

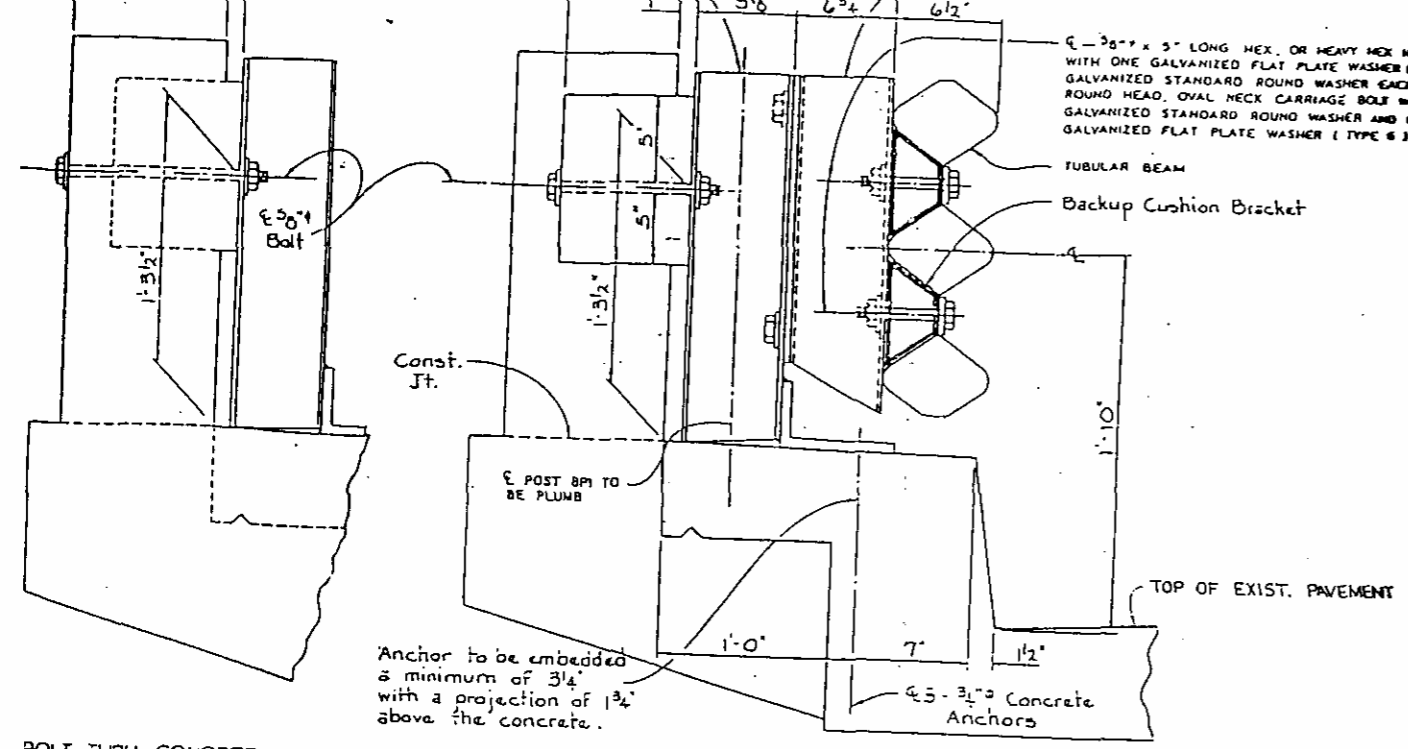
PLAN
(Rail and Rail Post Spacing shown is Typ. Both Sides)

Approx. No. of Special Attachments Req'd = 10

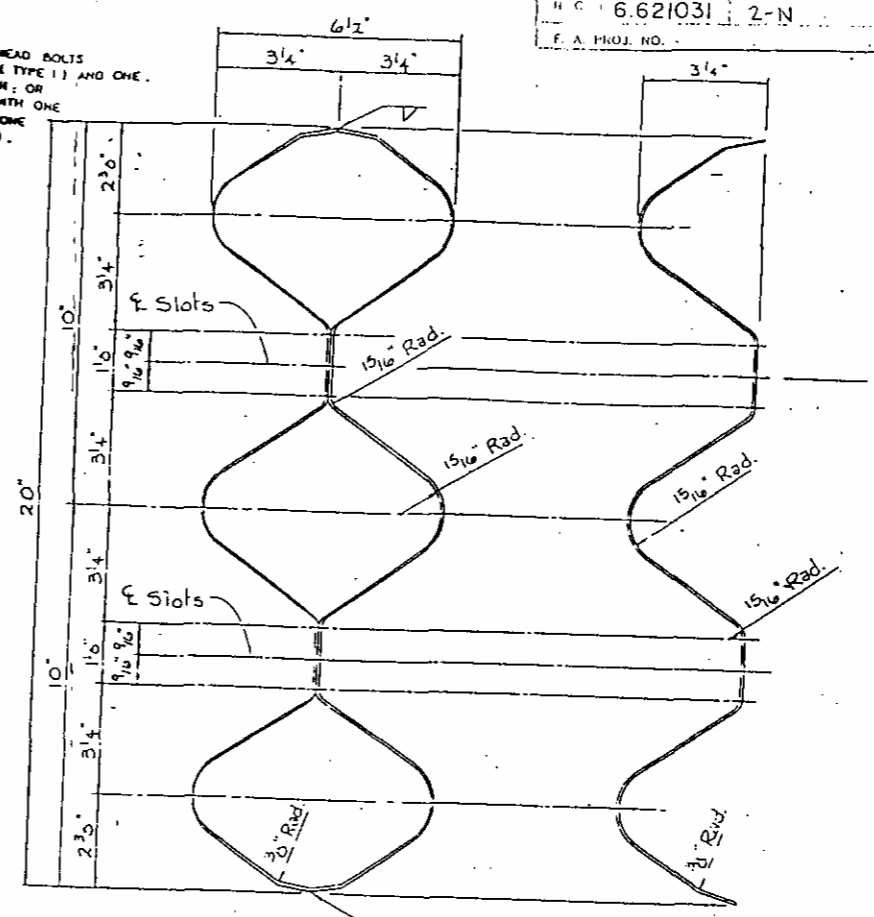
PROJECT NO. 6.621031
SURRY COUNTY
STATION: SBL U.S. 52 OVER TOMS CREEK BR. NO. 126

STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
RETROFIT OF EXISTING BRIDGE RAIL WITH TUBULAR BEAM GUARDRAIL					
MAY 1985					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
					SHEET NO.
					TOTAL SHEETS

DRAWN BY: E.A. Mims DATE: 5-7-85
CHECKED BY: L.L. Brooks DATE: 5-31-85



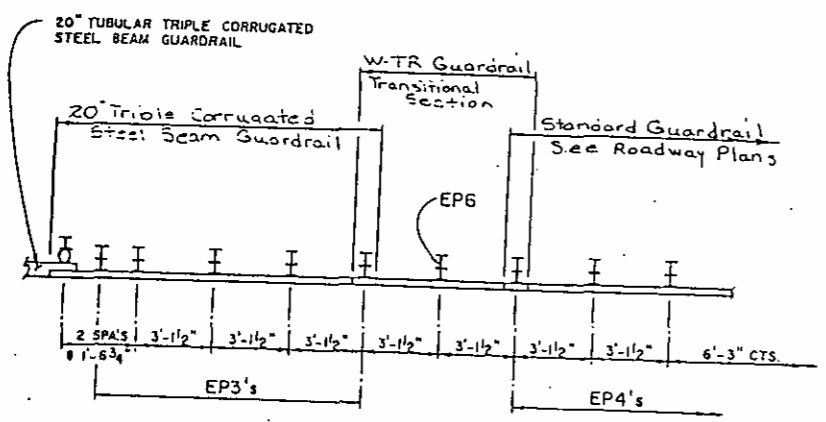
BOLT THRU CONCRETE POST
BOLT THRU CONCRETE RAIL
RETROFIT EXISTING RAIL WITH TUBULAR BEAM



