows:

Cast Rail Posts	A356 - T6
Round Tubular Rail	6061-T6 or 6063-T6
Set Screws	2024 - T4
Closure Plates	6061-T6 or 6063-T6

Round Tubular Rails are ~~to be~~ of 4" O.D. with .116" minimum wall thickness.

The base of rail posts, or any other aluminum surface in contact with concrete shall be ~~given a~~ 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 M102-68 Class 70, Galvanized to ASTM A123
4" O.D. Rail	Standard 83" Galvanized Steel Pipe, ASTM A53
Closure Plates & Shims	Steel, ASTM A 283 Grade C, galvanized to ASTM A 123
Set Screws	Standard Steel Cap Screws, Galvanized to ASTM A153

The cut ends of galvanized pipe rails, the end closure plate weld after grinding smooth and areas adjacent to the weld where spatter coating has been burned by welding shall be thoroughly cleaned by wire brushing to remove all traces of welding flux and loose or cracked spatter after which these cleaned areas shall be given two coats of Zinc paint meeting the requirements of Federal Specification MIL-P-26915 (USAF) Type I.

PROJECT NO. 8.19468
HAYWOOD COUNTY
STATION: 29+49
RAMP-B

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

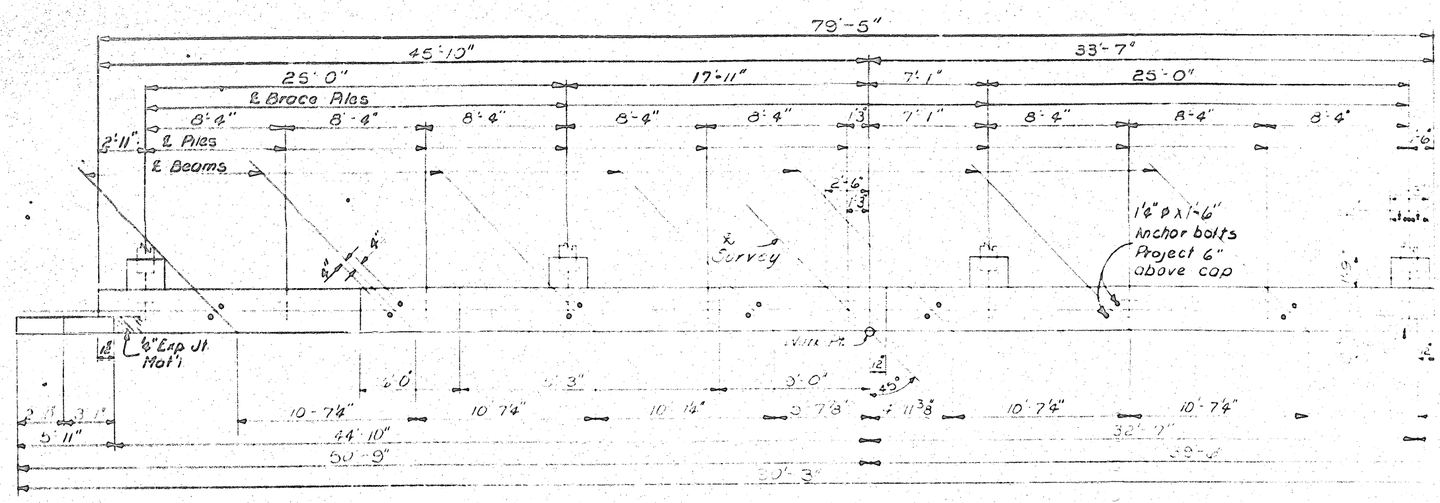
STANDARD
I BAR
METAL RAIL

Jan. 1962

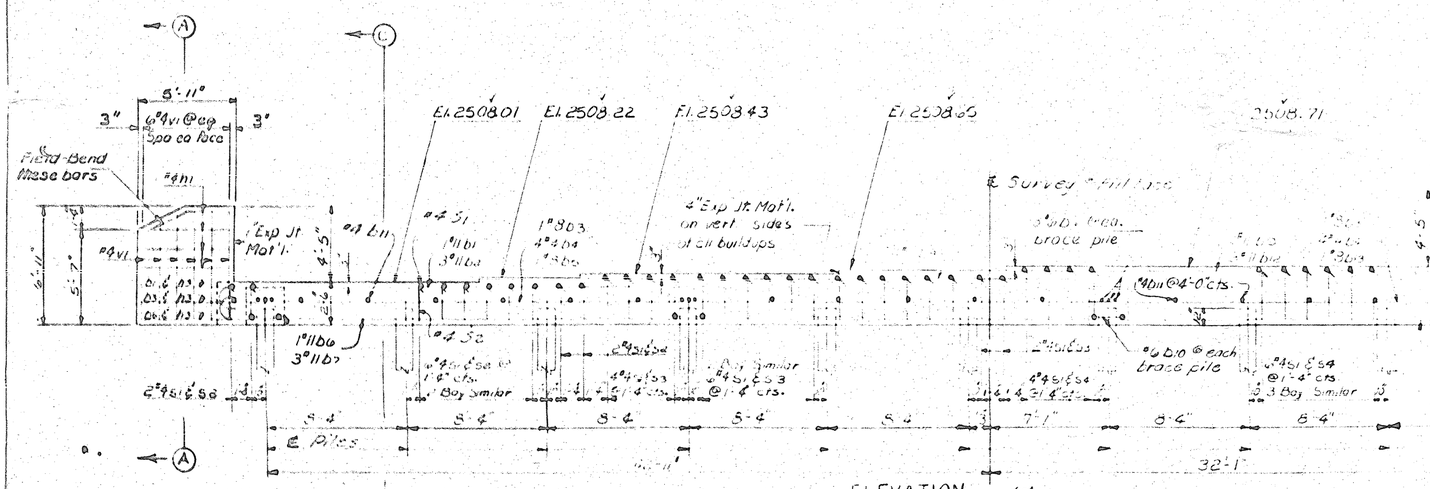
STANDARD	DESIGN BY	DATE	CHECKED BY	DATE
		Jan. 1962		Jan. 1962

