

SECTION ALONG & BENTS SECTION A-A

NOTES

Assumed Live Load: HS20S (44)

For other than data and general notes see Sheet 5-N.

The entire load of this bridge shall be supported in the span over center of bent No. 1. A concrete

Capacity of your design load for Bent 1 and Bent 2 shall be carried by at least 6" into rock with minimum thickness of 24" each.

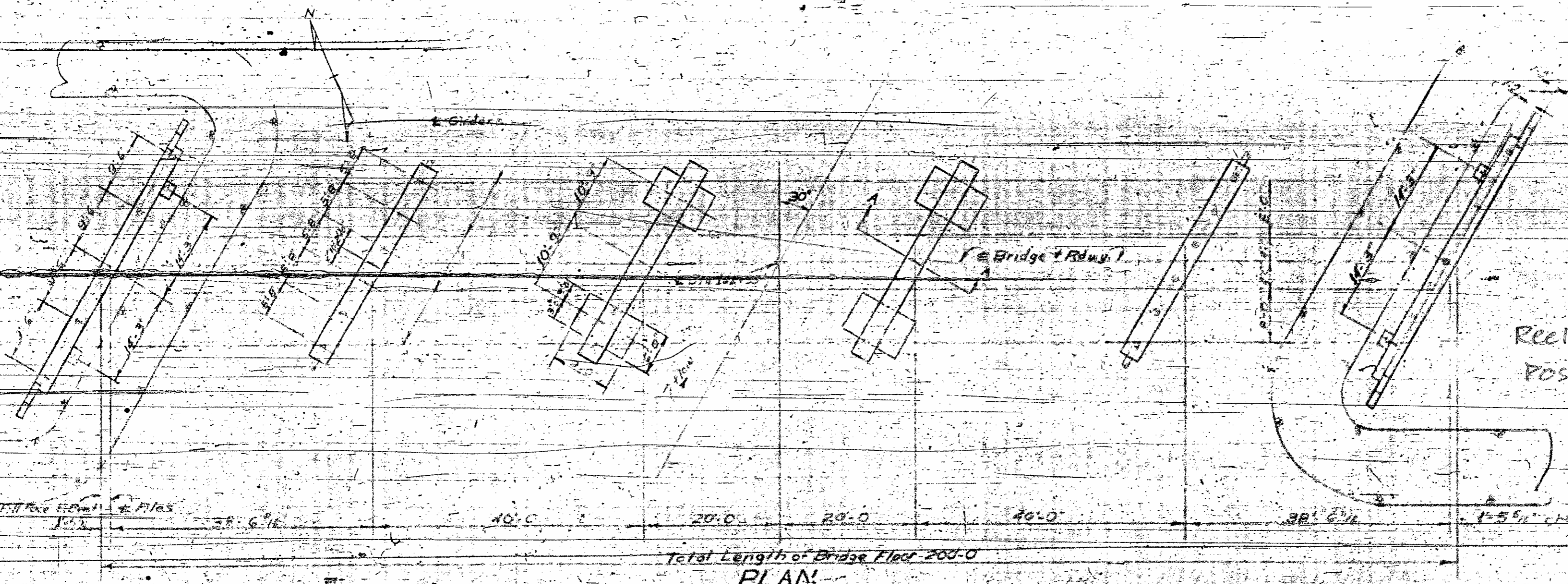
Test piles will not be required. Refer to 30 ft. long, and Bent piles shall be driven through the roadway fill for minimum pile data see Sheet 5-7.

Traffic will be detoured during construction of this project.

The two existing structures at Sta. 159+85 and Sta. 164+557, consisting of a 3 spans 37' crossed under main bridge, and a 2 spans 21' over the bridge, both of concrete. Substructures shall be removed as follows: Superstructure, concrete or 1 substructure to a point the top of the structure is at or above surface of the ground.

Excavation shall be done to the surface of the ground.

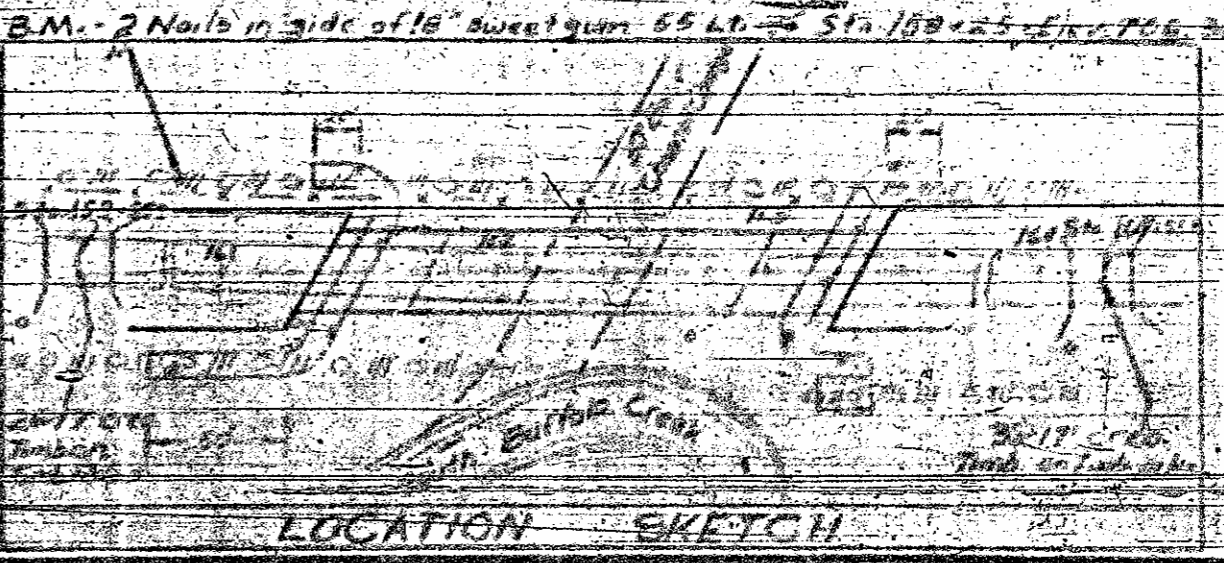
The existing culvert at Sta. 164+557 shall be removed. The excavation for the culvert shall be done to the surface of the ground.



PLAN

TOTAL BILL OF MATERIALS

Class	Route	12' Cast	14' Cast	Excavation	Rip	Roof	Removal	Remain	Notes	Method
		in place	in place		in place		in place			
Superstructure	288	933	36							21
End Bent #1	12.2	2449			225	225				
Bent #1	8.9	1714								
Bent #2		538								
Bent #3		538								
Bent #4		1714								
End Bent #2										
Abutment	3.2	7								
TOTAL	332.3	1714	36	225	225	225	225	225	225	21



LOCATION SKETCH

PROJECT NO. 5-310

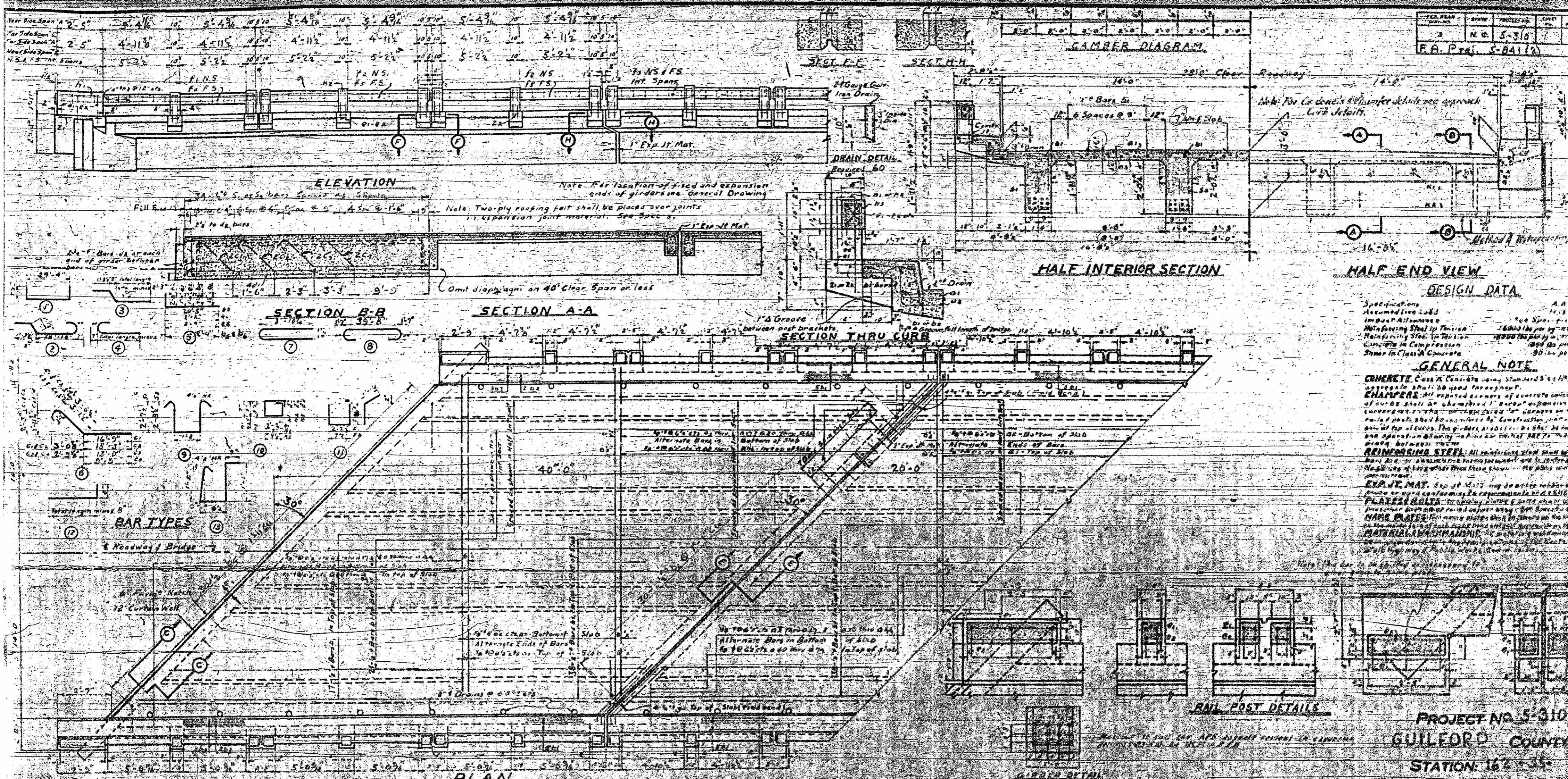
#109 GUILFORD COUNTY

STATION: 162+35

Replaces Bridge No 225 & 1630

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION
GENERAL DRAWING FOR
BRIDGE OVER SOUTH
BUFFALO CREEK ON MOODY
ROAD S.E. OF GREENBORO

DESIGNED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____



PROJECT NO.	5-310
DATE	5-310
DRAWN BY	N.C.
CHECKED BY	
PROJECT	

F.A. Proj. 5-310(2)

DESIGN DATA

Specifications
 Assumed Live Load 14.5 S12
 Impact Allowance 100 Sp. - 1st Span
 Minimum Span in Tension 16000 lbs per sq ft (1600)
 Maximum Span in Tension 18000 lbs per sq ft (1800)
 Concrete in Compression 3000 lbs per sq ft
 Steel in Class A Concrete 30 lbs per sq ft

GENERAL NOTE

CONCRETE: Class A Concrete using Standard 3" x 12" pipes aggregate shall be used throughout.
CHAMFER: All exposed corners of concrete below top of curb shall be chamfered 1" except expansion joint corners. Chamfer shall be made by construction joint at top of the curb. Chamfer shall be 1" x 1" at top of curb and 1/2" x 1/2" at bottom of curb.
REINFORCING STEEL: All reinforcing steel shall conform to A.S.T.M. Specification for Reinforcing Steel Bars and Deformed Steel Wire Rods and shall be of the size and quantity shown on the drawings.
EXP. JT. MAT. Exp. Jt. Mat. may be other rubber matting as approved by the engineer.
PLATE BOLTS: In expansion joint plate bolts shall be of the size and quantity shown on the drawings.
HAVE PLATE: Have plate shall be of the size and quantity shown on the drawings.
MATERIAL HANDLING: Material handling shall be in accordance with the specifications of the American Institute of Steel Construction, Inc. (AISC) Manual of Steel Construction, 9th Edition, 1950.
 Note: The bar is to be installed in accordance with the drawings.