SECTION THRU TUBULAR BEAM
SECTION THRU 20\"/>

1. 18 GAGE 20\"/>
- 2. NUTS, BOLTS, AND WASHERS, SEE SPECIFICATIONS.
- 3. VERTICAL SLOTS IN THE 4\"/>
- 4. POSTS ARE TO BE PLUMB.
- 5. \" BP \" POST HEIGHT TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
- 6. THE CONTRACTOR SHALL BE PREPARED TO DRILL THROUGH REINFORCING STEEL. STANDARD SLOTS MAY BE SHIFTED SLIGHTLY TO CLEAR REINFORCING STEEL. PROPOSED RAIL POSTS MAY BE SHIFTED SLIGHTLY TO CLEAR REINFORCING STEEL. STANDARD SLOTS MAY BE USED IN THE RAIL TO ALLOW SOME MOVEMENT. POST SPACINGS AS SHOWN ON THE PLANS SHALL BE CHECKED BEFORE HOLES DRILLED IN THE 20\"/>
- 7. ALL CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
- 8. CURVED RAIL USAGE: RAILS ARE TO BE USED ON BRIDGES ON HORIZONTAL AND/OR VERTICAL CURVATURE. THE CONTRACTOR MAY AT HIS OPTION HAVE THE REQUIRED CURVATURE IN THE RAIL FORMED IN THE SHOP OR IN THE FIELD. EITHER EVENT THE RAIL SHALL CONFORM WITHOUT BUCKLING OR KINKING TO THE REQUIRED CURVATURE IN A UNIFORM MANNER ACCEPTABLE TO THE ENGINEER.
- 9. A SEALANT WILL BE REQUIRED IN THE AREA OF THE ANCHOR BOLTS AND WILL BE PLACED IN THE FOLLOWING MANNER:
 - A. BEFORE THE BASE PLATE HAS BEEN SET IN PLACE, IF THE GROUT IS COMPLETELY FULL THE HOLE, SEAL THE AREA AROUND EACH CONCRETE BOLT TO KEEP MOISTURE FROM ENTERING THE ANCHOR HOLE.
 - B. AFTER THE BASE PLATE HAS BEEN SET IN PLACE AND BEFORE THE WASHERS AND NUTS HAVE BEEN PLACED ON THE BOLTS, SEAL THE \"HOLE\" AREA REMAINING AROUND THE BOLT.
- 10. THE SEALANT SHALL BE A ONE-COMPONENT POLYISOPRENE GUM GRADE, MEETING FEDERAL SPECIFICATION TT-2-220. SEALANT SHALL BE GRAY IN COLOR AND APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION. THE FOLLOWING SEALANTS MEET THE ABOVE REQUIREMENTS:
 - \"CONOLASTIC ONE PART\", MANUFACTURED BY CONNEBORN-DESOUD CO., DES PLAINES, ILLINOIS, 58818; \"THORSPAN ONE COMPONENT\", MANUFACTURED BY STANDARD GRY WALL PRODUCTS, INC., MIAMI, FLORIDA, 33168; \"MOR ONE COMPONENT\", MANUFACTURED BY W. R. GRACE AND CO., CAMBRIDGE, MASS., 92140.
- 11. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT A.A.A.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
- 12. LAP BEAM RAIL JOINTS IN DIRECTION OF TRAFFIC.

- CONCRETE ANCHOR NOTES:**
1. CONCRETE ANCHORS SHALL CONSIST OF A STUD, THREADED ON ONE END, WITH AND WASHER. THE ANCHORS SHALL BE A \"DRILL AND GROUT\" SYSTEM SUCH AS HASDRAY ANCHORING PRODUCTS BY KELKIN-COLD, INC., THE MOLLY PARABOND BY MOLLY FASTENER GROUP, THE H V ANCHORAGE SYSTEM BY HILTI OR AN EQUAL. EXPANSION ANCHORS WILL NOT BE PERMITTED. CONCRETE ANCHORS PROVIDE A MINIMUM SAFE PULLOUT HOLDING POWER OF 2,875 LBS. FOR A 3/4\"/>
 - 2. STUD BOLTS, NUTS AND WASHERS ARE TO BE GALVANIZED TO CONFORM TO THE REQUIREMENTS OF A.S.T.M. A153.
 - 3. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL CONCRETE ANCHORS MAY BE USED AS AN ALTERNATE FOR THE 3/4\"/>
 - 4. THE HOLES SHALL BE PREPARED AND THE ANCHORS SET IN SOUND CONCRETE ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - 5. HOLES FOR THE CONCRETE ANCHORS SHALL BE PERPENDICULAR TO THE SURFACE AND SHALL BE DRILLED WITH A ROTARY OR ROTARY IMPACT DRILL. IMPACT DRILLING WILL NOT BE PERMITTED.



DETAIL \"T\"

- NOTES (USE WITH POST BP1 ONLY):**
1. TUBULAR BEAM POSTS ARE TO BE MOUNTED AGAINST THE EXISTING CONCRETE RAIL.
 2. HOLES FOR THE 5/8\"/>
- NOTE (USE WITH POST BP2 OR POST BP3 ONLY):**
1. 5/8\"/>
- NOTE (USE WITH POST BP2 OR POST BP3 ONLY):**
1. HOLES FOR THE 1\"/>

PROJECT No. 6.6210
SURRY, STOKES, & FORSYTH
STATION: _____
SHEET 1 OF 4

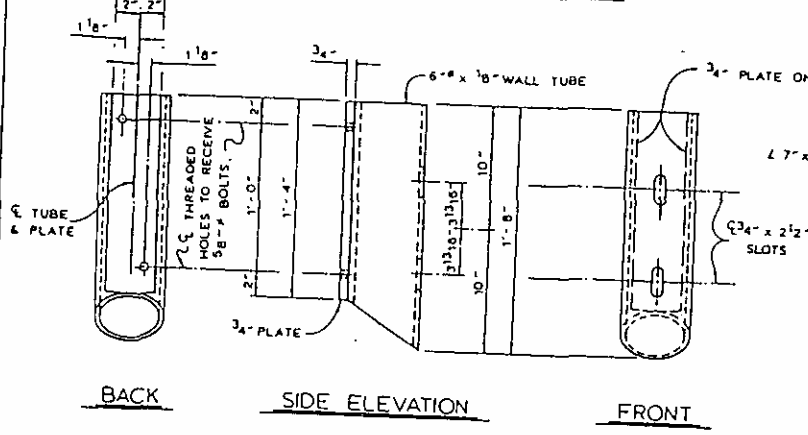
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
DETAILS FOR RETROFIT EXISTING BRIDGE RAIL TUBULAR BEAM GUARD

JAN.

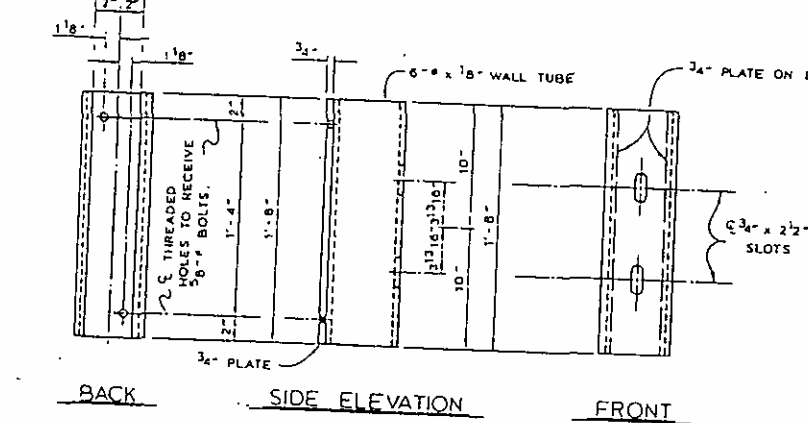
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
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2			2		
3			3		

ASSEMBLED BY <u>F.A. Minns</u>	DATE <u>6-10-85</u>	SPECIAL
CHECKED BY <u>L.I. Banks</u>	DATE <u>6-10-85</u>	
DRAWN BY <u>Roy Edward Kuesou</u>	DATE <u>1-14-1983</u>	STANDARD
CHECKED BY <u>P.V. Moore</u>	DATE <u>1-14-1983</u>	

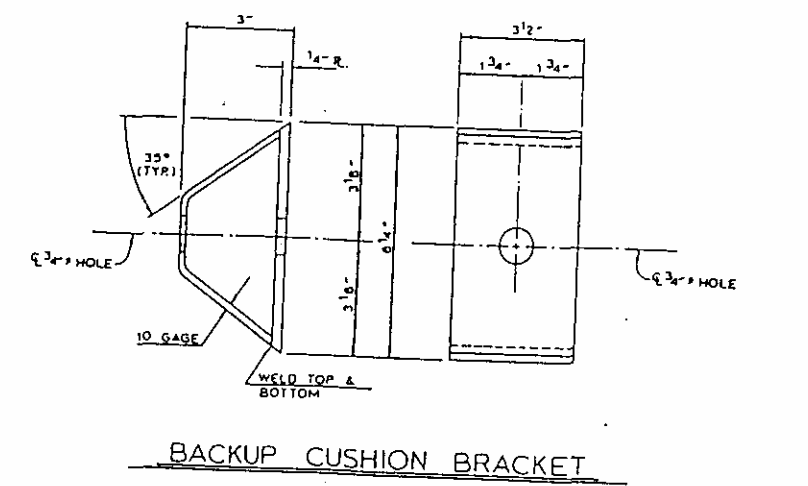
DETAIL SHOWING CONNECTION OF 6" TUBE TO POST OR OFFSET BLOCK