Revision 1: Revised to add note regarding backup bar @ Bents #2 & #3 - 4-66

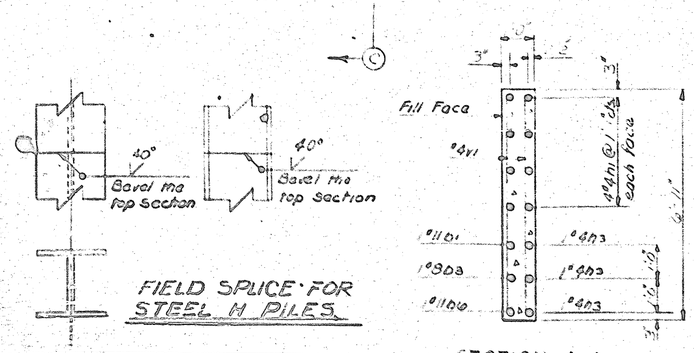
NO.	DATE	BY	NO.	DATE
1			3	
2			4	



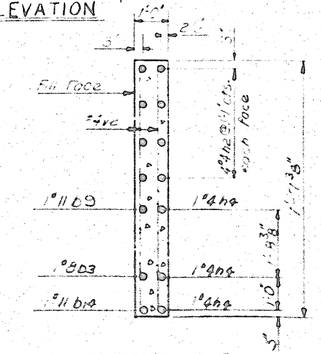
PLAN



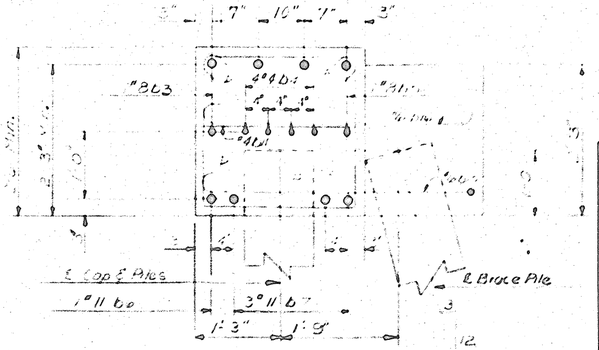
ELEVATION



SECTION A-A



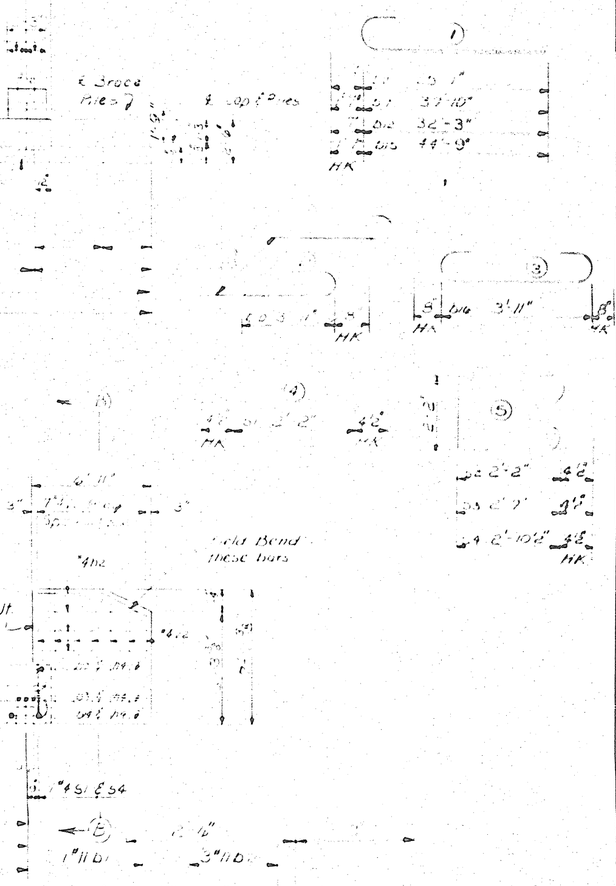
SECTION B-B



SECTION C-C

BAR DETAILS

Note: All bar dimensions are out to out.



BILL OF MATERIAL FOR END BENT

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	1	11	str.	24'-0"	274
B2	3	11	1	26'-6"	909
B3	2	8	str.	6'-0"	41
B4	12	4	str.	29'-2"	233
B5	1	8	str.	6'-0"	41
B6	1	11	str.	33'-3"	380
B7	3	11	1	35'-0"	1202
B8	4	11	str.	27'-6"	419
B9	1	11	str.	30'-3"	345
B10	4	6	2	11'-1"	74
L1	12	4	str.	2'-0"	16
B12	3	11	1	39'-10"	1365
B13	1	8	str.	32'-2"	1466
B14	1	11	str.	32'-0"	1095
B15	3	11	1	33'-0"	1131
B16	12	6	3	5'-3"	95
A1	8	4	str.	5'-2"	35
H2	8	4	str.	6'-2"	42
H3	3	4	str.	6'-2"	16
H4	3	4	str.	7'-3"	19
V1	12	4	str.	6'-7"	53
V2	14	4	str.	7'-3"	60
S1	37	4	4	4'-11"	111
S2	16	4	5	7'-3"	77
S3	18	4	5	8'-1"	97
S4	23	4	5	8'-8"	133

Reinforcing Steel = 5,298 lbs.
Conc. in Concrete, Cu Yds. = 26.84
12"11 33 Steel Piles No. = 14
Lin. Ft. = 490.29

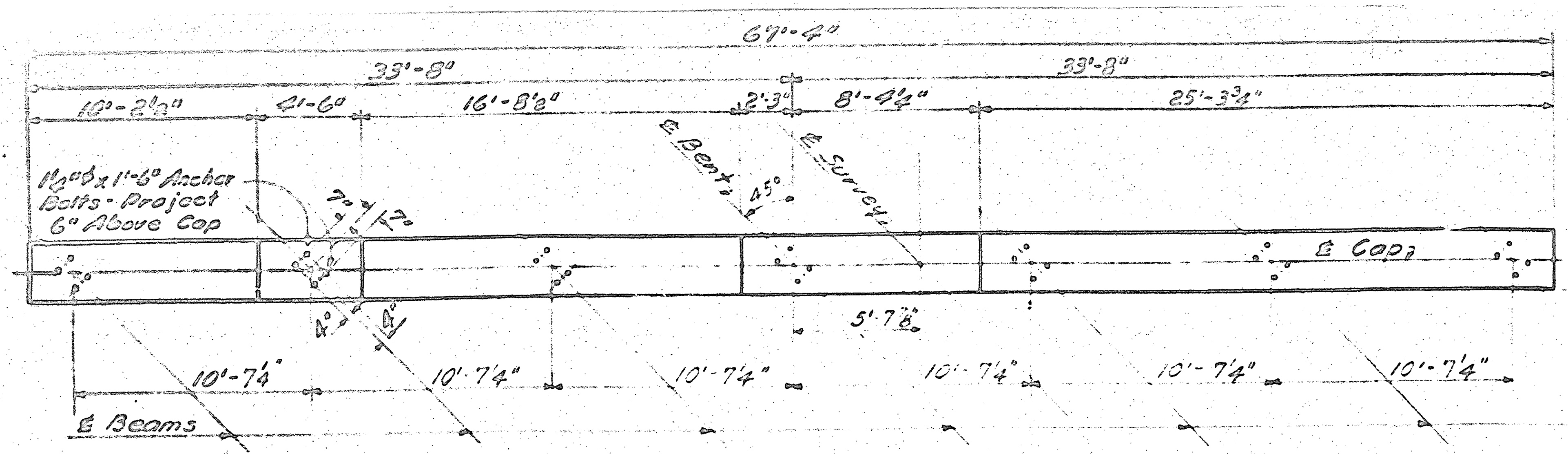
PROJECT NO. B-19468
HAYWOOD COUNTY
STATION: 29+49
RAMP -B-