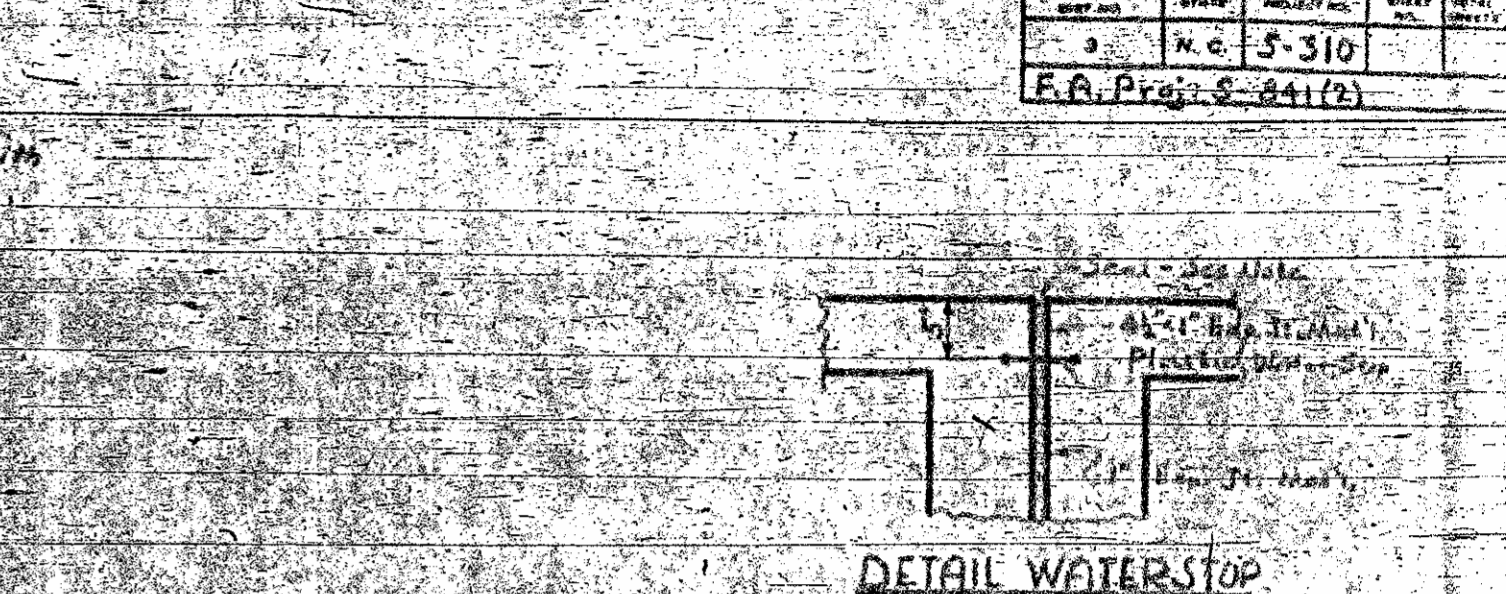
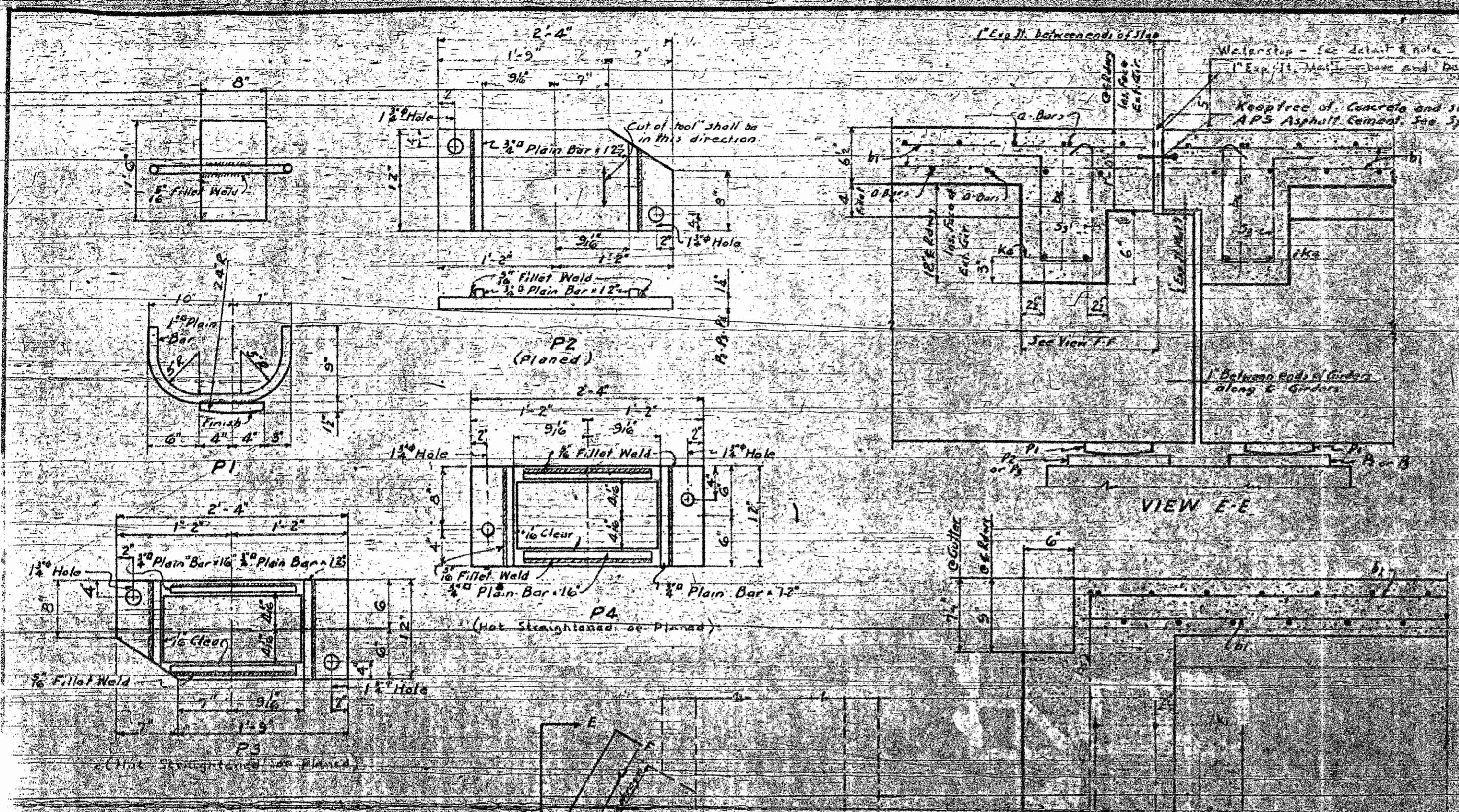
PROJECT NO. 5-310
 GUILFORD COUNTY
 STATION: 166+35

BILL OF MATERIAL FOR 5 SPANS @ 40'-0"

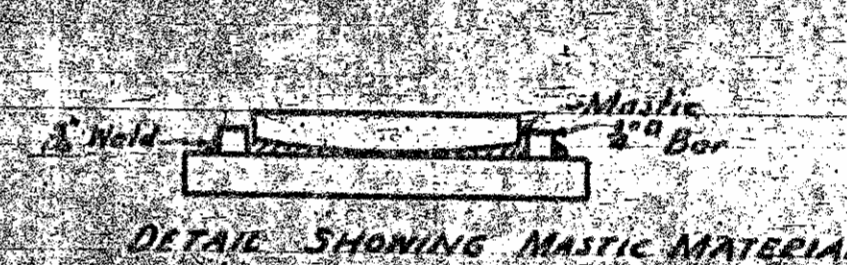
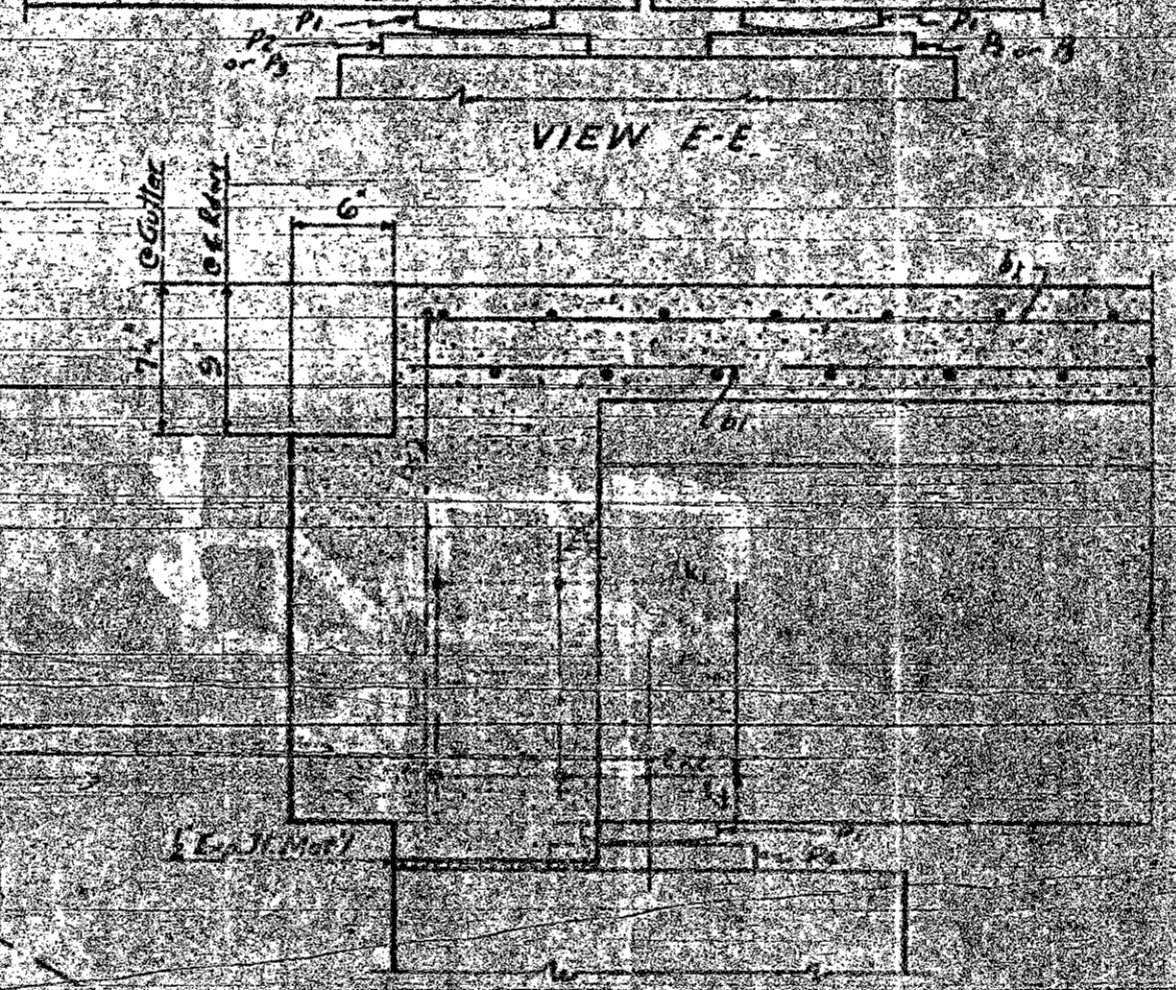
No.	Qty	Unit	Material	Weight	Value
1	210	cu yd	CONCRETE	6635	1393350
2	205	lb	REINFORCING STEEL	4806	985230
3	10	sq ft	FORMWORK	318	3180
4	10	sq ft	FORMWORK	309	3090
5	10	sq ft	FORMWORK	180	1800
6	10	sq ft	FORMWORK	151	1510
7	10	sq ft	FORMWORK	131	1310
8	10	sq ft	FORMWORK	82	820
9	10	sq ft	FORMWORK	153	1530
10	10	sq ft	FORMWORK	124	1240
11	10	sq ft	FORMWORK	124	1240
12	10	sq ft	FORMWORK	124	1240
13	10	sq ft	FORMWORK	124	1240
14	10	sq ft	FORMWORK	124	1240
15	10	sq ft	FORMWORK	124	1240
16	10	sq ft	FORMWORK	124	1240
17	10	sq ft	FORMWORK	124	1240
18	10	sq ft	FORMWORK	124	1240
19	10	sq ft	FORMWORK	124	1240
20	10	sq ft	FORMWORK	124	1240

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION
 STANDARD
 REINFORCED CONCRETE
 DECK GIRDER
 30° LEFT HAND SKEW
 SPAN- 20'-0" ROADWAY
 JUNE 1952

PROJECT NO.	5-310
DATE	11-2-55
F.A. Proj. S-341(2)	



Plastic Waterstop to be FLEXTRIP as manufactured by Water Seal Inc. 95 Clinton St. Chicago, Ill. or approved equal. Flextrip to run continuous by expansion joints inside faces of rail base and shall be installed in accordance with manufacturer's recommendations.

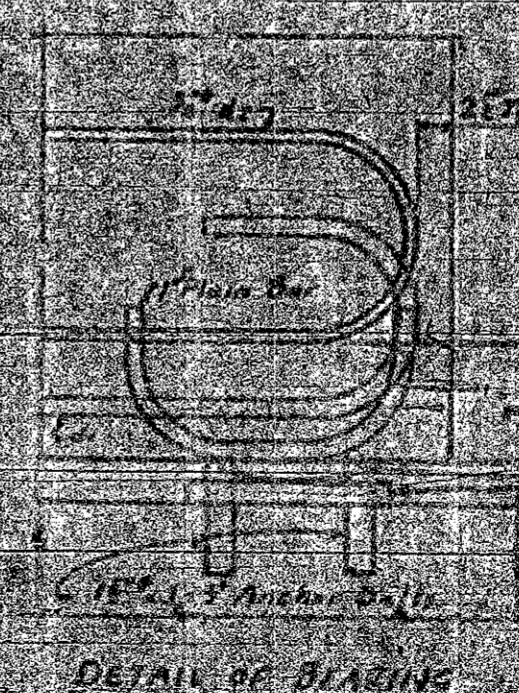
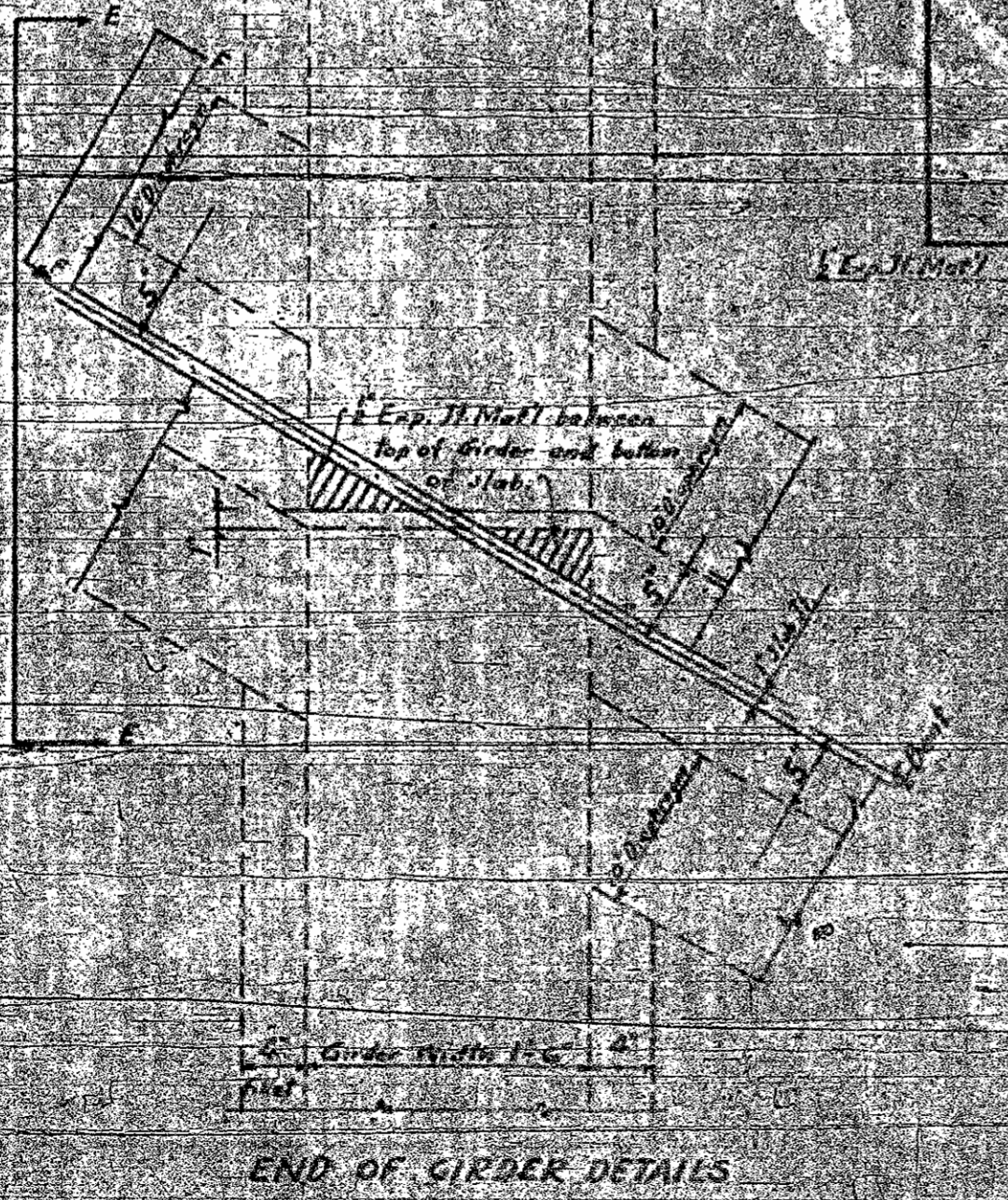


Note: Special care shall be taken to set all plates in exact position and to keep edges and bottom surface of top plates free of concrete. The area between the top plate and the 3/4\"/>

REQUIRED LIST - STRUCTURAL STEEL PLATES AND BOLTS

Required 40 Bearing Plates - P1
 Required 20 Bearing Plates - P2
 Required 12 Bearing Plates - P3
 Required 8 Bearing Plates - P4
 Required 80 12x1/2x3 Anchor Bolts

Tot. Wt. Plates & Bolt Assembly 73,8500.