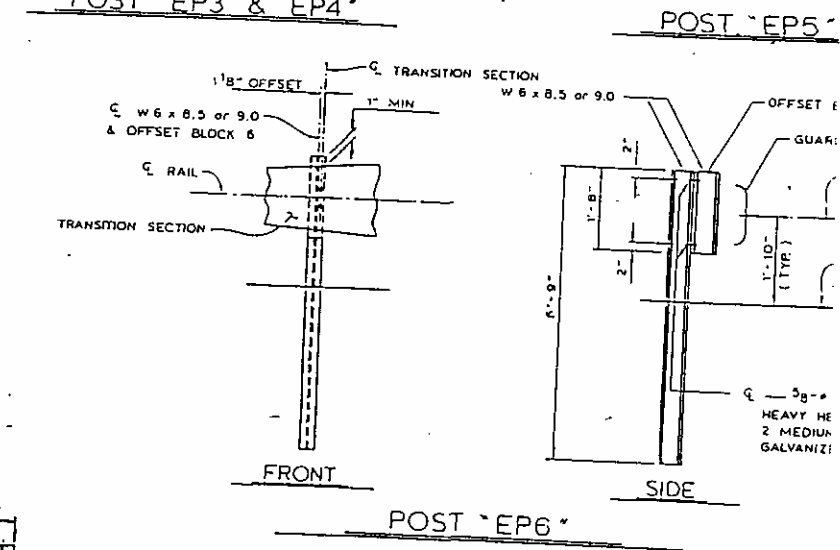
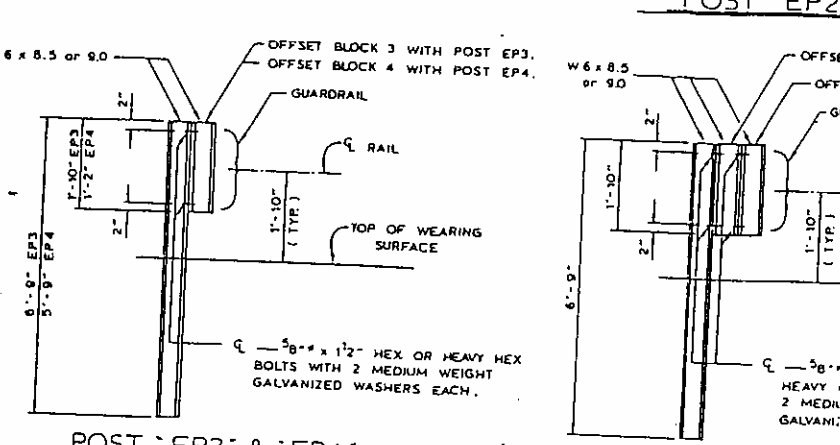
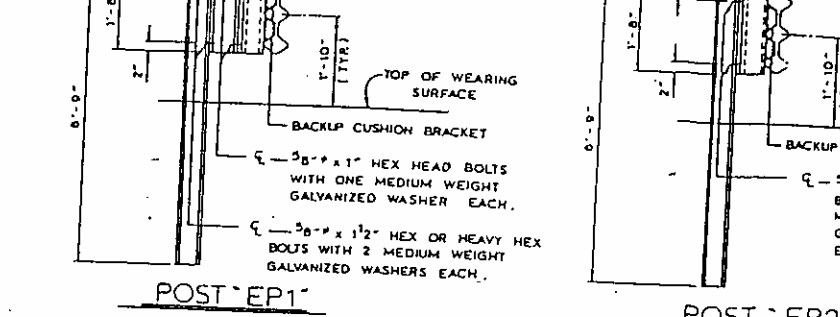
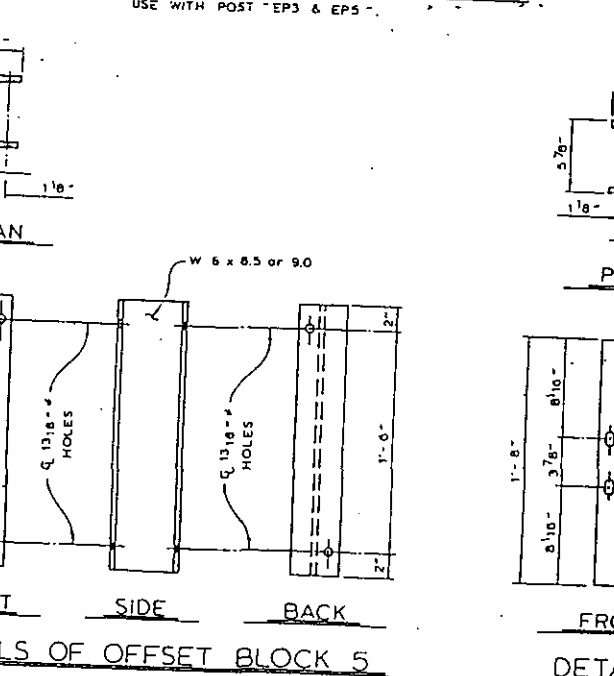
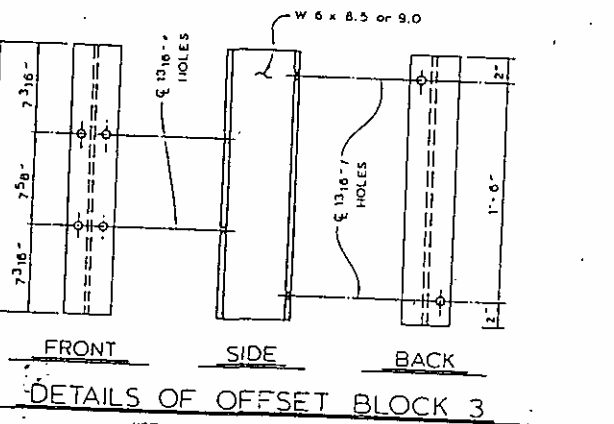
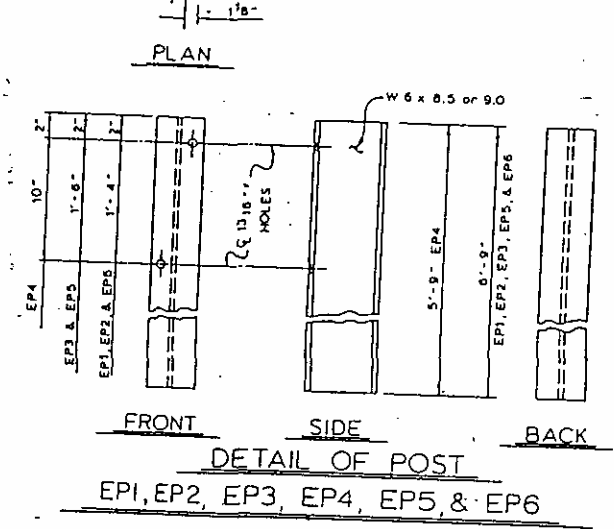
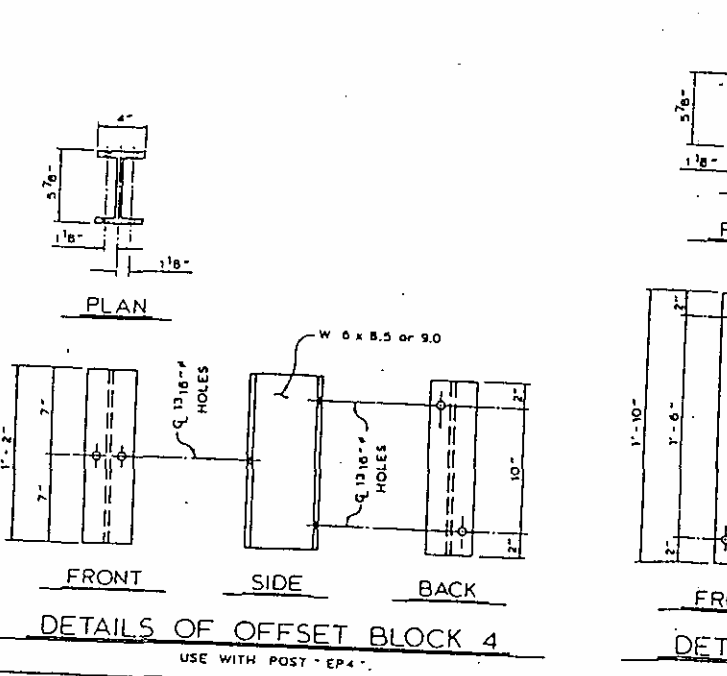
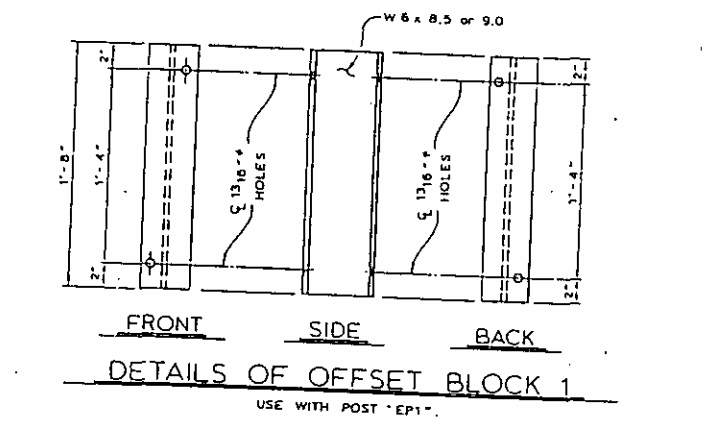
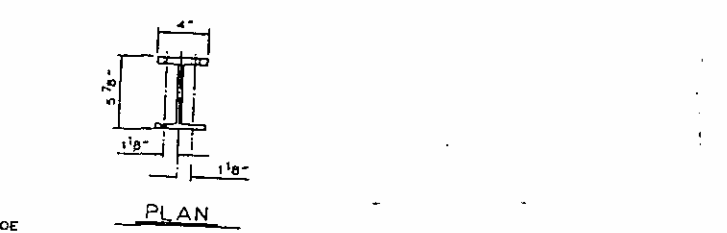
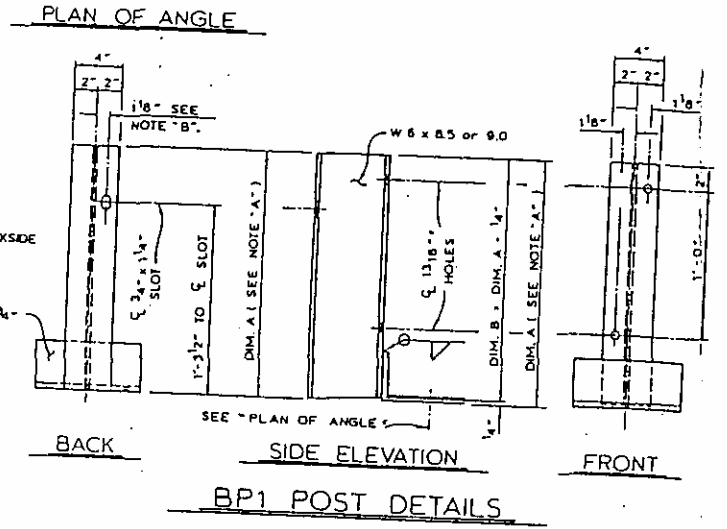
6" TUBE DETAILS +
* USE WITH POST - BP1, BP2 AND BP3 *