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

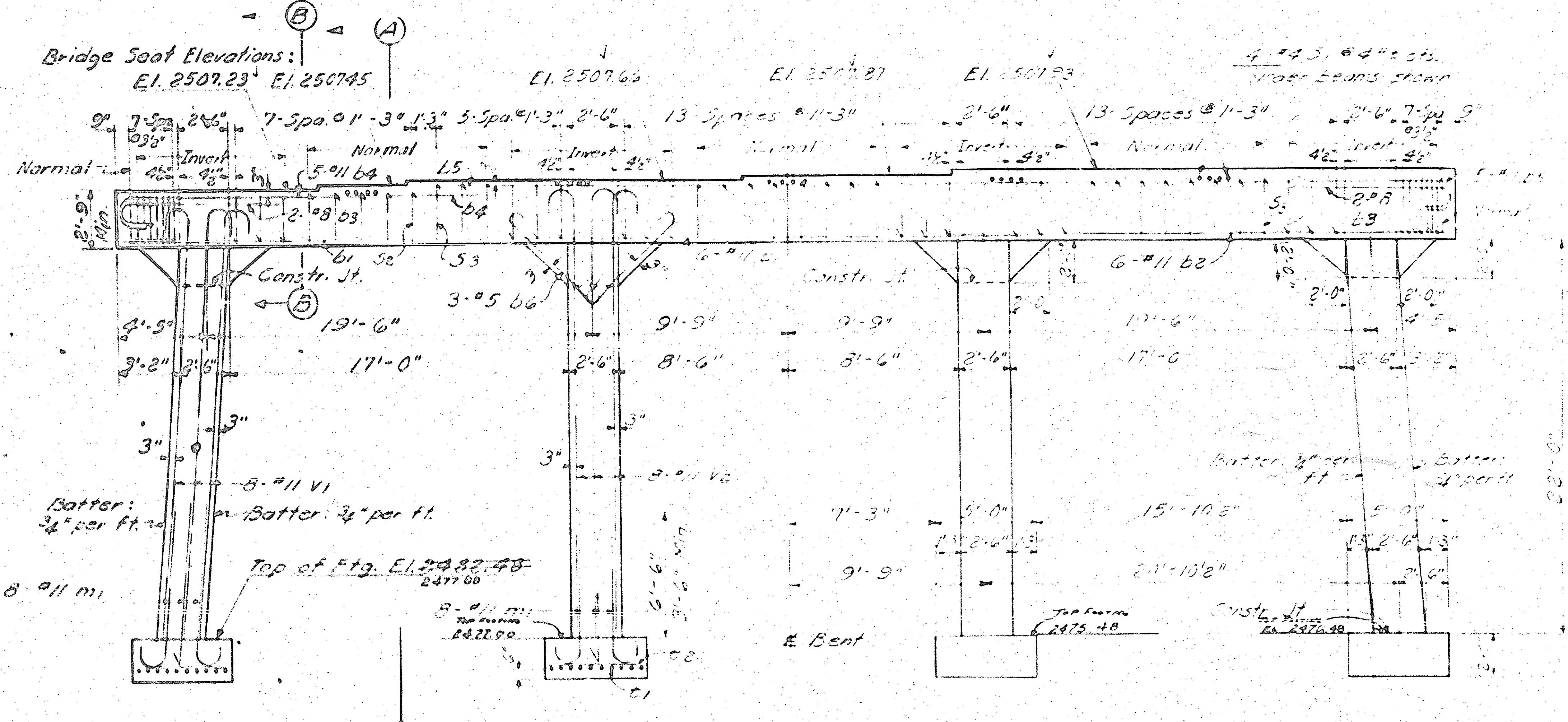
SUBSTRUCTURE
END BENT No 1

MAY, 1964

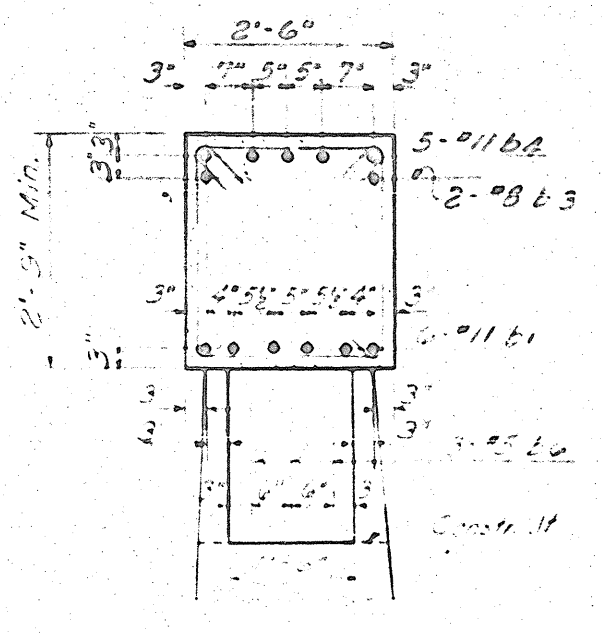
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		