PROJECT NO. 5-310
 GUILFORD COUNTY
 STATION 162+35

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION

SUPERSTRUCTURE
 DETAILS

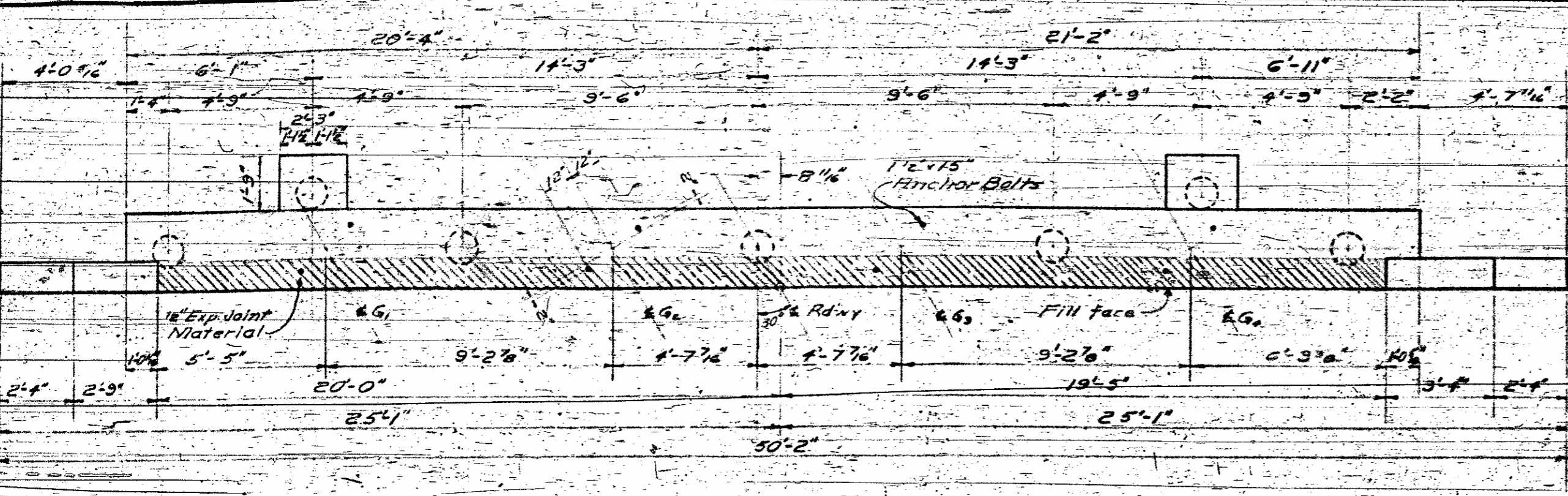
SPECIAL	APPROVED BY	DATE
STANDARD	APPROVED BY	DATE

REV.	DATE	BY	REASON
1			

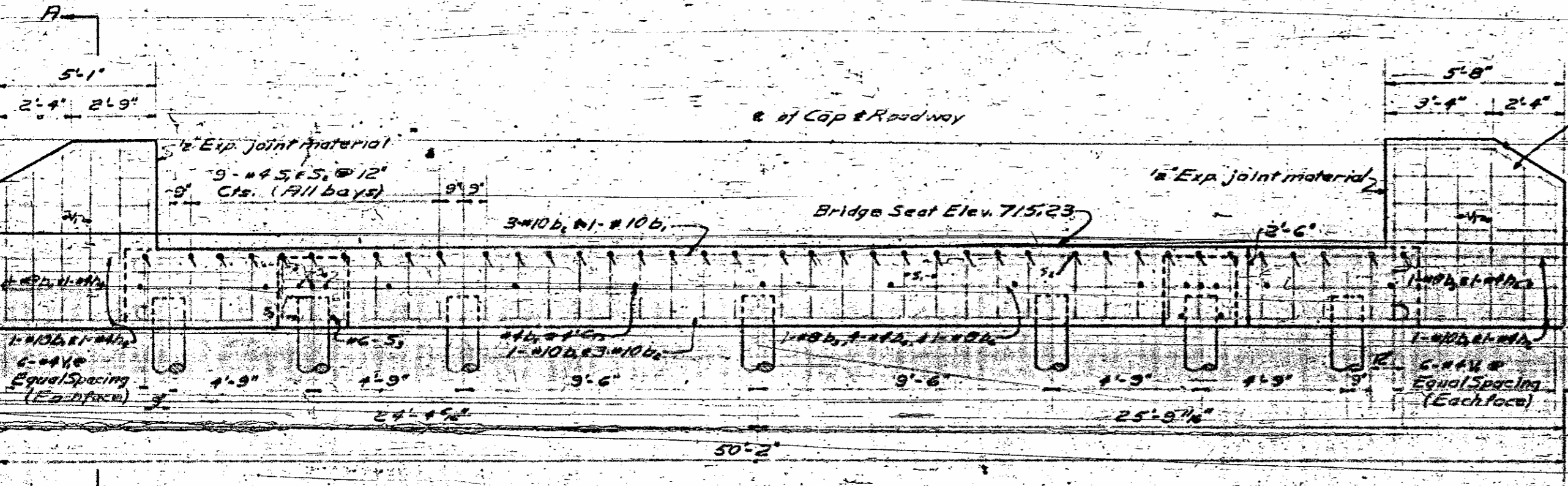
BILL OF MATERIALS FOR ONE END BENT - 2 REQ.

NO.	QTY	SIZE	TYPE	LENGTH	WEIGHT
1	2	#10	SPH	49'-10"	423
2	6	#10	"	49'-10"	434
3	1	#8	SPH	49'-10"	133
4	8	#4	SPH	21'-3"	114
5	11	#4	SPH	21'-2"	16
6	1	#8	SPH	41'-8"	112
7	39	#6	"	7'-3"	189
8	39	#4	"	2'-11"	76
9	2	#6	"	11'-1"	33
10	6	#6	"	5'-3"	97
11	6	#8	SPH	5'-3"	88
12	5	#8	SPH	5'-10"	78
13	8	#8	SPH	4'-5"	23
14	20	#4	SPH	5'-0"	90
15	3	#8	SPH	9'-3"	11

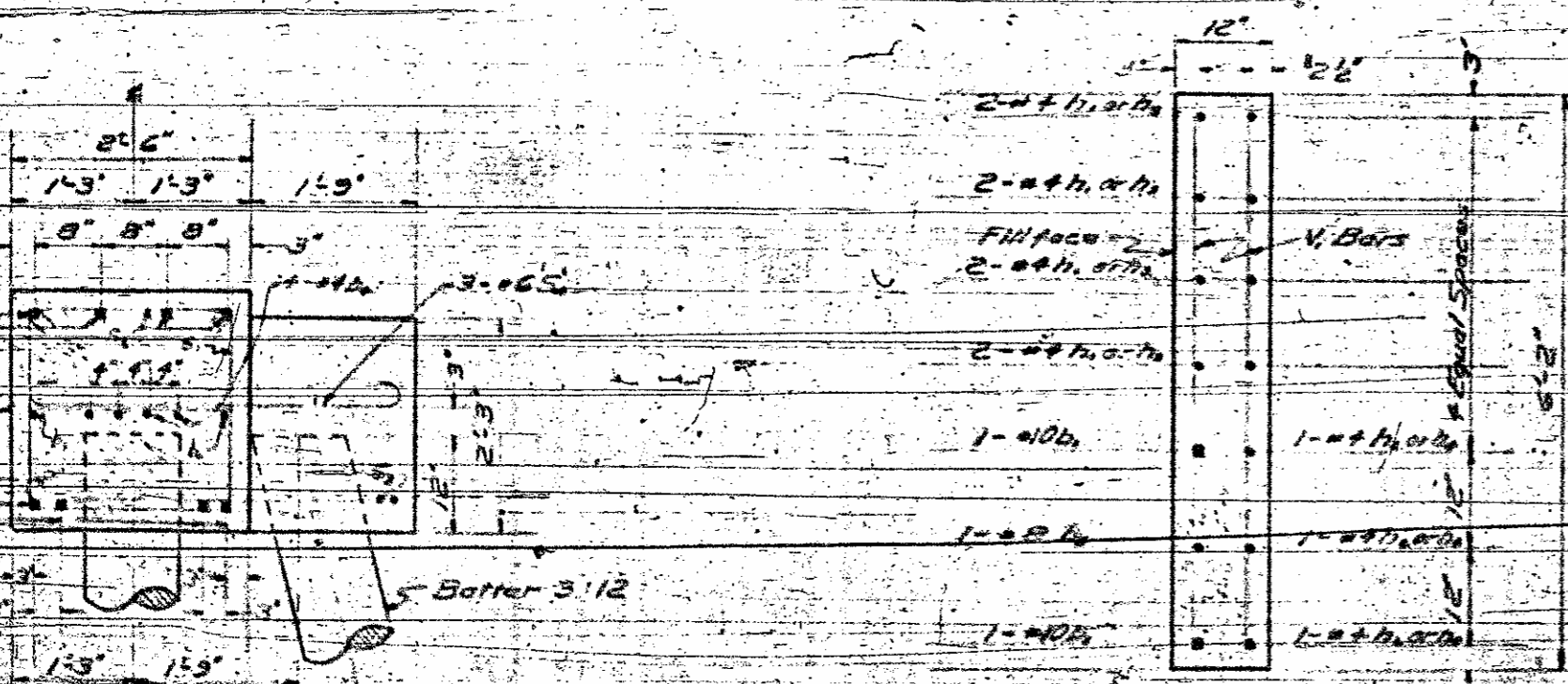
Reinforcing Steel - Lbs. 2449
 Class "A" Concrete - Cu Yds. 12.2
 16' Cast in Place Conc. Piles No. 7
 L.E. 310



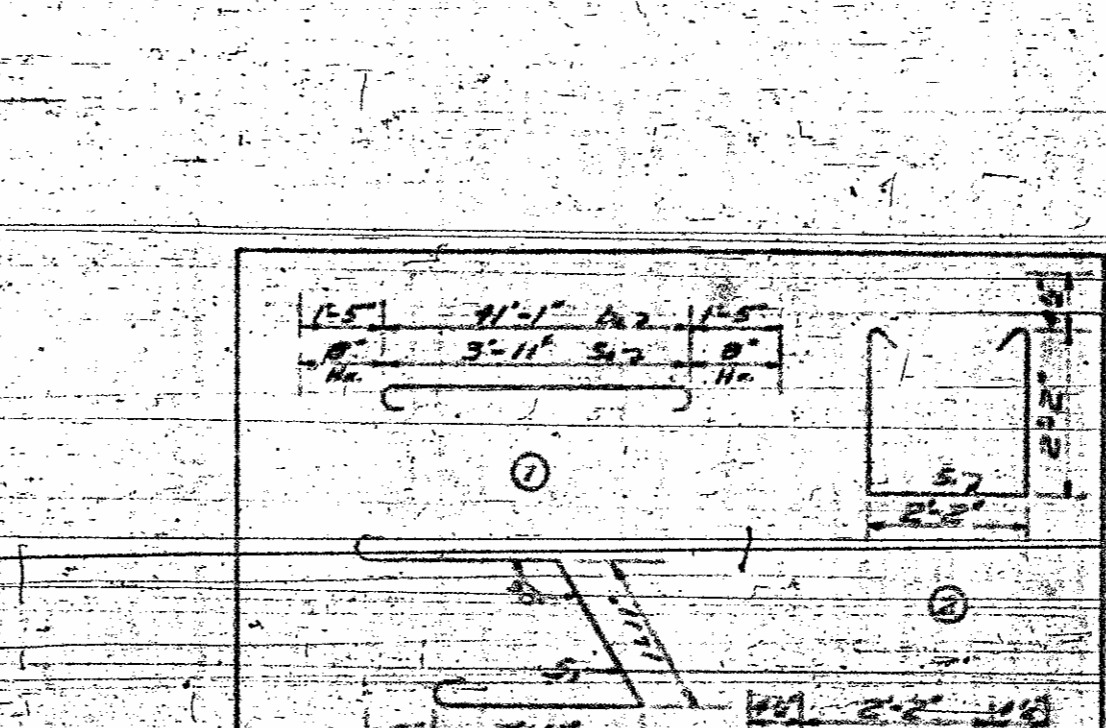
**PLAN
END BENT 1 OR 2**



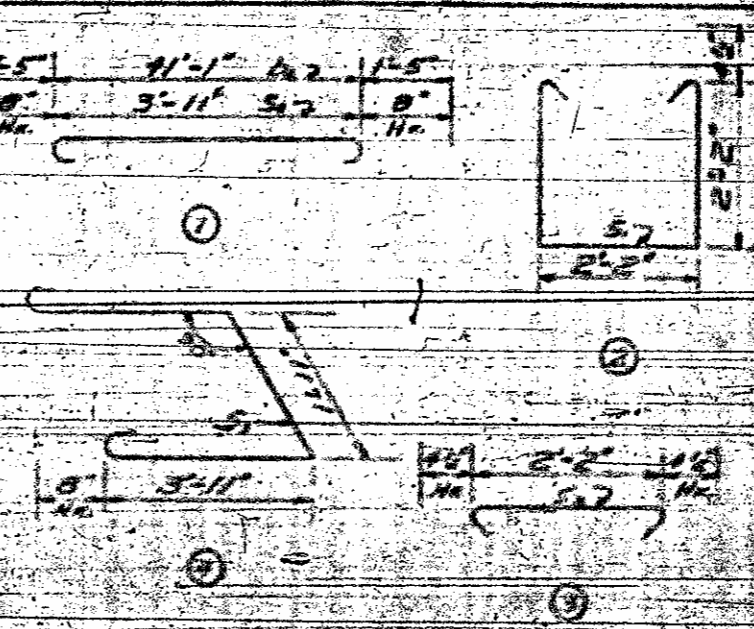
**ELEVATION
END BENT 1 OR 2**



TYPICAL SECTION THROUGH CAP



SECTION A-A



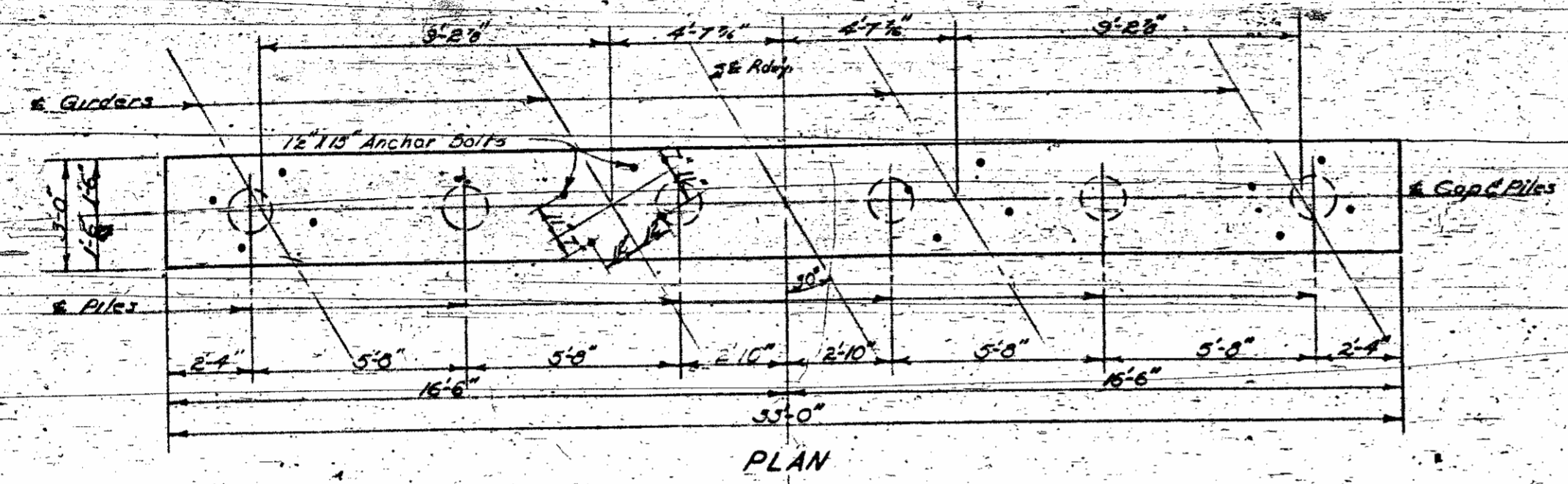
BAR TYPES
Bar Dimensions Run Out to Full