6" TUBE DETAILS ++
** USE WITH POST - EP1 & EP2 **

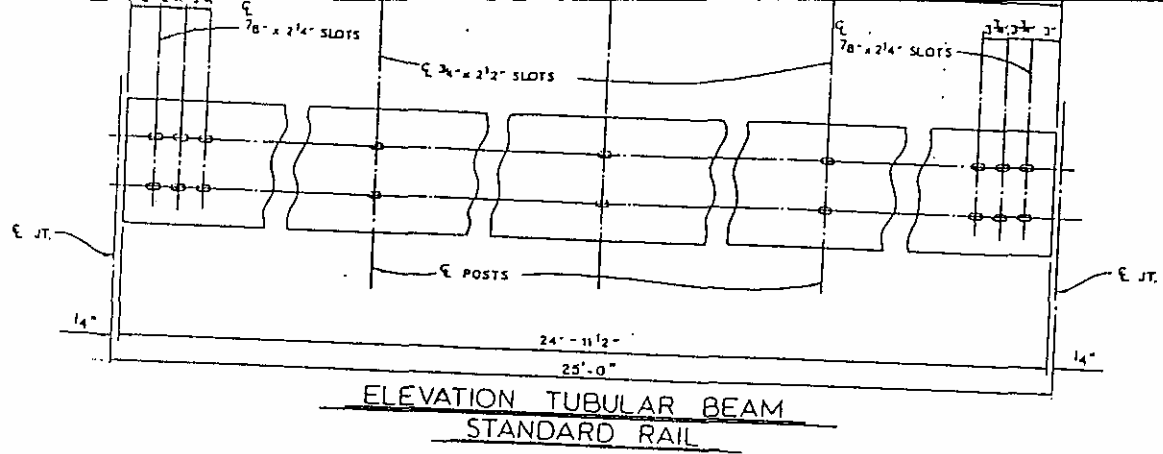


BACKUP CUSHION BRACKET

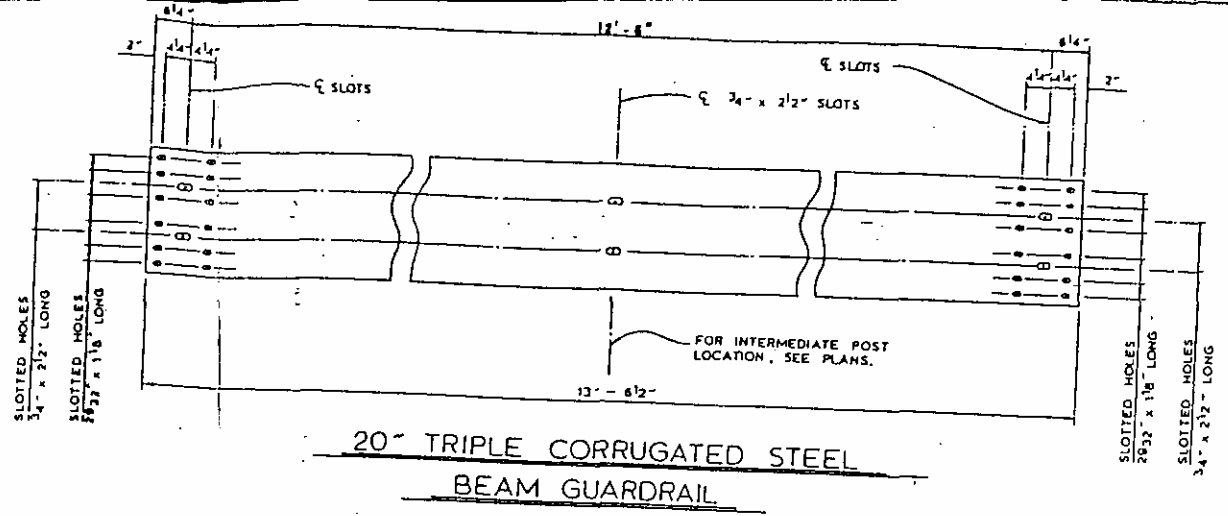


PROJECT No. 6.621
SURREY STOKES, & FORSYTH
STATION: _____
SHEET 2 OF 4
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
DETAILS FOR RETROFIT
EXISTING BRIDGE RAIL
TUBULAR BEAM GUARDRAIL
JAN 1982
REVISIONS
NO. BY DATE NO. BY DATE
1 1 1 2 2 2
2 1 1 3 3 3

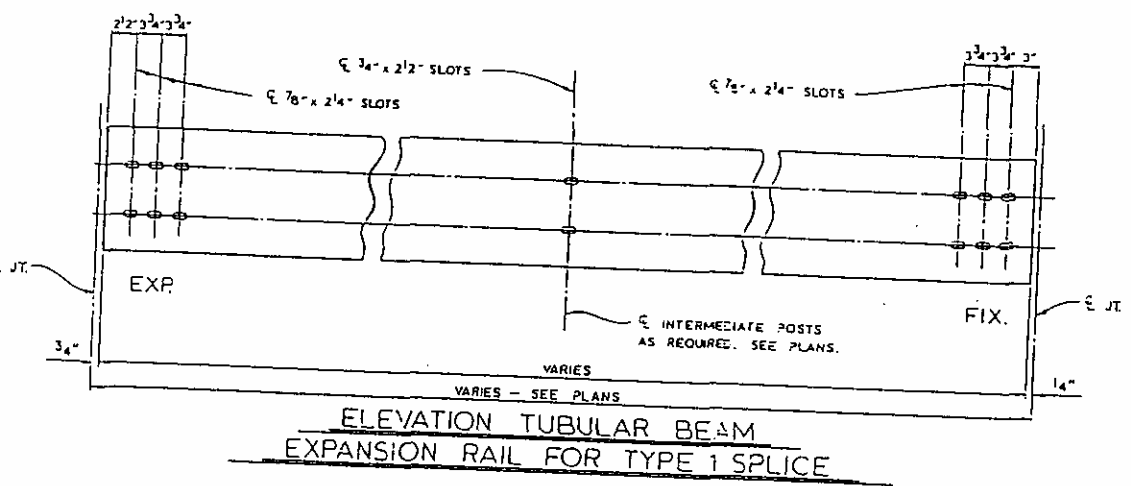
ASSEMBLED BY	F.A.M. [unclear]	DATE	6-10-85	SPECIAL
CHECKED BY	L.J. BRADKS	DATE	6-10-85	
DRAWN BY	ROSS EDWARD KUBENY	DATE	1-14-83	STANDARD
CHECKED BY	R.U. MOORE	DATE	1-14-83	