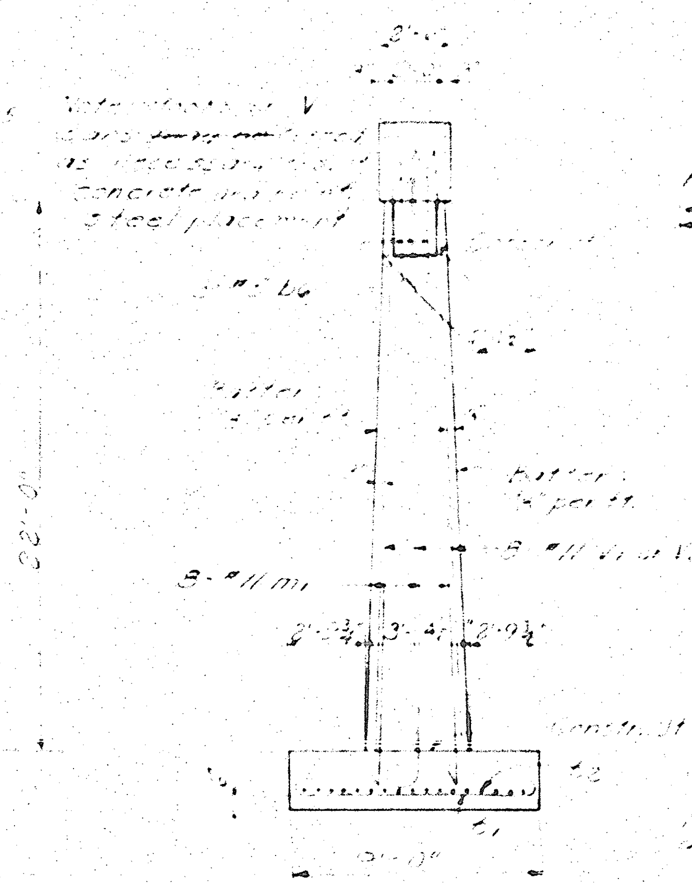
PLAN OF CAP



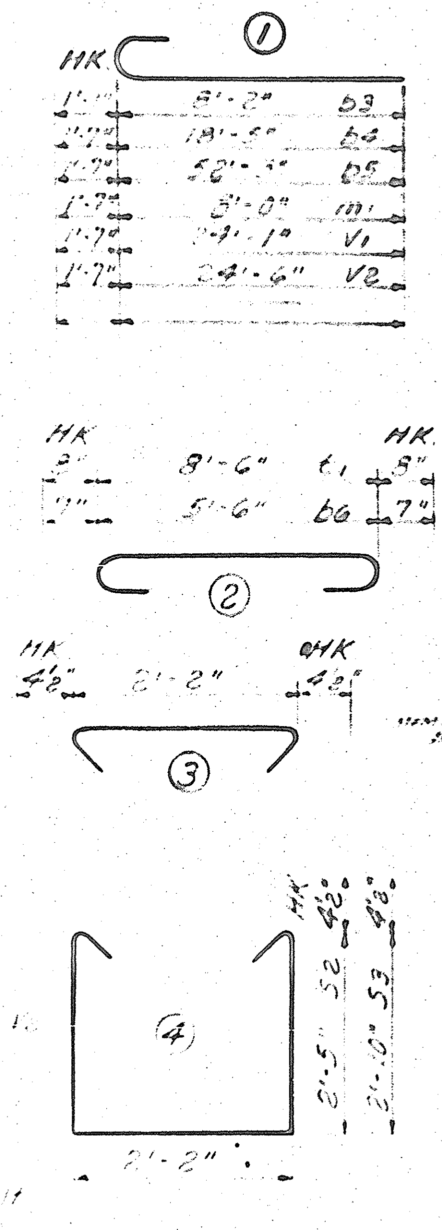
ELEVATION



SECTION B-B



SECTION A-A

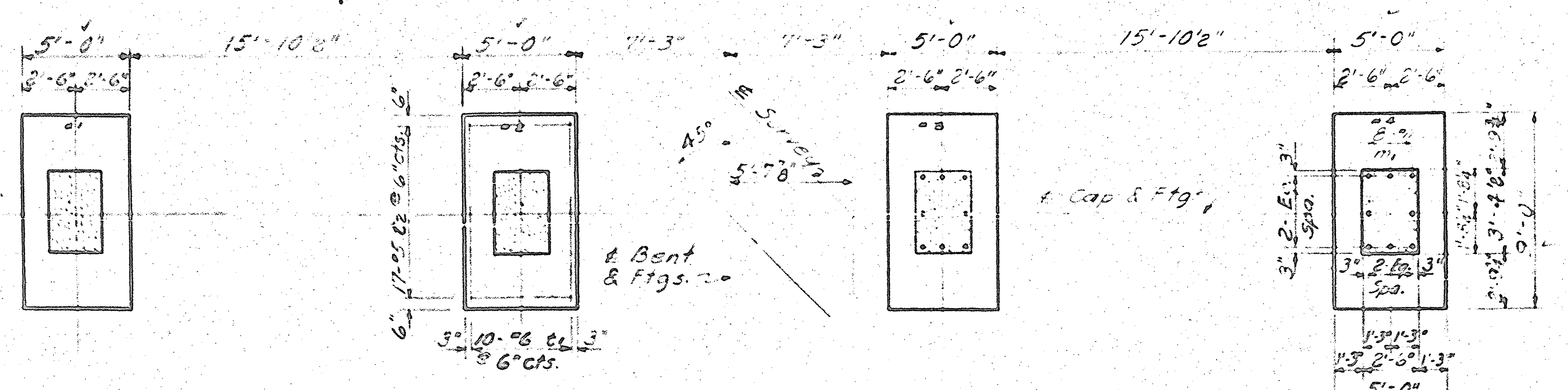


BAR DETAILS

Note: All dimensions are out to out of bar.

b1	6	#11	Str.	[illegible]	
b2	6	#11	Str.	[illegible]	
b3	4	#8	1	[illegible]	
b4	5	#11	1	[illegible]	
b5	5	#11	1	[illegible]	
b6	24	#5	2	[illegible]	
m1	32	#11	1	9'-7"	[illegible]
s1	20	#4	3	2'-11"	[illegible]
s2	16	#4	4	7'-0"	[illegible]
s3	42	#4	4	8'-4"	[illegible]
t1	40	#6	2	9'-10"	[illegible]
t2	60	#5	Str.	4'-8"	[illegible]
v1	8	#11	1	25'-8"	[illegible]
v2	24	#11	1	26'-1"	[illegible]
	8	#11		6'-0"	[illegible]
	8	#11		6'-3"	[illegible]
	8	#11		7'-6"	[illegible]
	8	#11		6'-6"	[illegible]
	Total Extra				4,075

Reinforcing Steel, Lbs. [illegible]
Class "A" Concrete, Cu. Yds. [illegible]