PROJECT NO. 5-917
 GUILFORD COUNTY
 STATION: 162+35

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION
 SUB STRUCTURE
 END BENT 1 OR 2
 JULY 1956

DESIGNED BY	DATE
CHECKED BY	DATE

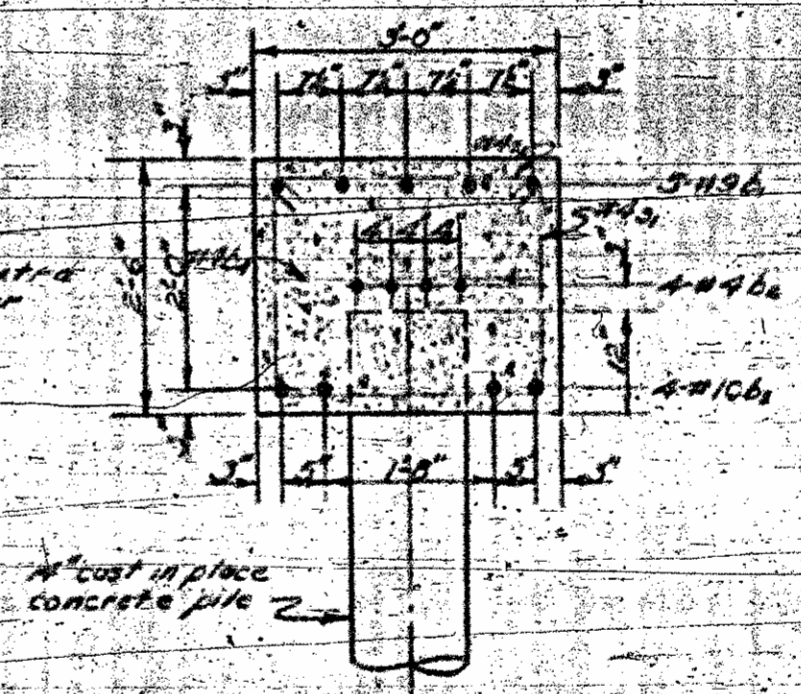
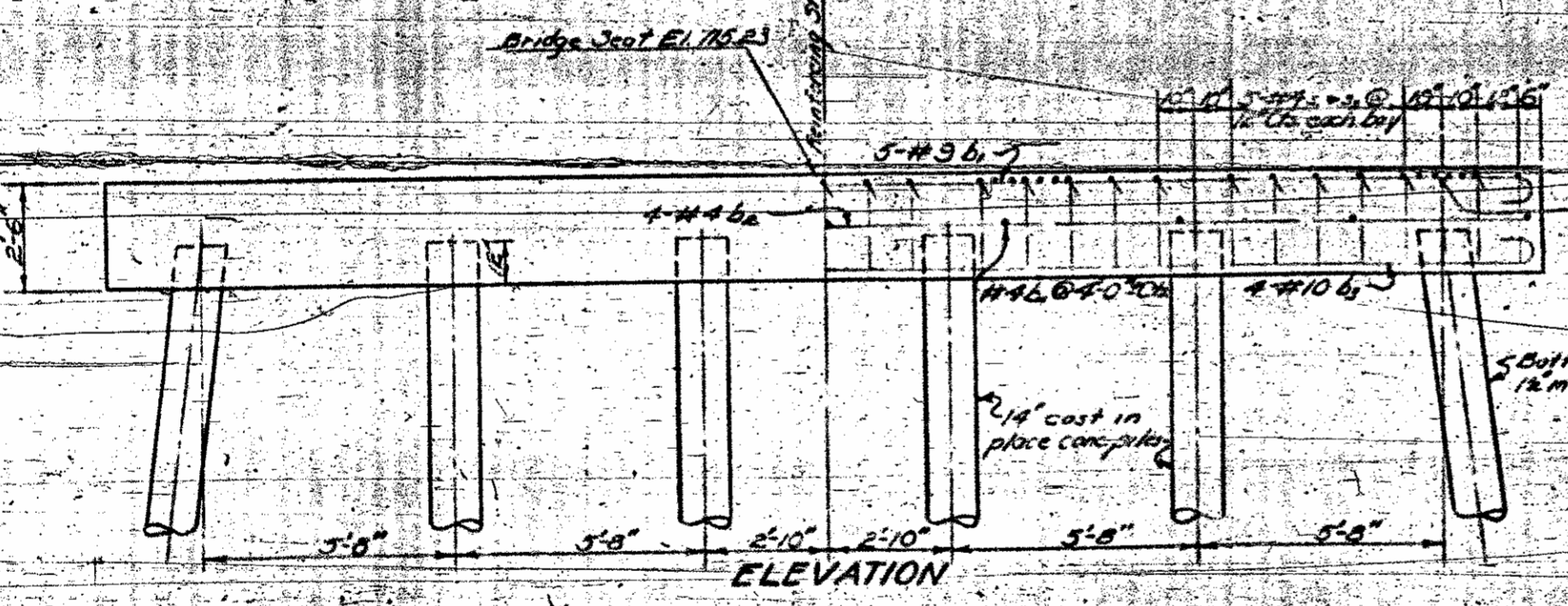
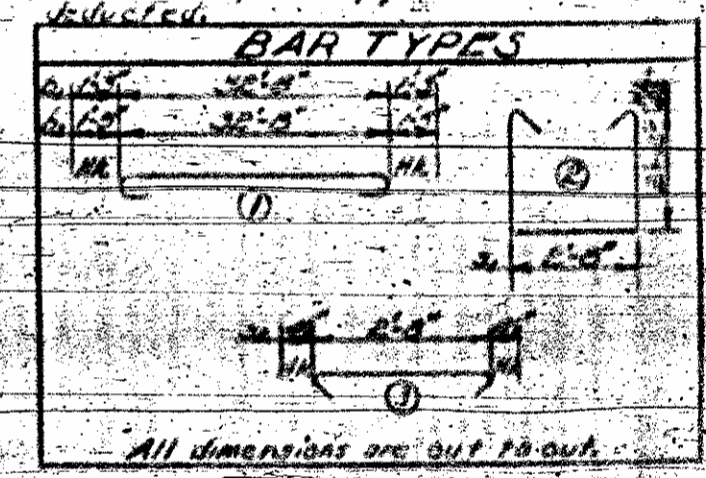
NO.	DATE	REVISION
3	NC	5-30
F.A. Proj - 5-310		



BILL OF MATERIAL
ONE BENT - 2 REQUIRED

Bar	No.	Size	Type	Length	Weight
b	5	#9	1	35'-2"	528
b	8	#9	STR	17'-0"	91
b	4	#10	1	35'-6"	611
b	9	#9	STR	2'-0"	161
s	29	#4	2	7'-0"	150
s	25	#4	3	5'-5"	101

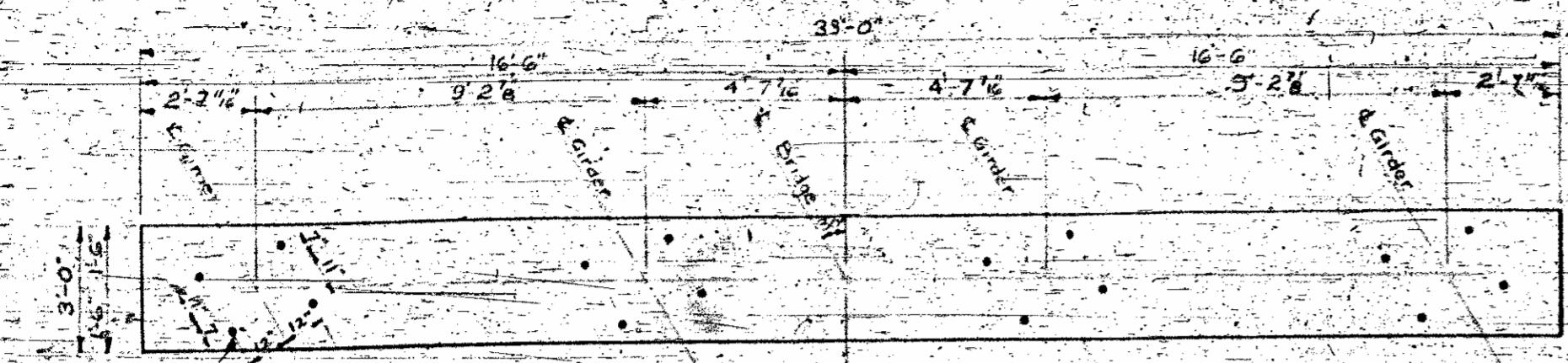
Reinforcing Steel, LBS. 1,718
 Class "A" Concrete, Cu. Yds. 9.7
 2" cast in place conc. piles, No. 9
 14" cast in place conc. piles, No. 2 100
 Concrete displaced by pile heads has been deducted.



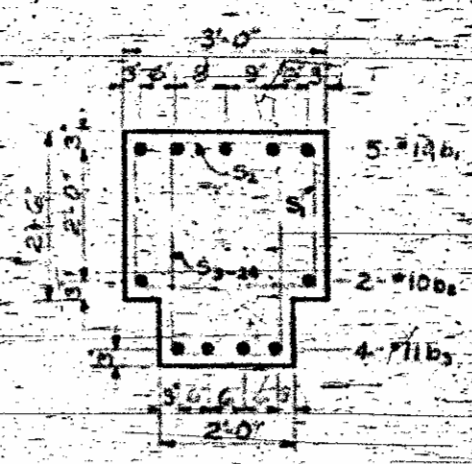
PROJECT NO. 5-310
QUILGORD COUNTY
STATION: 16+7.35

STATE OF NORTH CAROLINA	
STATE HIGHWAY AND PUBLIC WORKS COMMISSION	
SUBSTRUCTURE BENT NO. 1 OF 4	
DATE	APPROVED

DESIGNED BY: *J. A. Richards* DATE: *July 1936*
 DRAWN BY: *J. A. Richards* DATE: *July 1936*
 CHECKED BY: *J. A. Richards* DATE: *July 1936*



PLAN OF CAP



SECTION A-A

BAR TYPES
All dimensions are cut to suit

HR	①	HR
3-11	32-8" b	1-5
1-0	8-8" b	1-5
1-0	5-8" b	1-5

5	2-2"
5	2-10"
5	3-0"
5	3-3"
5	3-6"
5	3-6"
5	3-11"
5	4-4"
5	4-4"
5	4-12"
5	4-0"
5	3-11"
5	3-10"
5	3-9"
5	3-8"
5	3-7"
5	3-6"
5	3-5"
5	3-0"