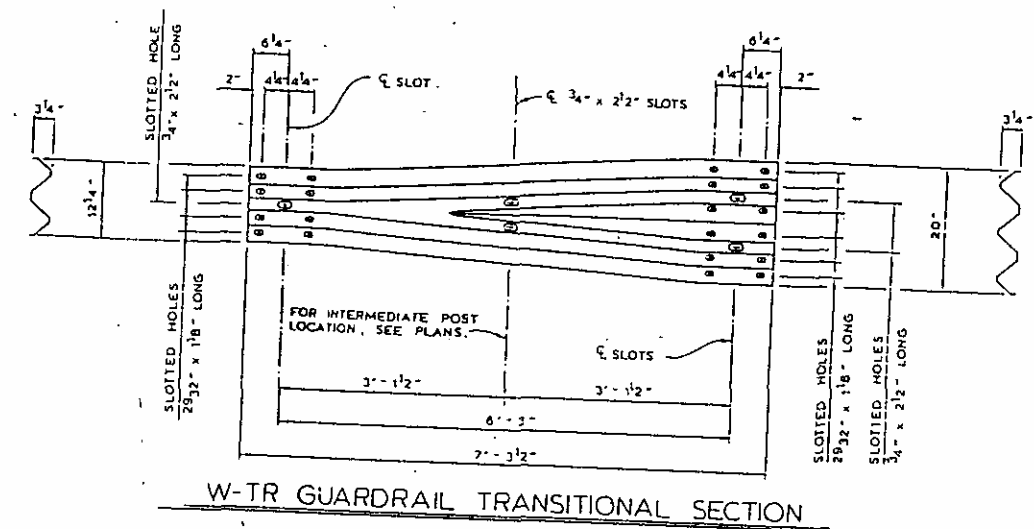
ELEVATION TUBULAR BEAM
STANDARD RAIL



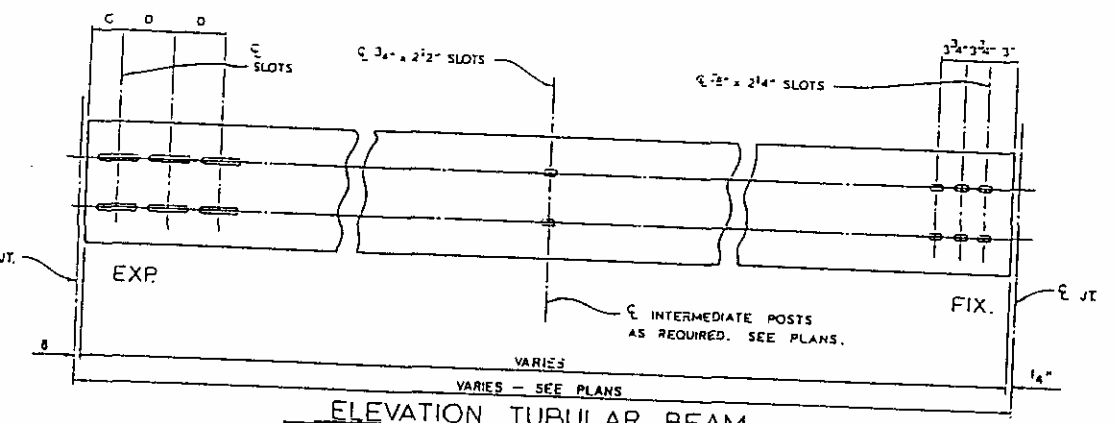
20" TRIPLE CORRUGATED STEEL
BEAM GUARDRAIL



ELEVATION TUBULAR BEAM
EXPANSION RAIL FOR TYPE 1 SPLICE

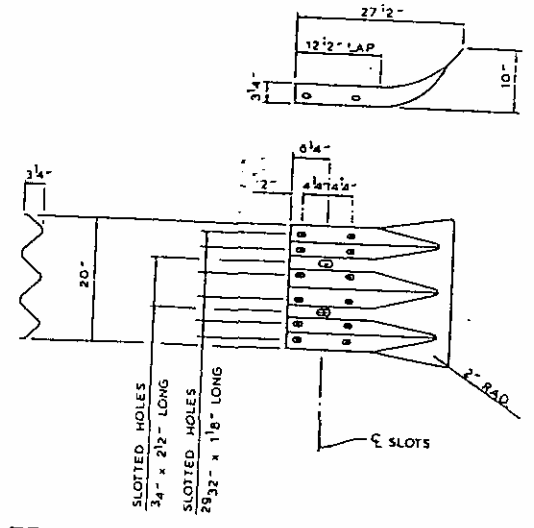


W-T-R GUARDRAIL TRANSITIONAL SECTION

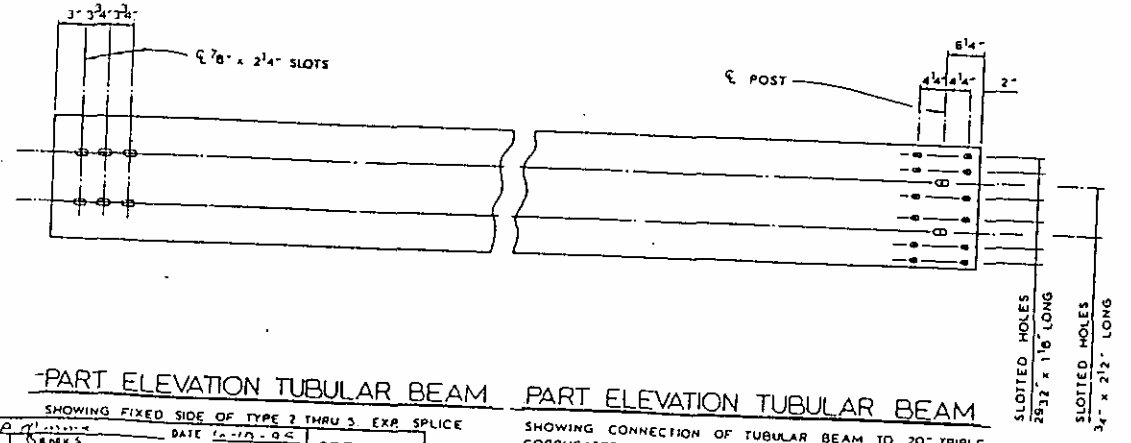


ELEVATION TUBULAR BEAM
EXPANSION RAIL FOR TYPE 2 THRU 5 SPLICE

NOTE: FOR DIM'S. "B", "C", "D", & "S" SLOT SIZE, SEE TABLE 1, SHEET 4 OF 4.



TRIPLE CORRUGATED GUARDRAIL
TERMINAL SECTION



PART ELEVATION TUBULAR BEAM
SHOWING FIXED SIDE OF TYPE 2 THRU 5 EXP SPLICE

PART ELEVATION TUBULAR BEAM
SHOWING CONNECTION OF TUBULAR BEAM TO 20" TRIPLE
CORRUGATED BEAM, TRANSITION SECTION, OR TERMINAL
SECTION.