PLAN OF FOOTINGS

~~DIVISION OF CONCRETE~~	
~~Pour No~~	~~Cu Yds.~~
~~1. Footings~~	~~13.2~~
~~2. Columns~~	~~20.4~~
~~3. Cap & Brackets~~	~~22.6~~
~~Total~~	~~56.2~~

PROJECT NO. 8.19468
HAYWOOD COUNTY
STATION: 29+49
RAMP-B

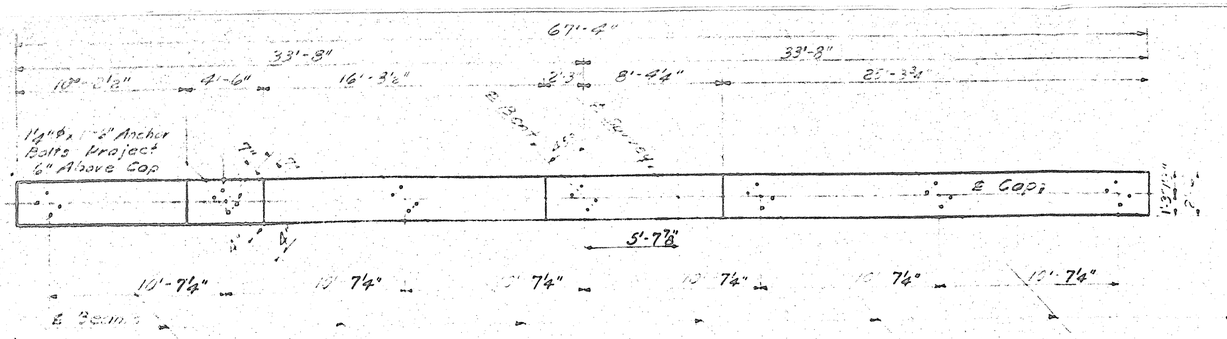
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