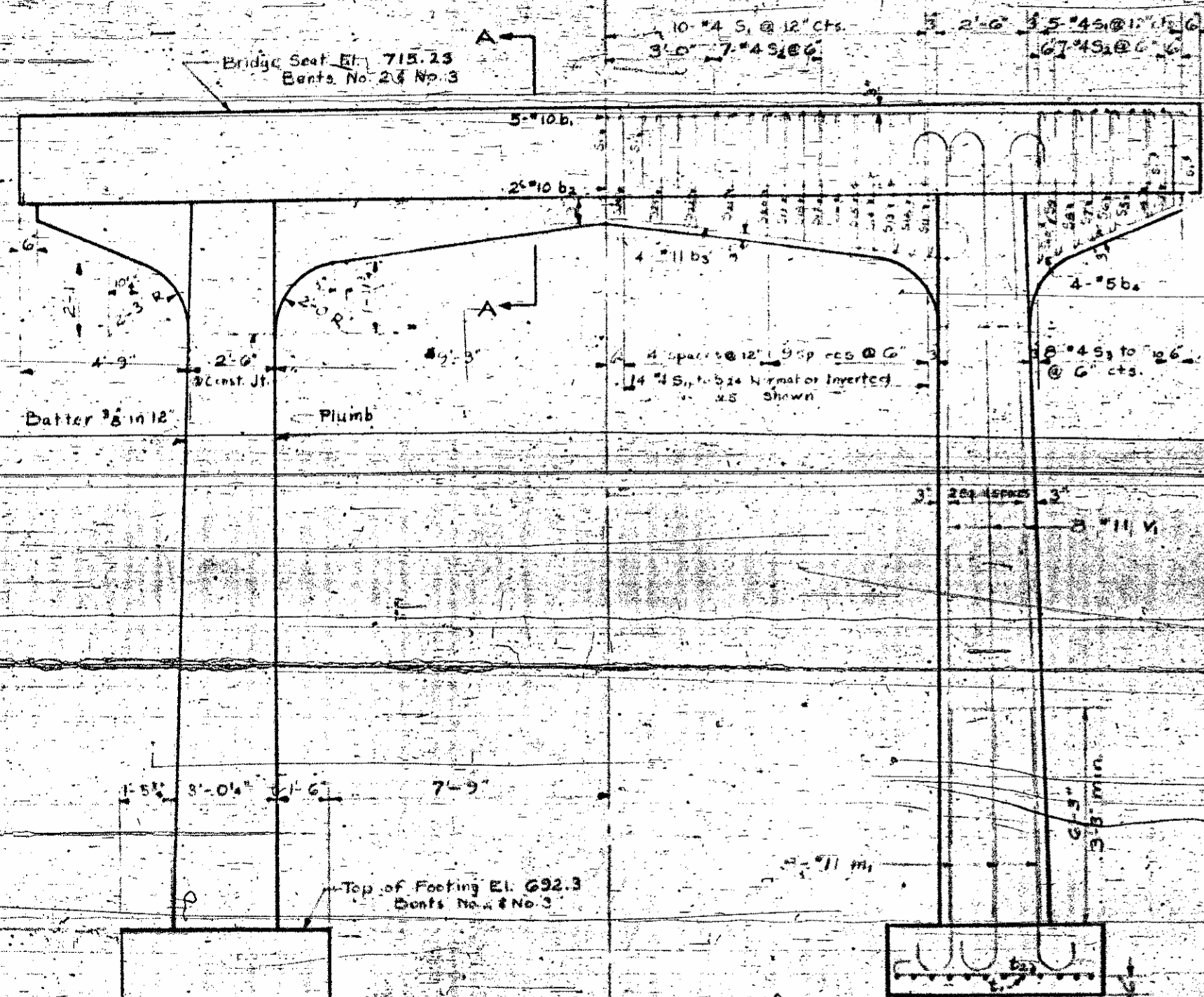
HR	②	HR
1-7	7-7" m	1-5
1-7	21-2" v	1-5

BILL OF MATERIAL
BENT No. 2 of No. 3

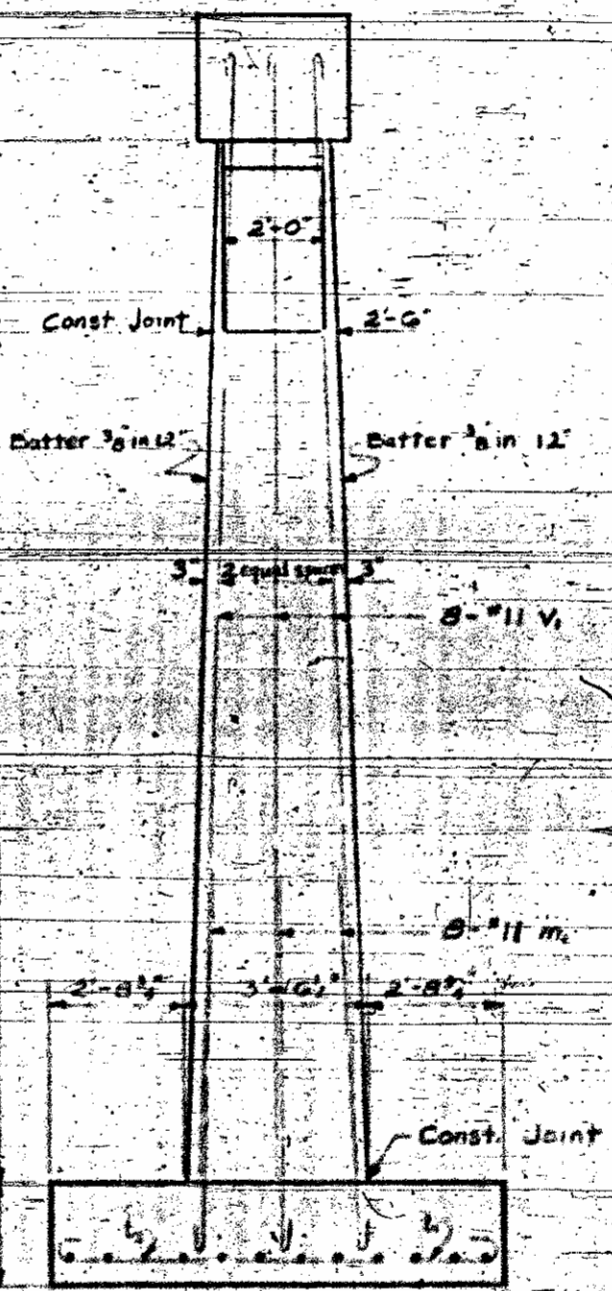
Bar No.	Size	Type	Length	Weight
b1	5	#10	35'-6"	784
b2	2	#10	32'-8"	281
b3	4	#11	23'-8"	503
b4	8	#5	8'-6"	71
U1	29	#4	7'-9"	150
U2	28	#5	3'-9"	64
U3	2	#4	8'-1"	11
U4			8'-0"	11
U5			9'-0"	12
U6			9'-5"	13
U7			7'-0"	13
U8			10'-3"	14
U9			10'-8"	14
U10			11'-1"	15
U11			10'-6"	14
U12			11'-6"	14
U13			11'-5"	14
U14			12'-3"	14
U15			10'-2"	14
U16			10'-0"	13
U17			9'-10"	13
U18			9'-9"	13
U19			9'-7"	13
U20			9'-6"	13
U21			9'-1"	12
U22			8'-11"	12
U23			8'-8"	12
U24			8'-5"	11
b1	25	#6	10'-0"	361
b2	24	#4	6'-8"	107
m1	16	#11	3'-2"	780
v1	16	#11	23'-8"	2019

Reinforcing Steel Lbs. 5325

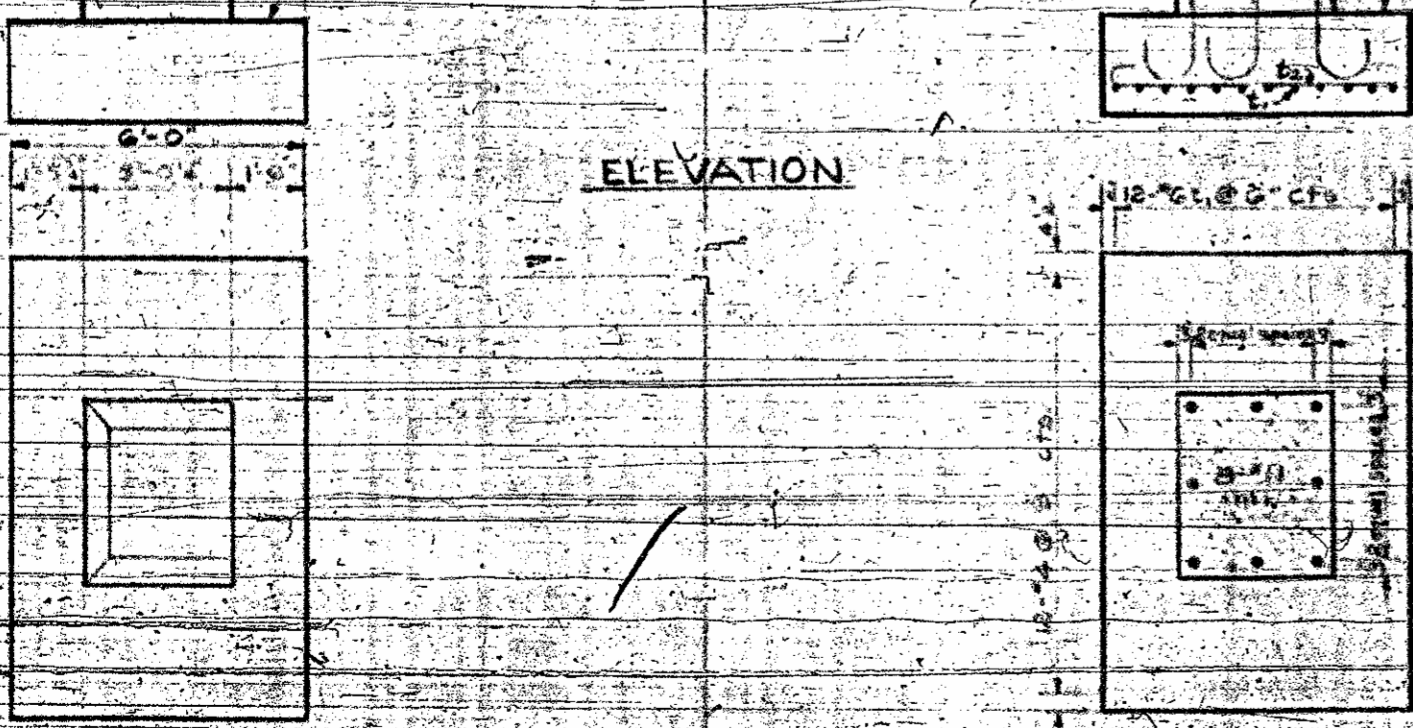
Class 'A' Concrete Cu. Yds. 12.8



ELEVATION



END ELEVATION



PLAN OF FOOTINGS

PROJECT No. 5-310
GUILFORD COUNTY
STATION: 162+35

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION

SUBSTRUCTURE
BENT No. 2 of No. 3

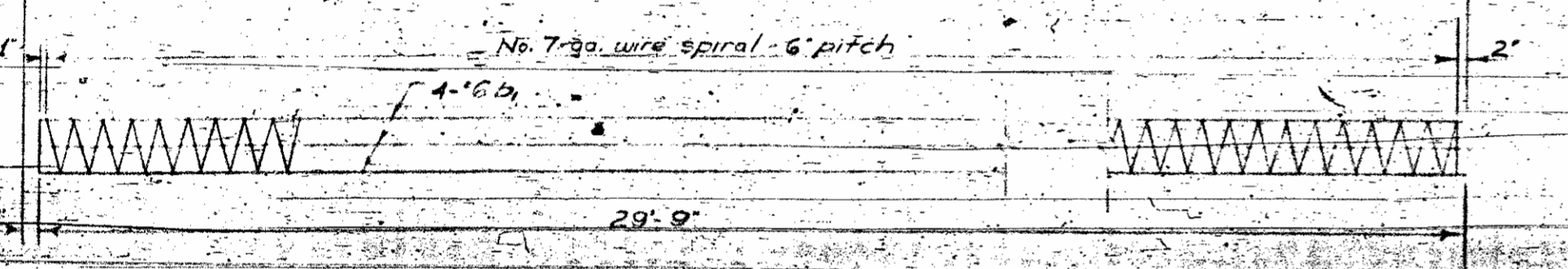
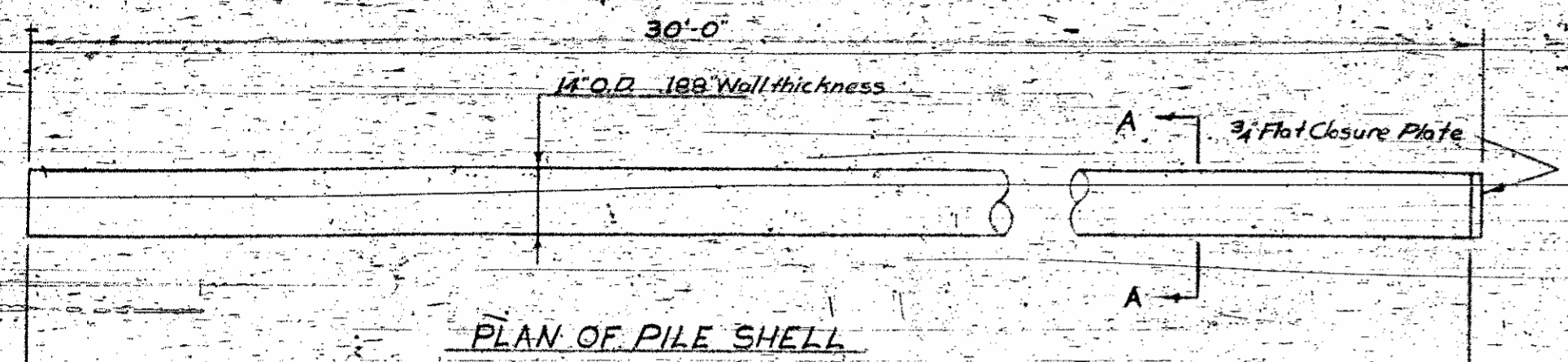
JULY, 1957

SPECIAL

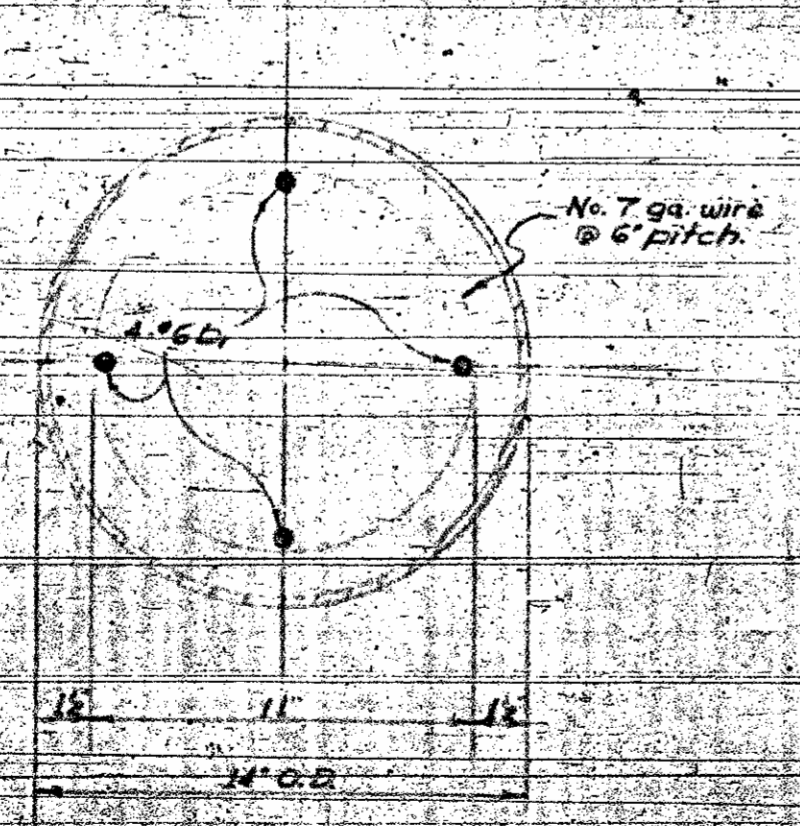
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
DATE: July 1957

REV.	DATE	BY	APP.
3	NC	5-31-35	

P.A. Proj. No. 5-310



NOTE: No reinforcing required for 1/8" plate



NOTES

Steel shells for end bent piles shall be 12 1/2" outside diameter with .188 inch wall thickness.
 Steel shells for bent piles shall be 14" outside diameter with .188 inch wall thickness. The piles shall be as manufactured by Armco Drainage and Metal Products, Inc. or approved equal.
 In the 14" diameter bent pile reinforcement shall be used and shall be securely fastened with spiral reinforcing at intervals not exceeding 2'-0" and shall be made to maintain reinforcing in position in the shell during the pouring of concrete.
 Concrete for linear piles shall be 1500 psi concrete per linear ft for 12 1/2" diameter piles and 1750 psi concrete per linear ft for 14" diameter piles.
 All piles shall be painted from the bottom of the cap to a point 2'-0" below the ground line with a heavy oil enamel paint. See Special Provision.

BILL OF MATERIAL FOR ONE PILE (30' length)

Qty	Size	Weight	Remarks
1	14" dia	174	Shell
1	4'-6" dia	175	Reinforcing

BILL OF MATERIAL FOR 12 1/2" PILE

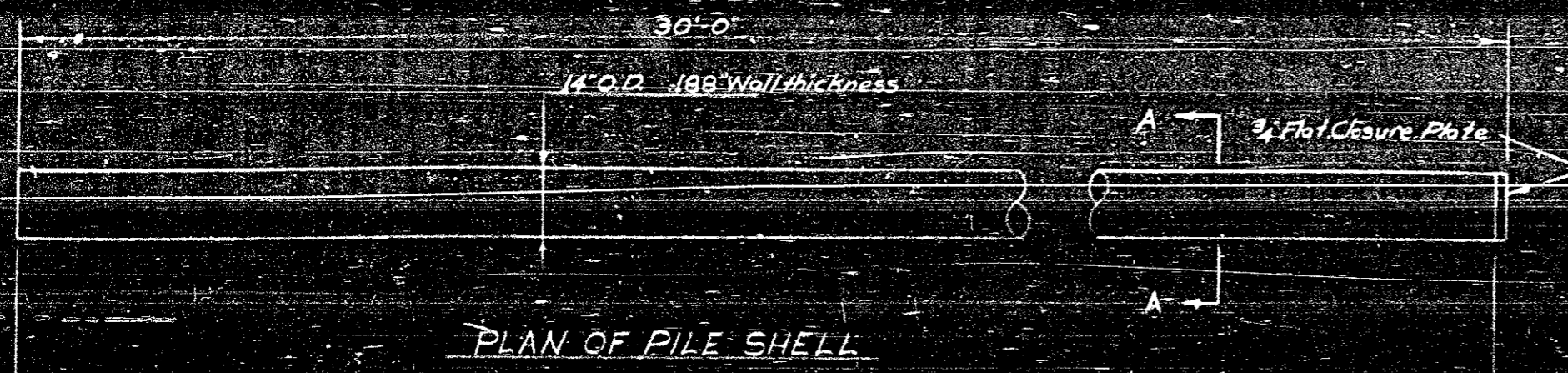
Qty	Size	Weight	Remarks
1	12 1/2" dia	175	Shell
1	4'-6" dia	175	Reinforcing

PROJECT NO. 5-310
GUILFORD COUNTY
STATION 162+35

STATE OF NORTH CAROLINA	
STATE HIGHWAY AND PUBLIC WORKS COMMISSION	
CAST IN PLACE CONCRETE PILES	
DATE	APR 1935
BY	[Signature]
CHECKED BY	[Signature]

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE

DATE	BY	REVISION
1-10-35	MC	1/10
P.A. Proj. No. 5-310		



REINFORCING BAR CAGE
NOTE: No reinforcing required for 188 pile.