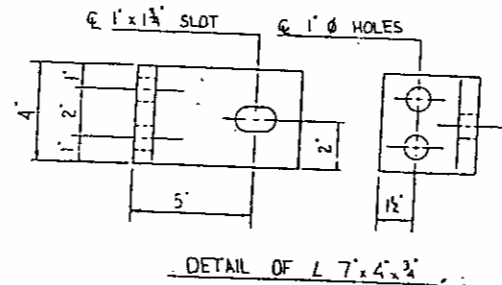
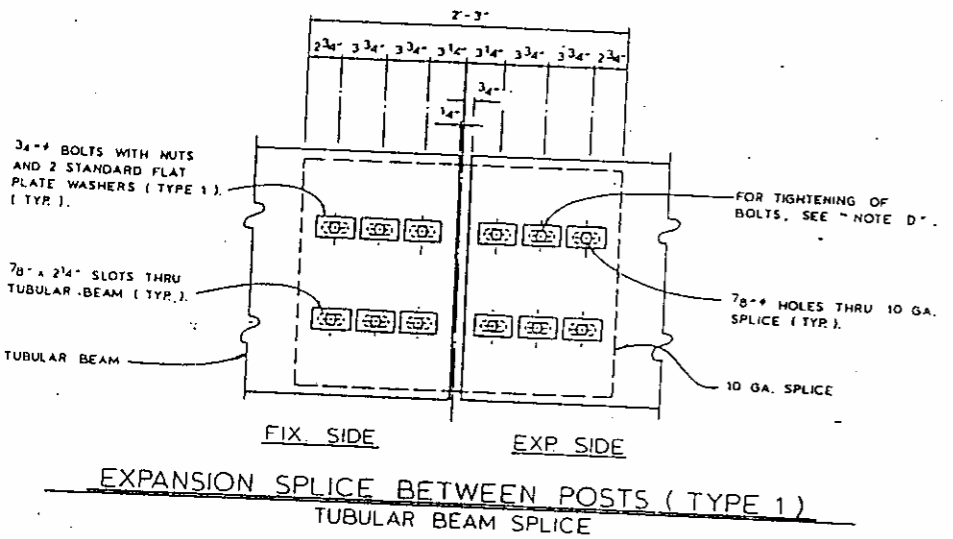
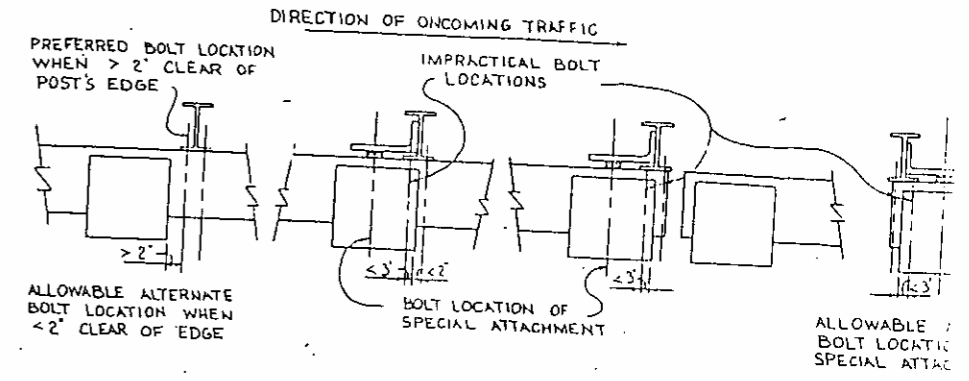
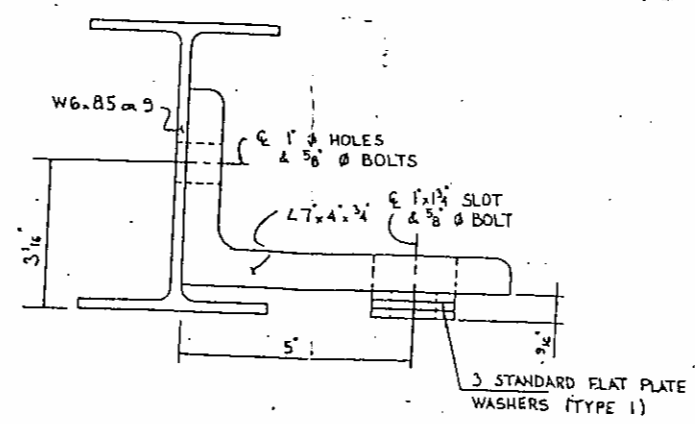
PROJECT No. 6.621031
 SURRY, STOKES, & FORSYTH C
 STATION: _____
 SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 DETAILS FOR RETROFIT
 EXISTING BRIDGE RAIL
 TUBULAR BEAM GUARDRAIL

APRIL

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

ASSEMBLED BY: E.P. [Signature]	DATE: 12-10-80	SPECIAL
CHECKED BY: L.L. [Signature]	DATE: 6-19-83	
DRAWN BY: ROSS EDWARD KUBENTY	DATE: 4-16-80	STANDARD
CHECKED BY: R.L. [Signature]	DATE: 4-17-80	



TOTAL APPROXIMATE NO. REQUIRED: 135

NOTES

THE NUMBER OF SPECIAL ATTACHMENTS REQUIRED IS APPROXIMATE AND IS BASED ON PLANS OF THE EXISTING BRIDGES. THE CONTRACTOR SHALL SUPPLY THE NUMBER REQUIRED TO FIT ACTUAL FIELD CONDITIONS.

NO SEPARATE PAYMENT SHALL BE MADE FOR THE SPECIAL ATTACHMENTS, BUT THE COST SHALL BE INCLUDED IN PAYMENT FOR THE VARIOUS GUARDRAIL ITEMS.

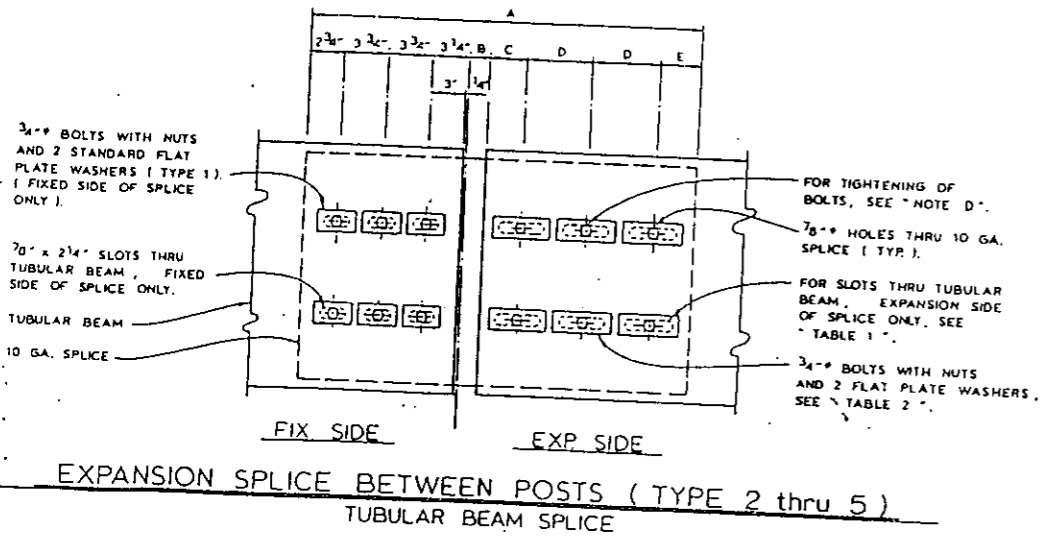
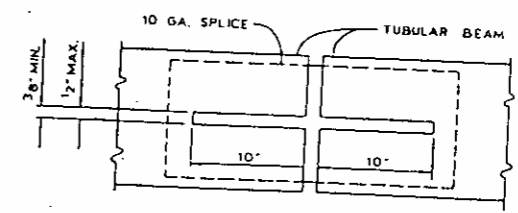


TABLE 1
DIMENSIONS FOR TYPE 2 THRU 5 EXPANSION SPLICE (TUBULAR BEAM SPLICE BETWEEN POSTS)

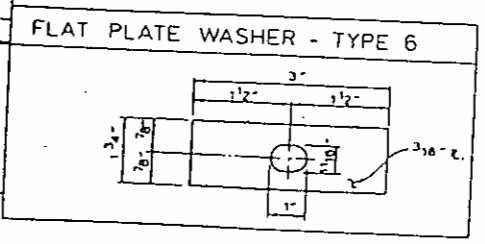
TYPE	2	3	4	5
A	2'-9"	3'-1"	3'-5"	3'-8"
B	90° F	1 1/4"	1 1/2"	1 5/8"
	60° F	1 3/4"	2"	2 1/4"
	30° F	2 1/4"	3"	4 1/8"
C	3 3/8"	4"	4 3/4"	5"
D	5 1/2"	6 1/2"	7 1/2"	8 1/2"
E	3 3/8"	4 1/4"	4 3/4"	5"
SLOT SIZE	1"x4"	1"x5"	1"x6"	1"x7"

TABLE 2
FLAT PLATE WASHER DIMENSIONS

TYPE	DESCRIPTION	A	B
1	STANDARD WASHER	3"	1 1/2"
TYPE	USE WITH SPLICE	A	B
2	TYPE 2	4 1/2"	2 1/4"
3	TYPE 3	5 1/2"	2 3/4"
4	TYPE 4	6 1/2"	3 1/4"
5	TYPE 5	7 1/2"	3 3/4"



NOTE D: BOLTS ON EXPANSION SIDE OF TUBULAR BEAM SPLICE SHALL BE TIGHTENED FINGER TIGHT. DOUBLE NUTS SHALL BE USED AND TIGHTENED AGAINST EACH OTHER TO PREVENT THE NUTS FROM BECOMING LOOSE ON THE BOLT.