SUBSTRUCTURE
BENT NO. 1

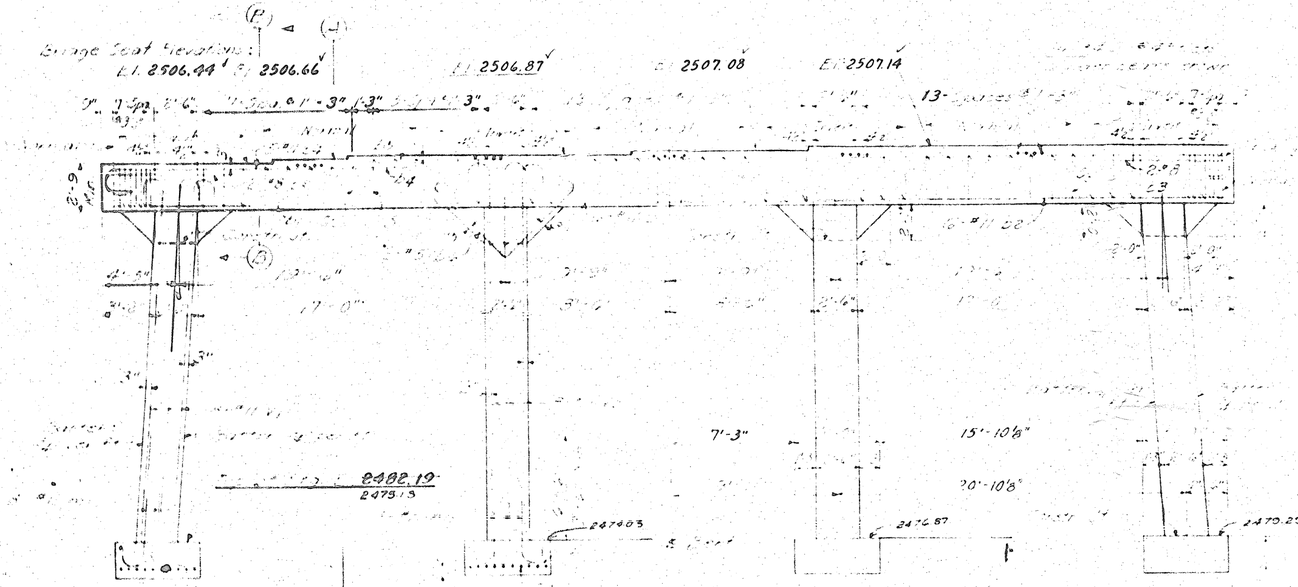
JUNE 1964

REVISIONS

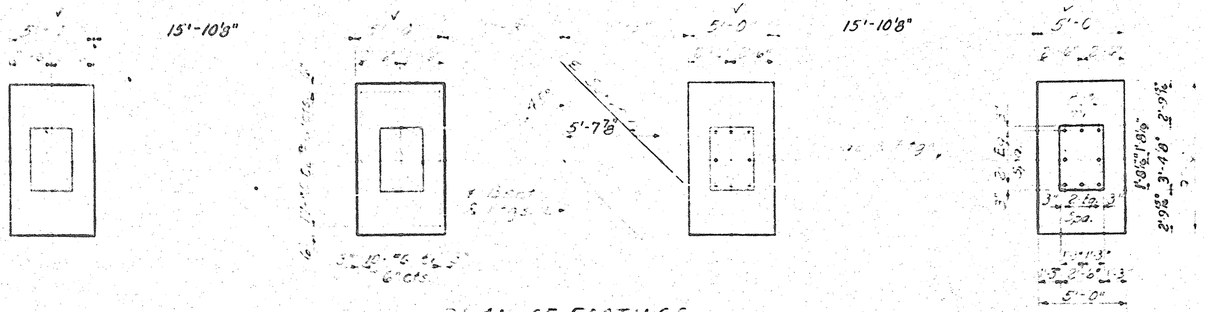
NO	BY	DATE	NO	BY	DATE
1			3		
2			4		



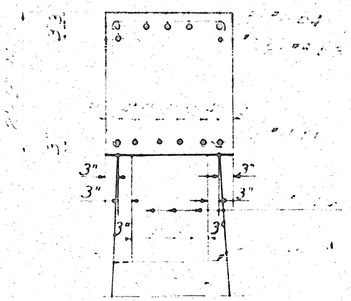
PLAN OF CAP



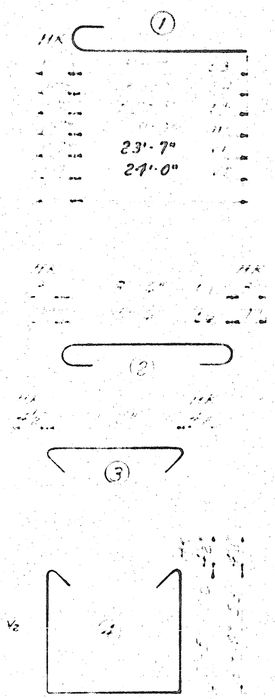
ELEVATION



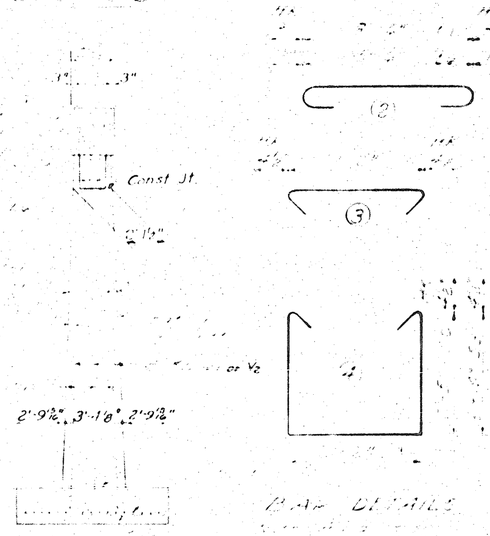
PLAN OF FOOTINGS



SECTION B



BAR DETAILS



SECTION A

BILL OF MATERIAL FOR SEMI-R...

BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
b	6	#11	22	51'-7"	2,6...
b1	6	#11	22a	51'-7"	2,6...
b2	6	#8	1	[illegible]	[illegible]
b3	6	#11	1	[illegible]	[illegible]
b4	6	#11	1	[illegible]	[illegible]
b5	4	#5	2	[illegible]	[illegible]
[illegible]					
m	30	#11	1	51'-7"	7,7...
s	[illegible]	#3	3	8'-11"	[illegible]
[illegible]	[illegible]	#3	4	1'-9"	[illegible]
[illegible]	[illegible]	#3	5	8'-7"	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	0'-10"	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	0'-8"	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	25'-5"	1090
[illegible]	[illegible]	[illegible]	[illegible]	25'-7"	320
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0		#11		0'-0"	
6		#11		21'-7"	
6		#11		8'-10"	
[illegible]					
Total Lbs. Reinf. Steel					12,678
[illegible]					[illegible]
[illegible]					[illegible]
[illegible]					[illegible]

DIVISION OF CONCRETE

Pour No.	Cu. Yds.
1. Footings	13.3
2. Columns	19.7
3. Cap & Brackets	22.6
Total	55.6

PROJECT NO. 8.15468

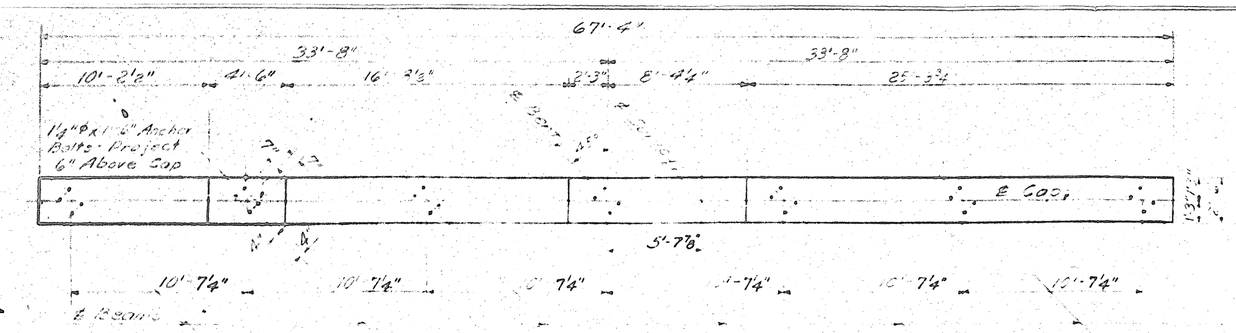
MAYWOOD COUNTY

STATION: 23+49 RAMP-B-

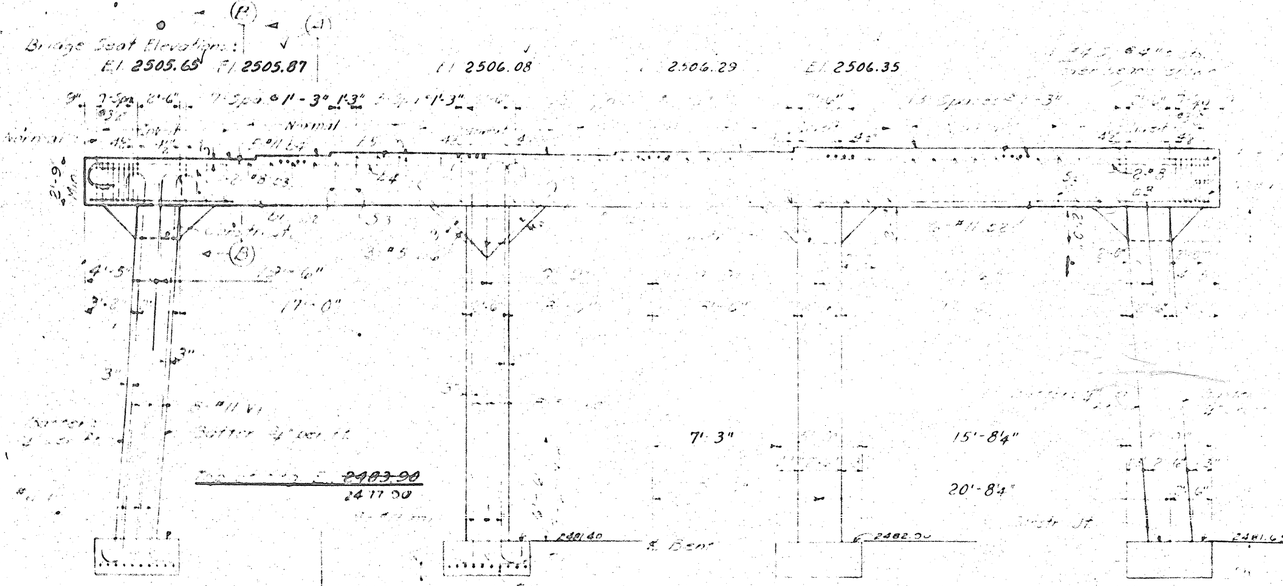
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