NOTES

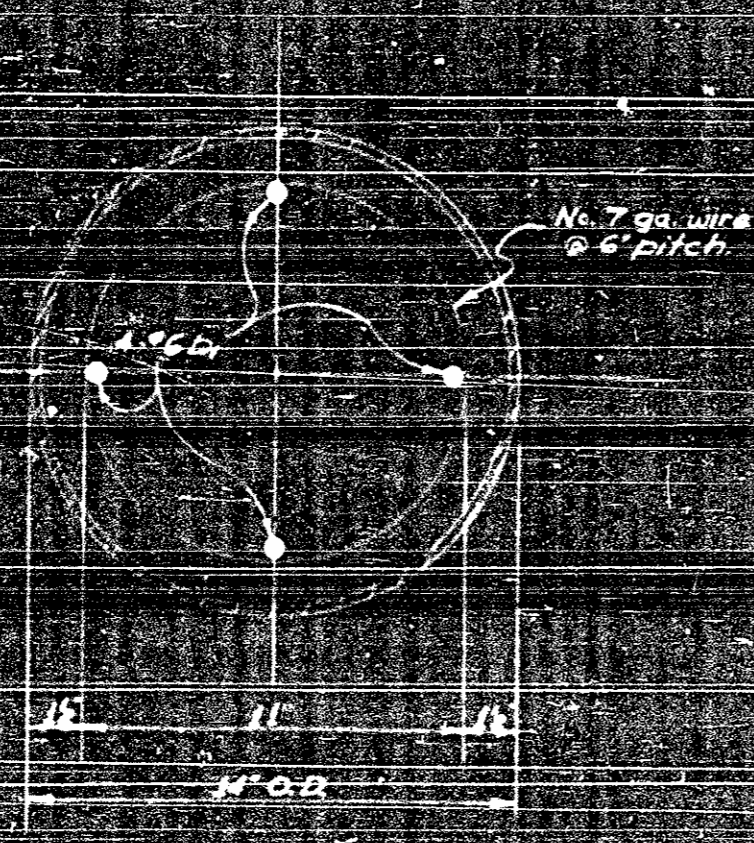
Steel shells for End Bent piles shall be 12" out to diameter with 188 wall thickness and shall be reinforced with No. 7-ga. wire spiral with 6" pitch. The spiral shall be as manufactured by Armco Reinforcing and Metal Products, Inc. or approved equal. See Spec. Div.

In the 14' dia. of End Bent piles spiral shall be used and shall be spaced at 6" intervals not exceeding 2'-0" and shall be made to maintain uniform 188 dia. position in the shell during pouring of concrete.

Standard No. 7-ga. wire spiral with 6" pitch shall be used in the 14' dia. of End Bent piles.

Concrete per linear ft. for 14' dia. pile shall be 5.50 cu. yd.

All piles shall be protected from the bottom of the cap to a point 2' below the bottom of the pile.



SECTION A-A

BILL OF MATERIAL FOR ONE PILE PER LINE

Item	Qty	Unit	Remarks
Steel shell	1	ea	
Reinforcing spiral	179	ft	

BILL OF MATERIAL FOR 7 PILE PILES

Item	Qty	Unit	Remarks
Steel shell	7	ea	
Reinforcing spiral	1253	ft	

PROJECT NO. 5-310
GUILFORD COUNTY
STATION: 162+35

STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION

CAST IN PLACE CONCRETE PILES

JULY 1935

DATE	BY	REVISION
7-1-35	MC	1/10

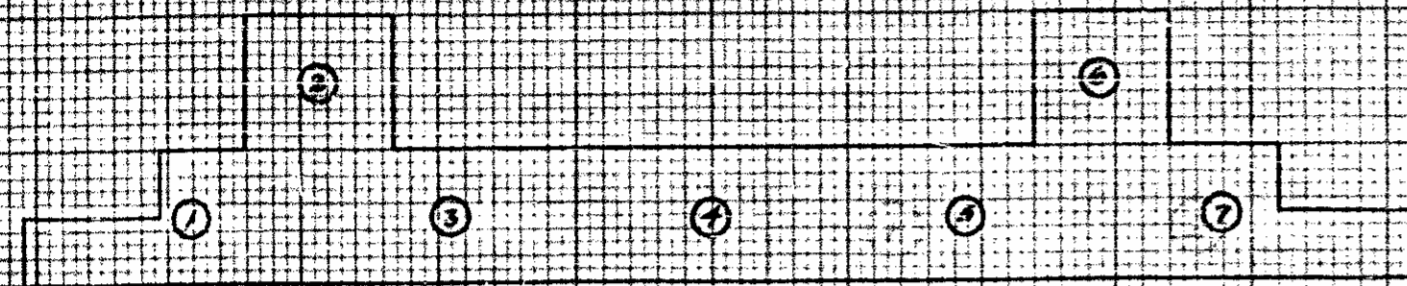
SPECIAL
DRAWN BY: [Signature]
CHECKED BY: [Signature]
DATE: [Date]

STATION 162+35

END BENTS

(See Book No. B Page No. 2)

END BENT NO. 1



12" Cast in Place Concrete Piles

Pile No.	Ord. Length	Pile Cut-Off Length	Pile Pay Length	Pen. Last 3' Blows
1	30'-0"	7'-5"	22'-5"	Ref.
2		10'-0"	20'-0"	
3		10'-0"	20'-0"	
4		9'-0"	21'-0"	
5		9'-0"	21'-0"	
6		9'-0"	21'-0"	
7	30'-0"	9'-0"	21'-0"	Ref.
Totals	213'-0"	63'-5"	146'-5"	

SUMMARY OF QUANTITIES

- Reinforcing Steel 2449 Lbs.
- Class-A Concrete 12.2 Cu. Yds.
- 12" Pile Cut-Off 63.5 Lin. Ft.
- 12" Pile Pay Length 146.5 Lin. Ft.
- Rip Rap Concrete 389.605 Cu. Yds.

Note: End Bent No. 1 Built to Plan and Elev.

See Book No. B
Page No. 2

END BENT NO. 2

Note: Pile End Bent No. 2 Same as in End Bent No. 1

12" Cast in Place Concrete Piles

Pile No.	Ord. Length	Pile Cut-Off Length	Pile Pay Length	Pen. Last 3' Blows
1	30'-0"	4'-0"	26'-0"	Ref.
2		5'-0"	25'-0"	
3		6'-0"	24'-0"	
4		6'-0"	24'-0"	
5		5'-5"	24'-5"	
6		6'-0"	24'-0"	
7	30'-0"	6'-5"	23'-5"	Ref.
Totals	210'-0"	39'-5"	170'-5"	

SUMMARY OF QUANTITIES

- Reinforcing Steel 2449 Lbs.
- Class-A Concrete 12.2 Cu. Yds.
- 12" Pile Cut-Off 39.5 Lin. Ft.
- 12" Pile Pay Length 170.5 Lin. Ft.
- Rip Rap Concrete 359.48 Cu. Yds.

Note: End Bent No. 2 Built to Plan and Elev.

See Book No. B
Page No. 5

SUPERSTRUCTURE

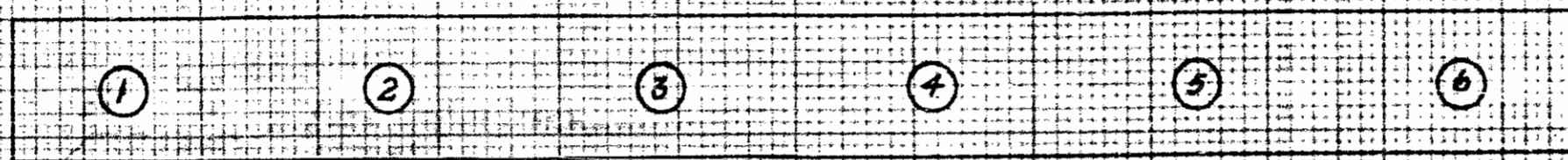
SUMMARY OF QUANTITIES

- Class-A Concrete 208.5 Cu. Yds.
- Reinforcing Steel 93336 Lbs.
- Method-A Waterproofing 21 Sa Yds.
- Removal Exist. Str. 159.85 Lump Sum.
- Removal Exist. Str. 164.85 Lump Sum.

Note: Superstructure Built to Plan and Elev.

See Book No. B
Page No. 2

STATION 162+35
SUBSTRUCTURES



BENT NO. 1

14" Cast in Place Concrete Piles

Pile No.	Ord. Length	14" Pile Cut-Off Lin. Ft.	14" Cast in Place Pile Lin. Ft.	Penn. 3-Blows in Tons	Bearing	Steel Ord. Length Lin. Ft.	Steel Cut-Off On Pile Lin. Ft.	Steel Cut-Off On Pile Lbs.	Steel Placed in Pile Lin. Ft.	Steel Placed in Pile Lbs.
1	30-0	6-5	25-5		Ref.	119-0	25-0	57.51	99-0	141.39
2		5-0	25-0			119-0	17-0	28.58	100-0	150.42
3		6-0	24-0			119-0	23-0	34.60	96-0	144.40
4		6-5	25-5			119-0	25-0	57.61	94-0	141.39
5		7-5	22-5			119-0	27-0	43.62	90-0	135.39
6	30-0	7-5	22-5		Ref.	119-0	27-0	43.62	90-0	135.39
Totals	180-0	39-0	141-0			714	150-0	225.64	564-0	848.36

Note:
Weight Used for Rent Steel Cut-off
1.50*2 lbs per Lin. Ft.

Weight of Hammer 200 Lbs.

BENT NO. 2

14" Cast in Place Concrete Piles

Pile No.	Ord. Length	14" Pile Cut-Off Lin. Ft.	14" Cast in Place Pile Lin. Ft.	Penn. 3-Blows in Tons	Bearing	Steel Ord. Length Lin. Ft.	Steel Cut-Off On Pile Lin. Ft.	Steel Cut-Off On Pile Lbs.	Steel Placed in Pile Lin. Ft.	Steel Placed in Pile Lbs.
1	30-0	5-0	25-0		Ref.	119	19-0	22.58	105-0	150.92
2		5-0	25-0			119	19-0	22.58	105-0	150.92
3		5-5	24-5			119	21-0	31.57	98-0	147.01
4		5-0	25-0			119	19-0	22.58	105-0	150.92
5		5-0	25-0			119	19-0	22.58	105-0	150.92
6	30-0	6-0	24-0		Ref.	119	23-0	34.60	96-0	144.40
Totals	180-0	31-5	148-5			714	120-0	180.51	594-0	893.49

SUMMARY OF QUANTITIES

Class-A Concrete	8.9 Cu. Yds.
Reinforcing Steel	1,714 Lbs.
14" Pile Cut-Off	39' Lin. Ft.
14" Cast in Place Pile	141' Lin. Ft.
Steel Cut-Off on Pile	225.64 Lbs.
Steel Placed in Pile	848.36 Lbs.
Total Reinforcing Steel in place	2,562.36 Lbs.

Note:
Bent No. 1 Built to Plan and Elec.

(See Book No. 6)
Page No. 7-8

SUMMARY OF QUANTITIES

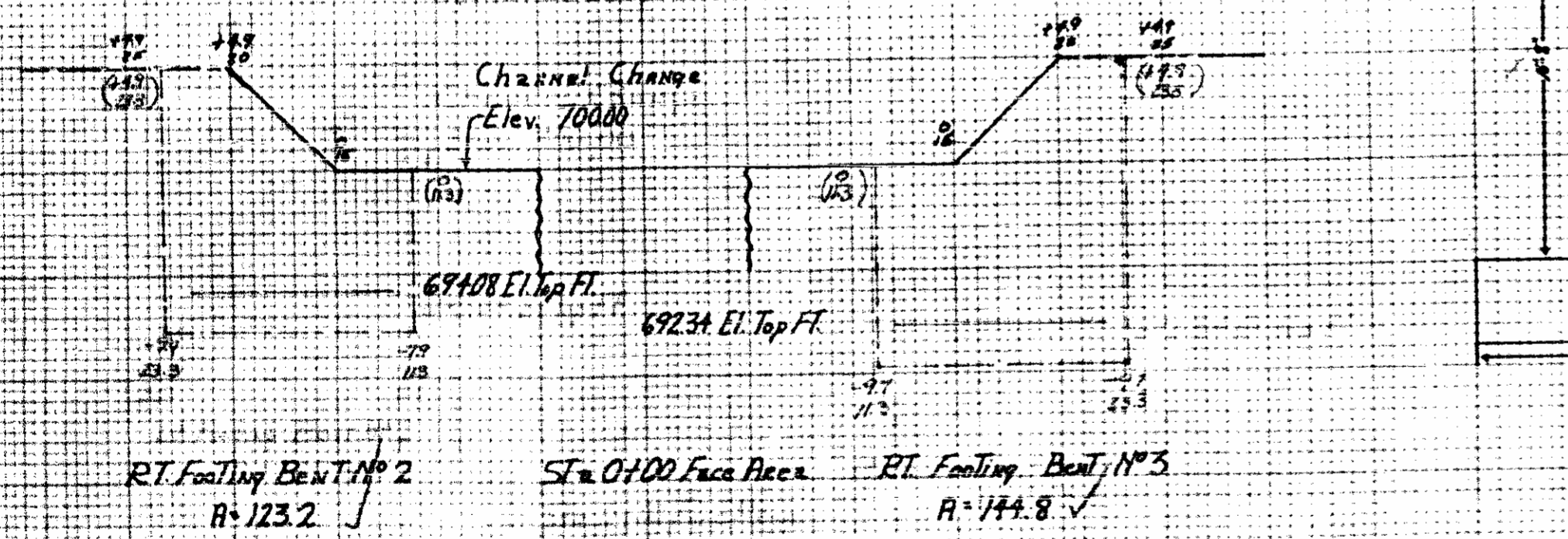
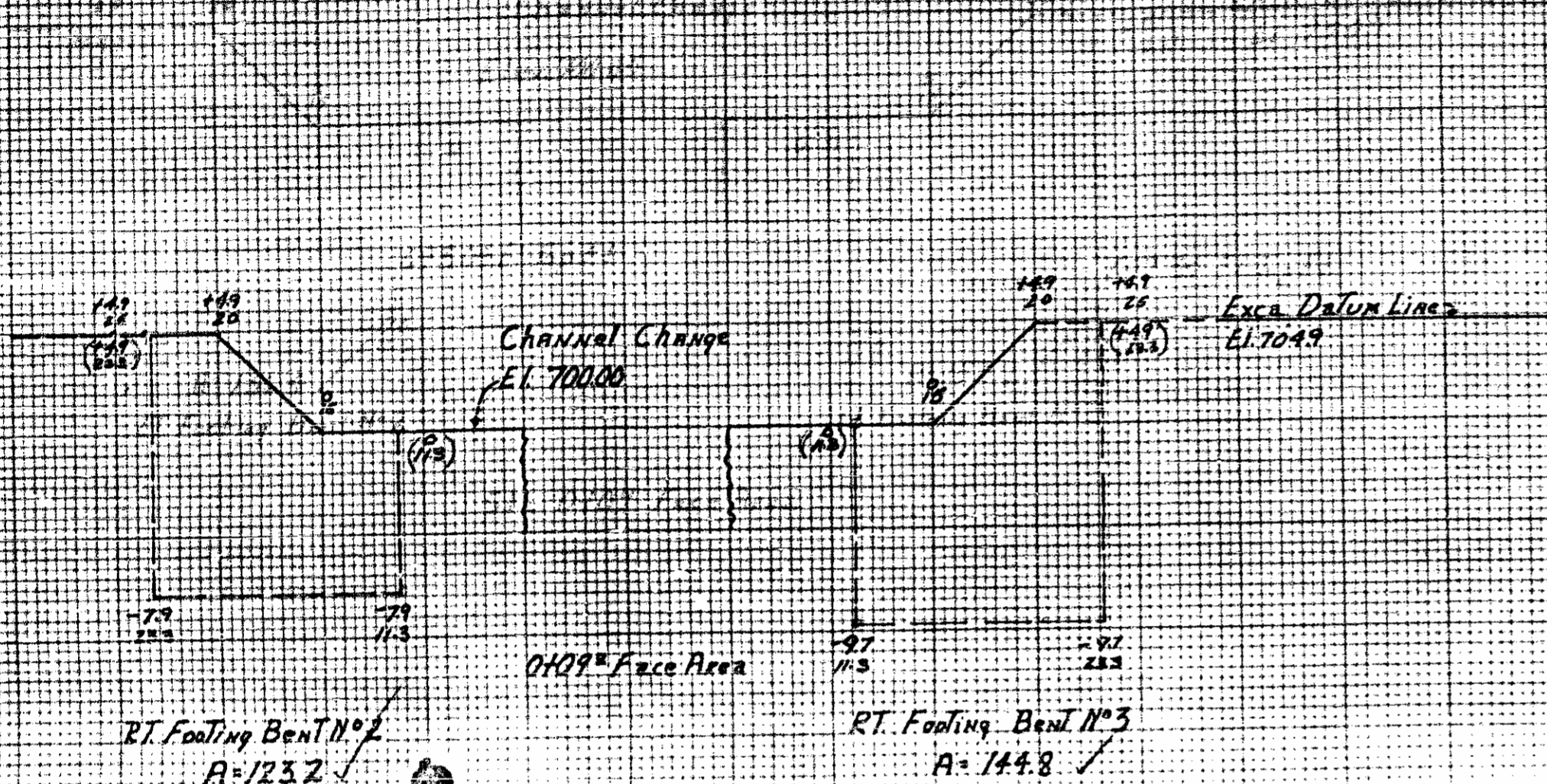
Class-A Concrete	8.9 Cu. Yds.
Reinforcing Steel	1,714 Lbs.
14" Pile Cut-Off	31.5 Lin. Ft.
14" Cast in Place Pile	148.5 Lin. Ft.
Steel Cut-Off on Pile	180.51 Lbs.
Steel Placed in Pile	893.49 Lbs.
Total Reinforcing Steel in place	2,601.49 Lbs.