ASSEMBLED BY E.A. Mimm DATE 6-10-85 SPECIAL
 CHECKED BY L.L. Brooks DATE 6-10-85
 DRAWN BY ROSS E. KUBENT DATE 4-18-80 STANDARD
 CHECKED BY P.V. Moore DATE 4-12-80

PROJECT No. 6.621031
 SURRY, STOKES, & FORSYTH

STATION: _____
 SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 DETAILS FOR RETROFIT OF EXISTING BRIDGE RAIL TUBULAR BEAM GUARDRAIL

APRIL

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			1		
2			2		

NO. 8	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6	NO. 7	NO. 8	NO. 9	NO. 10	NO. 11	NO. 12	NO. 13	NO. 14	NO. 15	NO. 16	NO. 17	NO. 18	NO. 19	NO. 20	NO. 21	NO. 22	NO. 23	NO. 24	NO. 25	NO. 26	NO. 27	NO. 28	NO. 29	NO. 30	NO. 31	NO. 32	NO. 33	NO. 34	NO. 35	NO. 36	NO. 37	NO. 38	NO. 39	NO. 40	NO. 41	NO. 42	NO. 43	NO. 44	NO. 45	NO. 46	NO. 47	NO. 48	NO. 49	NO. 50	NO. 51	NO. 52	NO. 53	NO. 54	NO. 55	NO. 56	NO. 57	NO. 58	NO. 59	NO. 60	NO. 61	NO. 62	NO. 63	NO. 64	NO. 65	NO. 66	NO. 67	NO. 68	NO. 69	NO. 70	NO. 71	NO. 72	NO. 73	NO. 74	NO. 75	NO. 76	NO. 77	NO. 78	NO. 79	NO. 80	NO. 81	NO. 82	NO. 83	NO. 84	NO. 85	NO. 86	NO. 87	NO. 88	NO. 89	NO. 90	NO. 91	NO. 92	NO. 93	NO. 94	NO. 95	NO. 96	NO. 97	NO. 98	NO. 99	NO. 100
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NOTES

Assumed Live Load = H20-S16 (44) or Alternate Loading.
 For other design data and General Notes see sheet S-11.
 Computed foundation load for Bents 1 and 2 equals 3 tons per square foot.
 Footings to be carried at least 6" into rock with minimum thickness as shown on plans.
 No test piles are required. Order lengths shall be 30 feet for End Bent 1 and 23 feet for End Bent 2.
 Piles for End Bents 1 and 2 to be driven to a minimum bearing capacity of 26 tons each.
 Piles for End Bents 1 and 2 to be driven through the roadway fill.
 B.M. #9 - 2 Nails in Base 15" Sycamore 280' A.S. Sta. 29+65.4 - Elev. 940.53

Note: This St. built as per plan except as noted - O.K. checked
 Note: B. Floor raised 3/4" due to stress Center in Prec. Slabs. Girders O.K. checked

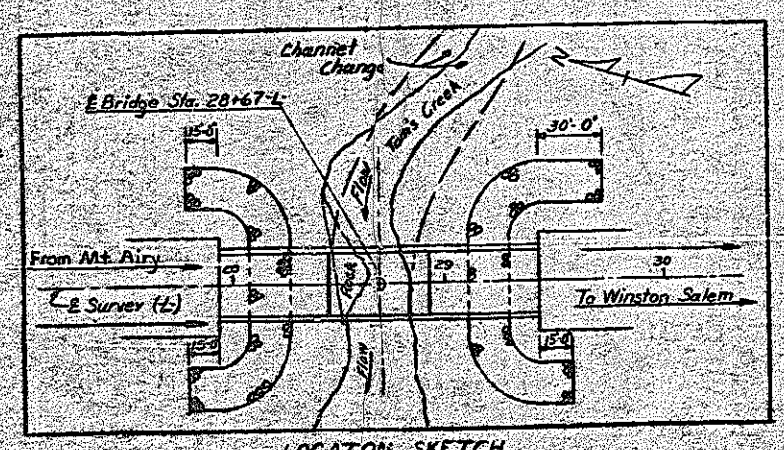
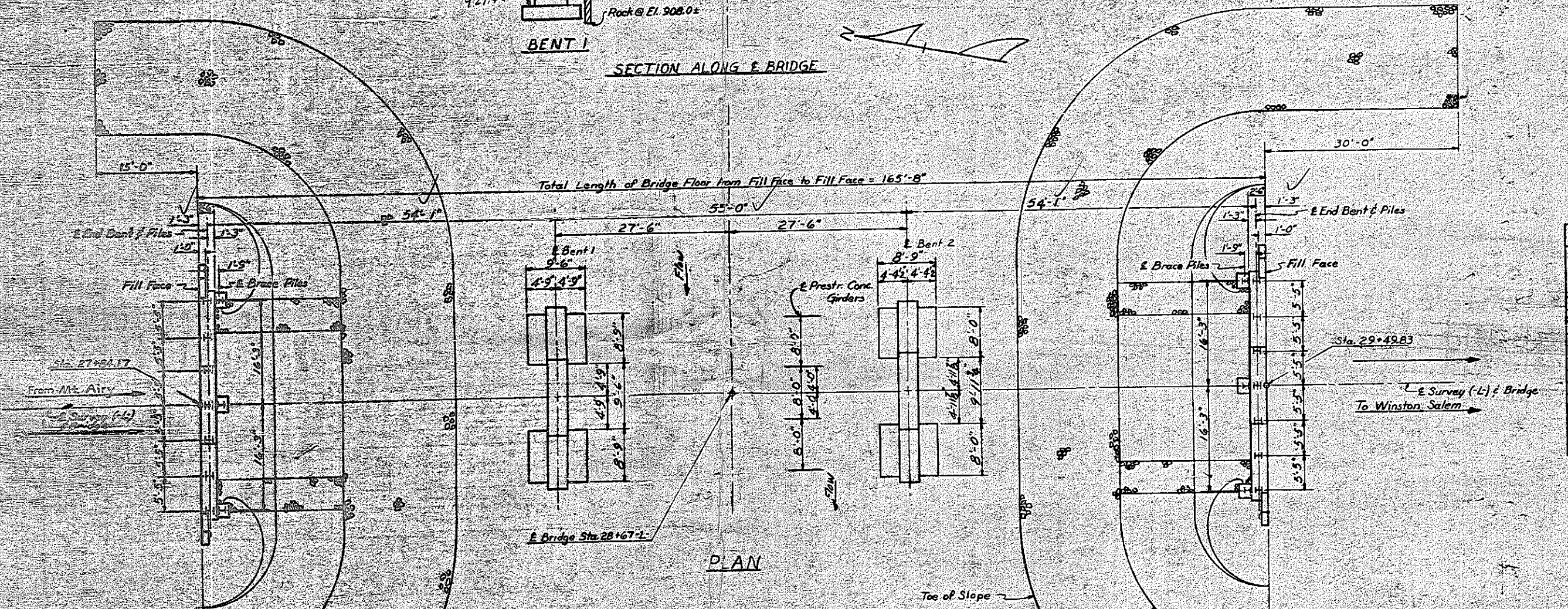
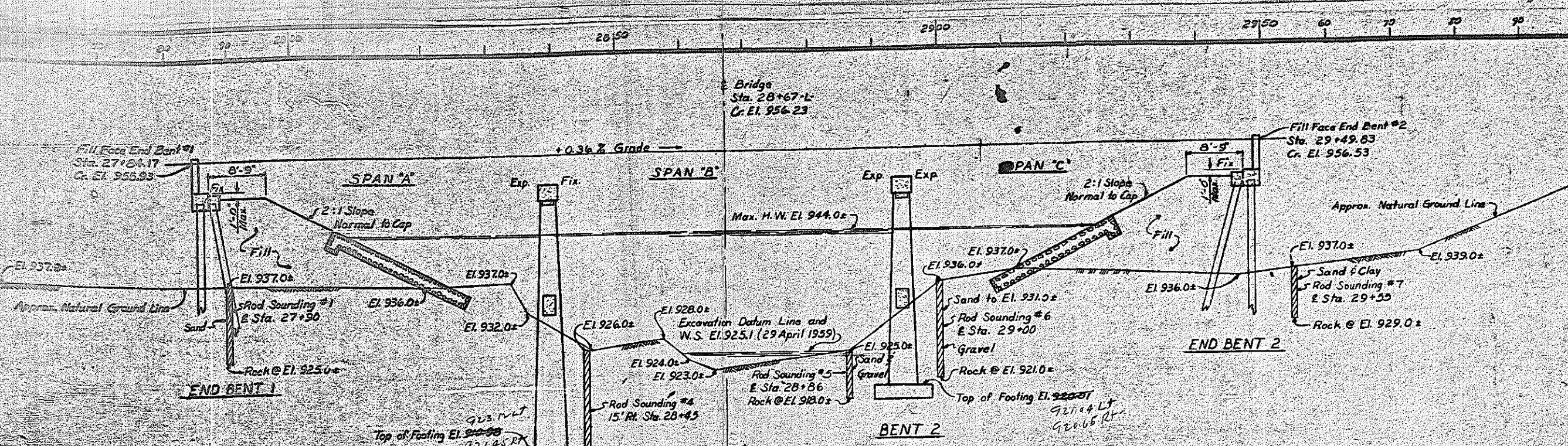
TOTAL BILL OF MATERIAL