SUBSTRUCTURE
BENT NO. 2

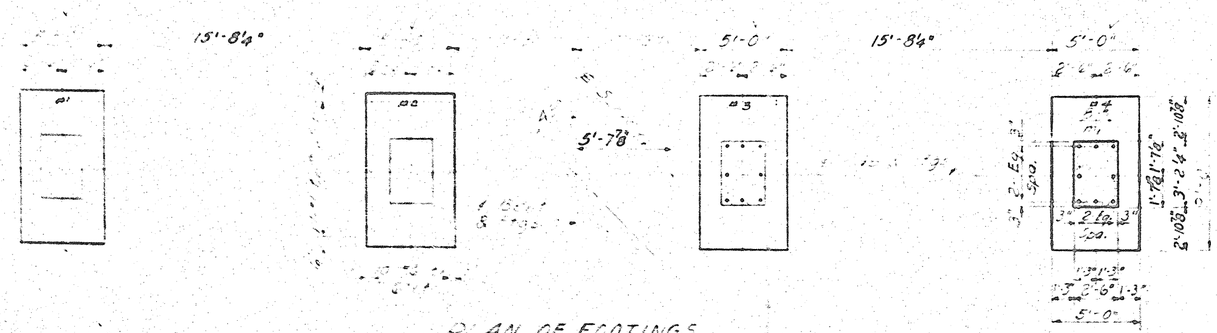
[illegible] DATE [illegible]



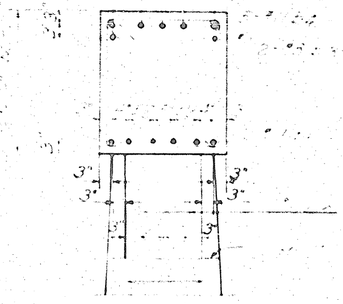
PLAN OF CAP

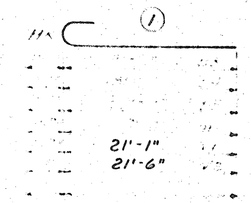


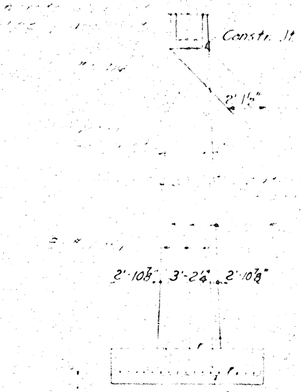
ELEVATION

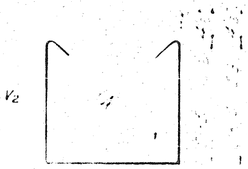


PLAN OF FOOTINGS









PLAN OF PILES

SECTION AA

BILL OF MATERIAL

FOR BENT No. 3

CAR	NO	SIZE	TYPE	LENGTH	WEIGHT
D	6	#11	Str.	45'-0"	4050
E	6	#11	Str.	25'-0"	2250
E3	12	#8	1	Str.	1140
E4	6	#11	1	28'-0"	2520
E5	6	#11	1	33'-10"	3045
E6	12	#8	2	6'-0"	1140
F1	13	#11	1	21'-7"	1685
S		#3	2	2'-11"	39
		#3	4	17'-3"	230
		#3	4	8'-7"	115
C1	12	#6	2	21'-10"	561
C2	28	#6	As	4'-0"	336
V1	8	#11	1	22'-0"	968
V2	12	#11	1	23'-1"	2045
Extra	8	#11		6'-6"	276

FOR SPLICING

11 #6 Str. 4'-0" 44
12 #6 Str. 5'-0" 60
50 #6

DIVISION OF CONCRETE	
Pour No.	Cu. Yds.
1. Footings	13.3
2. Columns	16.7
3. Cap & Brackets	22.6
Total	52.6