Note:
Bent No. 2 Built to Plan and Elec.

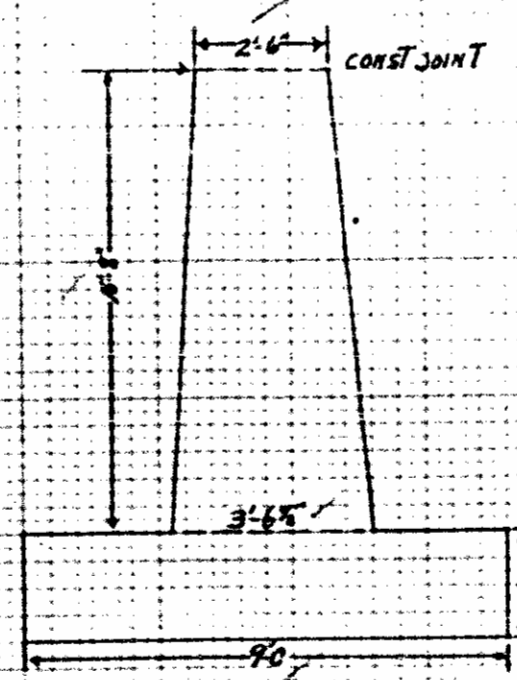
(See Book No. 6)
Page No. 7-8

STATE	PROJECT NO.	DISTRICT NO.	TOTAL SHEETS
N.C.	82310	87	94
SHEET NO. 5-24(6)			

STATION 162135
 Footing Bent N° 2 & 3
 Stem Bent N° 2

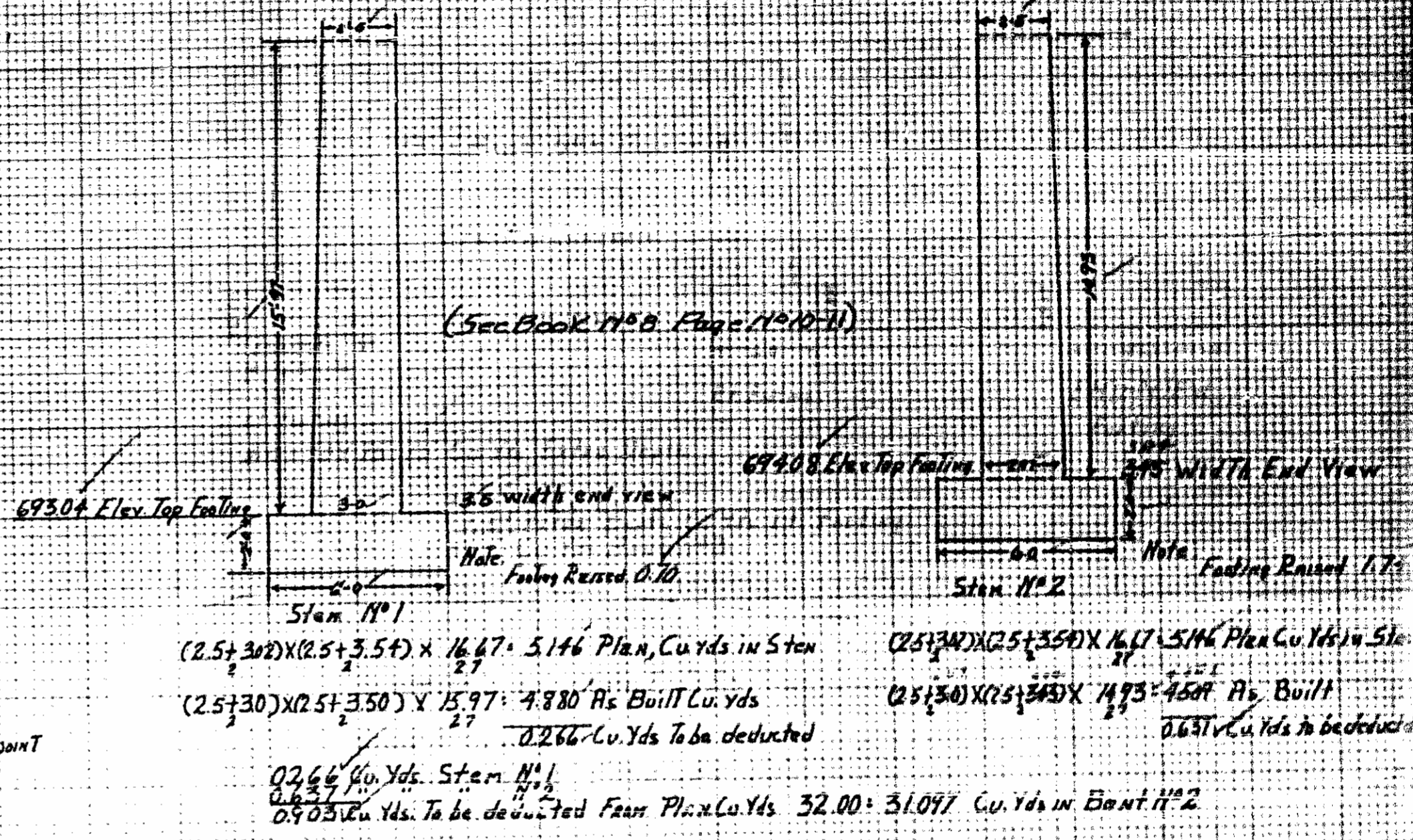


FINAL CROSS SECTIONS
 FOR
 FOOTING RT. SIDE
 BENT N° 2 & 3
 WET EXCAVATION
 See Book N° 8 Page 9



END VIEW
 Plan

Note:
 BENT N° 2 BUILT TO PLAN & Elev
 Except as Shown

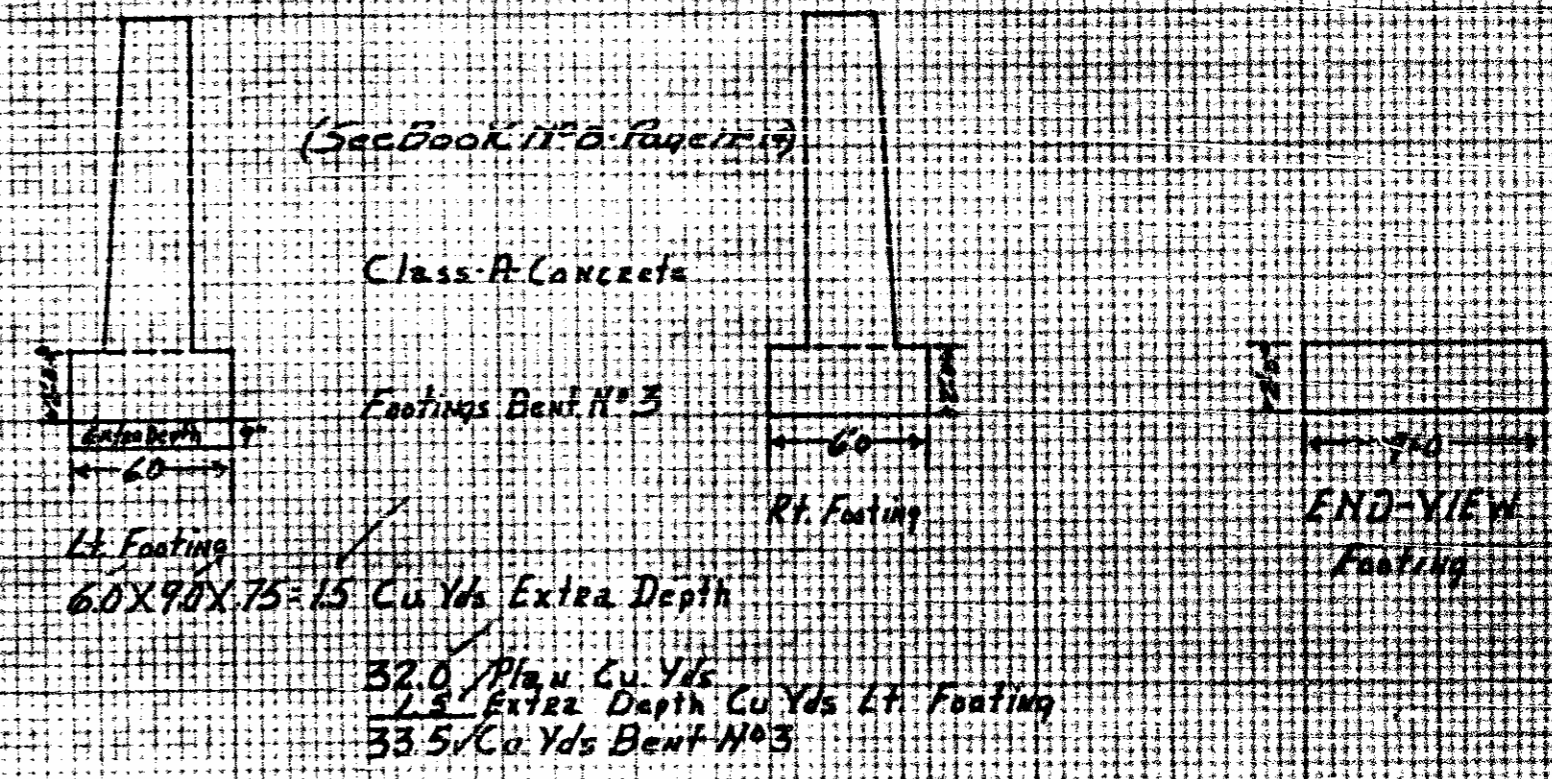
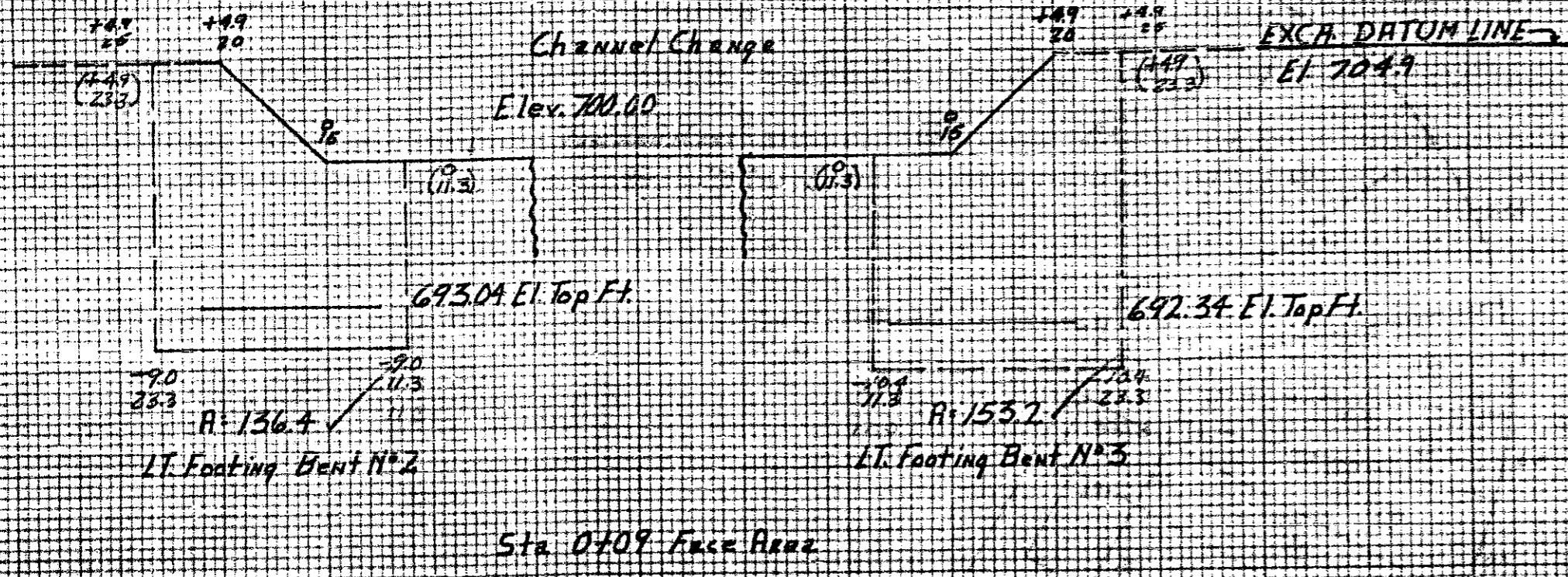