PROJECT NO. 8.15468

HAYWOOD COUNTY

STATION: 23+49

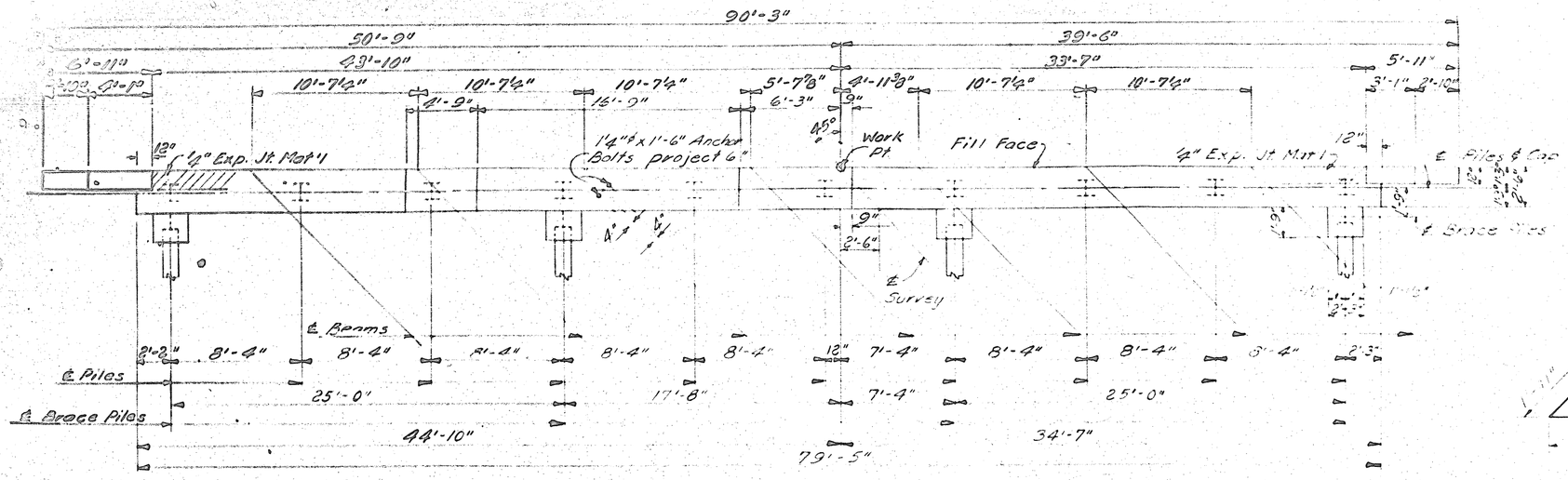
RAMP-B-

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
RALEIGH

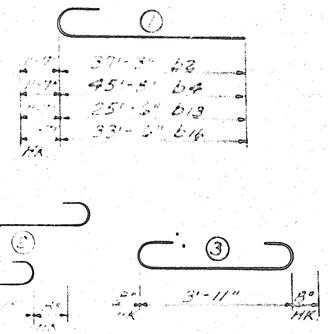
SUBSTRUCTURE
BENT NO. 3

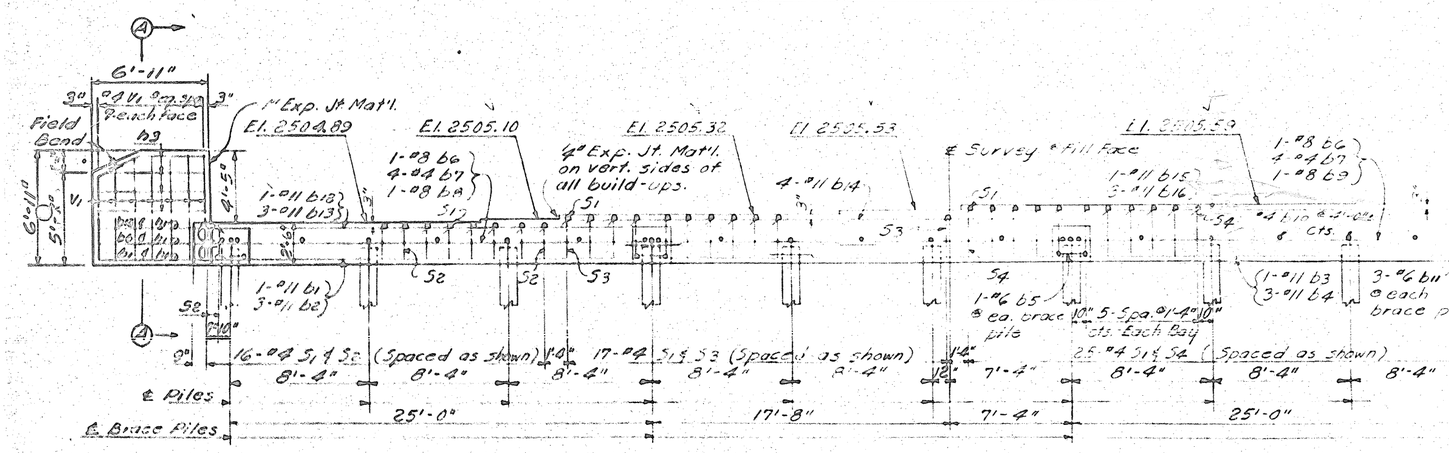
1964

NO	BY	DATE	NO	BY	DATE
1					

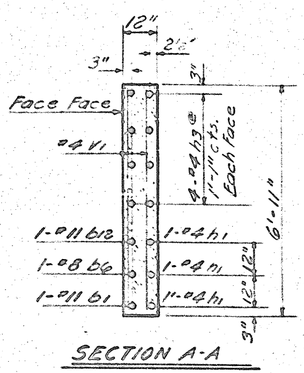


PLAN OF END BENT NO. 2

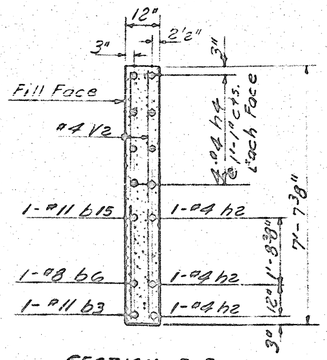




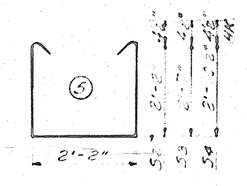
ELEVATION



SECTION A-A



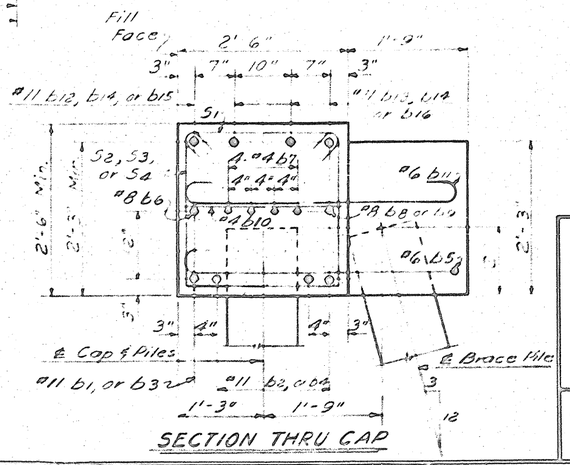
SECTION B-B



BAR DETAILS

Note: All bar dimensions are out to out

Note: See End Bent No.1 for Pile Splice



SECTION THRU CAP

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
b1	1	#11	Str.	6'-11"	12
b2	2	#11	1	6'-11"	24
b3	1	#11	1	6'-11"	12
b4	3	#11	1	45'-6"	234
b5	4	#6	2	11'-10"	71
b6	2	#11	Str.	6'-11"	24
b7	12	#4	Str.	6'-11"	48
b8	1	#11	Str.	6'-11"	12
b9	1	#11	Str.	37'-3"	127
b10	18	#4	Str.	2'-10"	34
b11	12	#6	3	8'-8"	78
b12	1	#11	Str.	37'-3"	127
b13	3	#11	1	25'-10"	269
b14	4	#11	Str.	25'-3"	344
b15	1	#11	Str.	25'-3"	86
b16	3	#11	1	33'-4"	341
h1	3	#4	Str.	7'-3"	16
h2	3	#4	Str.	6'-8"	15
h3	8	#4	Str.	6'-7"	35
h4	8	#4	Str.	5'-7"	30
V1	14	#4	Str.	6'-7"	62
V2	12	#4	Str.	7'-3"	58
S1	58	#4	4	2'-11"	115
S2	16	#4	5	7'-3"	80
S3	17	#4	5	8'-1"	92
S4	25	#4	5	8'-8"	145

Reinforcing Steel, Lbs. = 2,317
(1435 "A" Concrete, Cu.Yds. = 20.1)
12-11'53 Steel Piles:
No. 12
Lin. Ft. = 252

PROJECT NO. 8.1961618

HAYWOOD COUNTY

STATION: 23+49
RAMP-B

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

SUBSTRUCTURE
END BENT NO. 2

MAY, 1964

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

SHOP PLANS