SUMMARY OF QUANTITIES
 Class A Concrete = 31.097 Cu Yds
 Reinforcing Steel = 5,385 Lbs.
 Wet Excavation = 8.55 Cu Yds

See Book N° 8
 Page N°

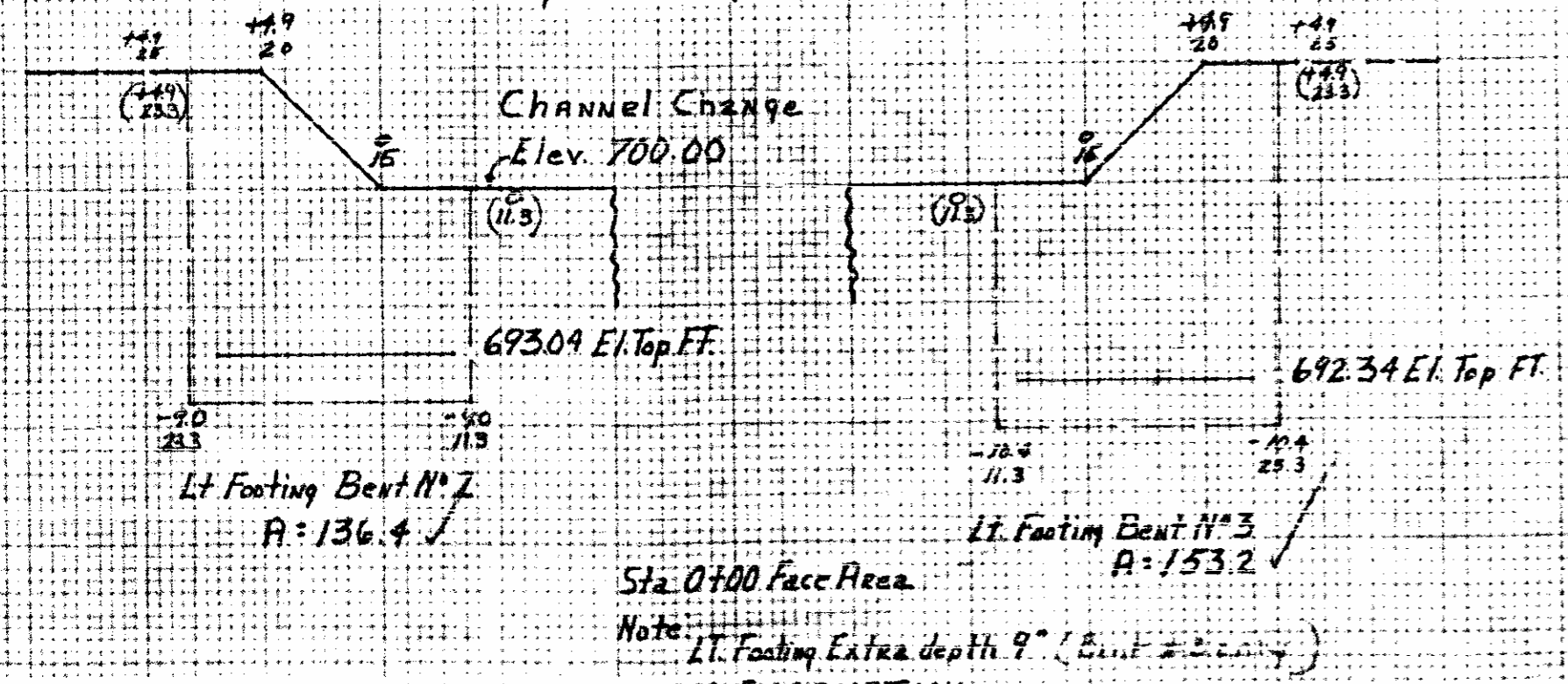
Station 162+35
Footing Bent 2&3

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	6-25310	90	94
F.R. PROJ. NO. 3-84105			



SUMMARY OF QUANTITIES

Class-A Concrete 335 Cu Yds
Reinforcing Steel 5385 Lbs
Wet Excavation 994 Cu Yds



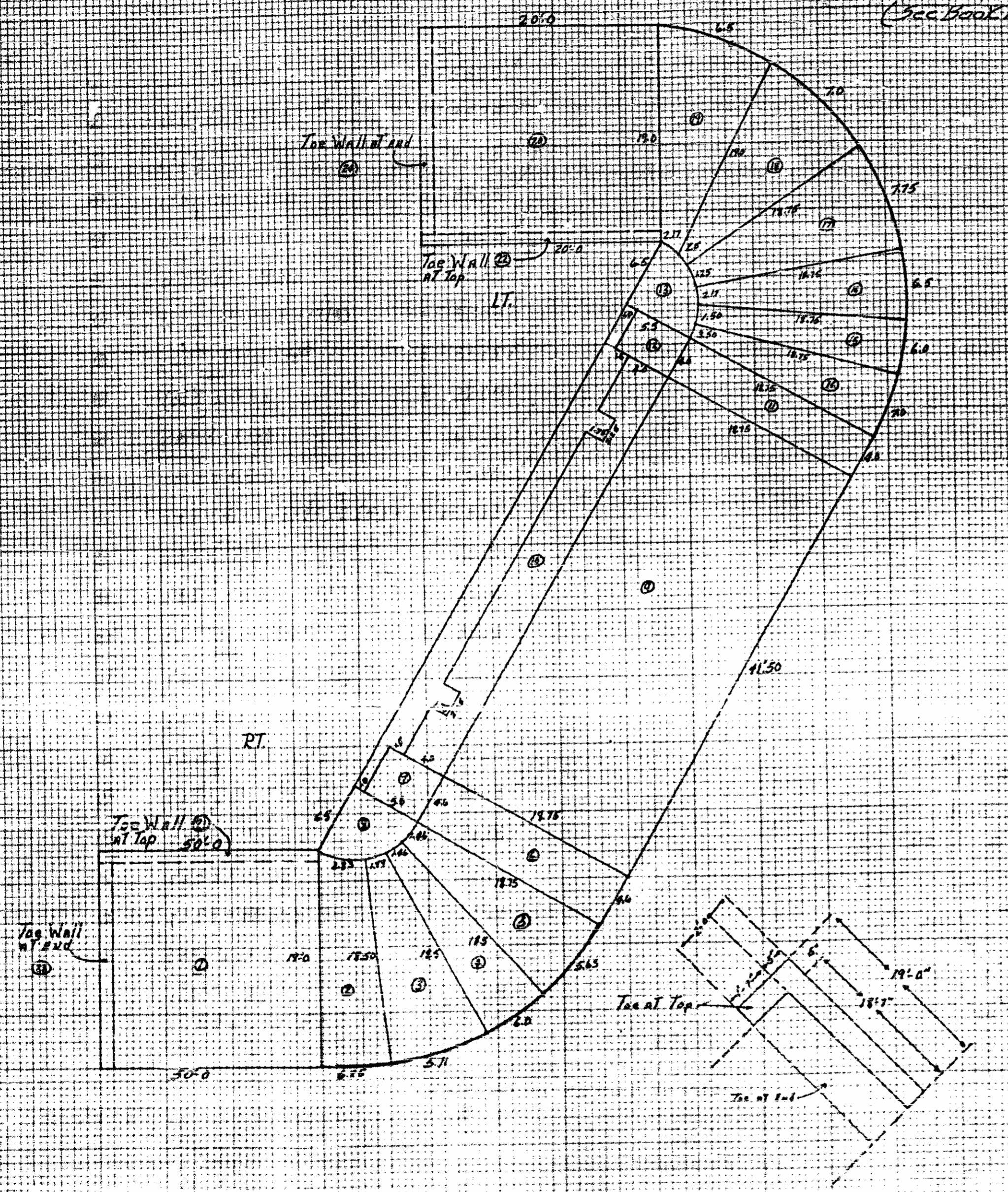
Note:
Channel Change Was
Done Before Exwy Started

Note:
Bent No. 3 Built to Plan & Elev.
Except Extra Depth in Footing
As Shown

WET EXCAVATION
FINAL CROSS SECTIONS
FOR
FOOTINGS LT. SIDE
BENT NO. 2&3
(See Book No. B Page No. 9)

See Book No.
Page No.

End Ban 1-1
CONCRETE RIP RAP
 (See Book #8 Page 11-3)



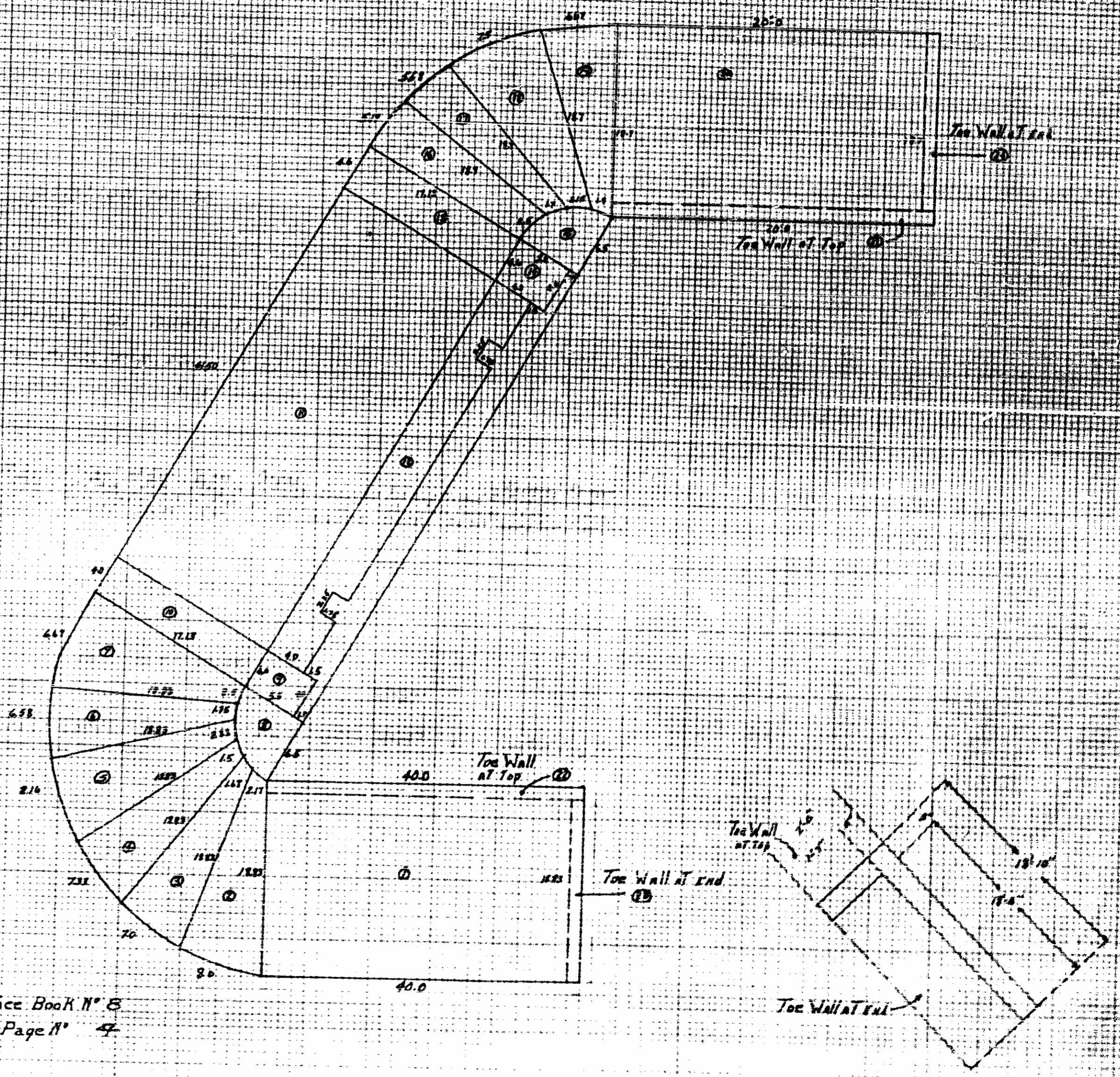
		SQ. FT.
①	(190 X 50)	9500
②	$\frac{(2.83+6.35)}{2} \times (190+185)$	8513
③	$\frac{(1.72+5.71)}{2} \times 18.5$	69.37
④	$\frac{(1.86+6.6)}{2} \times 18.5$	69.01
⑤	$\frac{(1.44+5.47)}{2} \times (18.5+18.75)$	116.03
⑥	4.6 X 18.75	86.25
⑦	4.6 X 5.50	25.30
⑧	$\frac{6.5 \times 3.11 \times 90}{360}$	33.18
⑨	18.75 X 41.50	778.13
⑩	$(4.00 \times 41.50) - (1.75 \times 22.75)$	159.12
⑪	4.0 X 18.75	75.00
⑫	4.0 X 5.50	22.00
⑬	$\frac{6.5 \times (3.11 \times 90)}{360}$	33.18
⑭	$\frac{(7.0+3.50)}{2} \times 18.75$	98.44
⑮	$\frac{(6.0+1.50)}{2} \times 18.75$	70.31
⑯	$\frac{(6.50+2.17)}{2} \times 18.75$	81.28
⑰	$\frac{(7.75+1.25)}{2} \times 18.75$	84.38
⑱	$\frac{(7.00+2.50)}{2} \times (18.75+19.00)$	89.66
⑲	$\frac{(6.50+2.17)}{2} \times 19.0$	82.36
⑳	20.00 X 19.00	380.00
㉑	1.58 X 50.00	79.00
㉒	1.58 X 20.00	31.60
㉓	1.58 X 18.58	29.36
㉔	1.58 X 18.58	29.36
Total SQ. FT.		3506.45
		$\frac{3506.45}{9} = 389.60$ SQ. Yds.

See Book #8
 Page 11"

End Bent #2

CONCRETE CURB

		SQ. FT.
1	(18.83 X 40.00)	753.20
2	(27.780 X 18.83)	95.15
3	(17.714 X 18.83)	81.63
4	(15.733 X 18.83)	83.13
5	(23.126 X 18.83)	98.16
6	(17.658 X 18.83)	78.43
7	(25.764 X 18.83 + 17.13)	82.94
8	(6.5 X 3.176 X 90°)	33.18
9	(5.5 X 4.0)	22.00
10	(4.0 X 17.13)	68.52
11	(17.13 X 4.50)	77.09
12	(4.0 X 4.50) - (1.75 X 2.25)	15.812
13	(4.6 X 17.13)	78.80
14	(4.6 X 5.5)	25.30
15	(6.5 X 3.176 X 90°)	33.18
16	(23.577 X (18.7 + 17.13))	68.70
17	(17.558 X 18.7)	68.07
18	(2.15 + 1.5) X 18.7)	90.23
19	(1.9 + 1.67) X 18.7)	80.13
20	(18.7 X 20.00)	374.00
21	(15.8 X 20.00)	31.60
22	(15.8 X 40.00)	632.0
23	(15.8 X 18.42)	289.0
24	(15.8 X 18.25)	288.01
Total SQ. Ft.		3237.21
		$\frac{3237.21}{9} = 359.69 \text{ Sq Yds}$



See Book N° 8
Page N° 4