Class	Concrete	Reinforcing Steel	45° Prestr. Concrete Girders	12 H53 Steel Piles	Excavation Wet Dry	Plain Rip Rap Class 2	Concrete Rip Rap	1/4" 50 sheet pile cut off
C.Y.	Lbs.	Sq. Ft.	L.F.	No.	C.Y.	Sq. Yds.	Sq. Yds.	Sq. Yds.
Superstruc. etc.	167.2	39331	12	656-0				
End Bent #1	11.9	2173		12	300			
Bent #2	43-10/16	7854						
End Bent #2	11.9	2173		10	200			
Approach curbs	3.2	76						
Total	246.1	53,524	12	656-0	500	265	265	1

PROJECT NO. 8.17542
SURRY - STOKES COUNTY
STATION: 28+67.4

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 GENERAL DRAWING
 BRIDGE OVER TOM'S CREEK ON
 LINE "L"
 September 1959

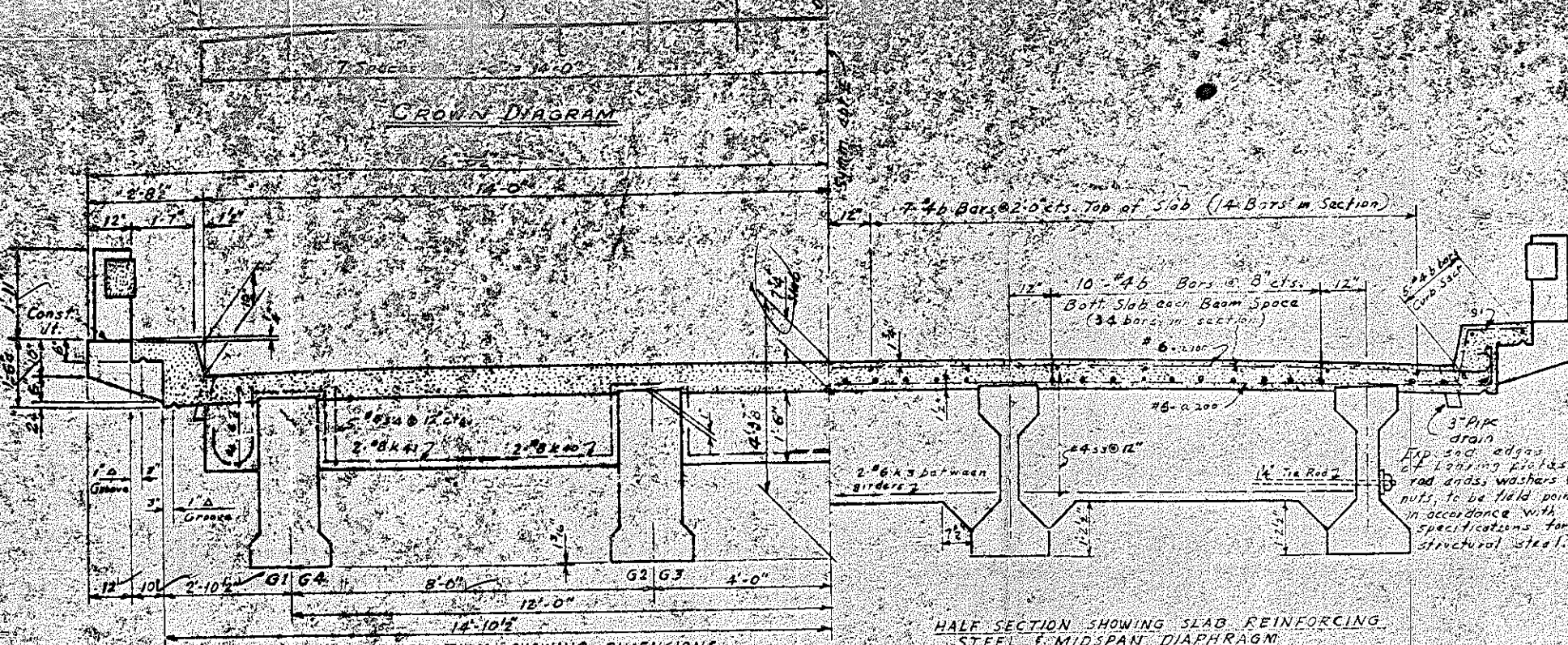
SEP
 O.A.E.P.
 3-11-80



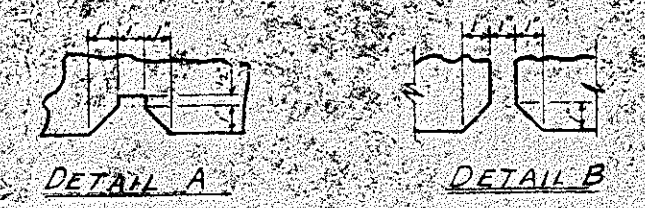
DESIGNED BY	W. J. ROBERTS	DATE	Sept 1959
CHECKED BY	W. J. ROBERTS	DATE	Sept 1959
DRAWN BY	THOMAS	DATE	Oct 1959

52-74-605

NO. OF SHEETS	10
SHEET NO.	27
TOTAL SHEETS	10



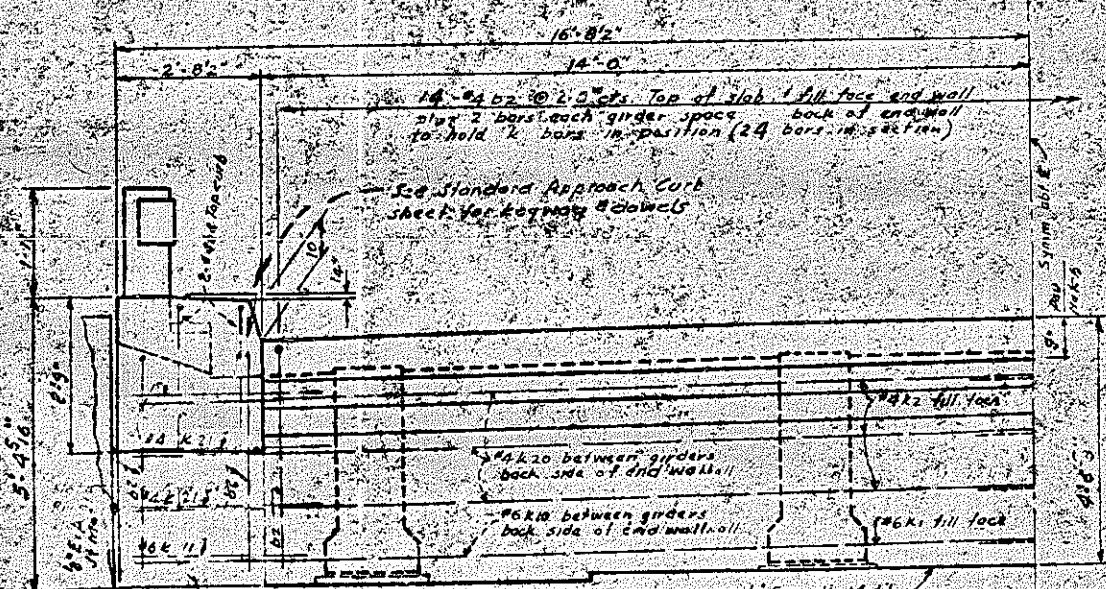
TYPICAL SECTION



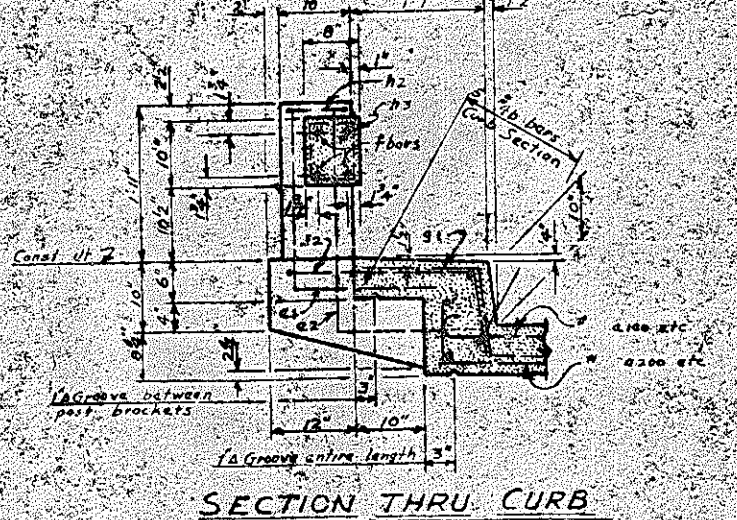
RAIL POST DETAILS

NOTE
 For bars indicated and no bar mark shown see concrete plan.
 Temporary struts shall be placed between prestressed string adjacent to the diaphragms and the nuts on the 1/2" dia bars shall be fully tightened before diaphragms are cast. Struts shall remain in place 3 days after concrete is placed. The nuts shall be retightened after the struts have been removed.

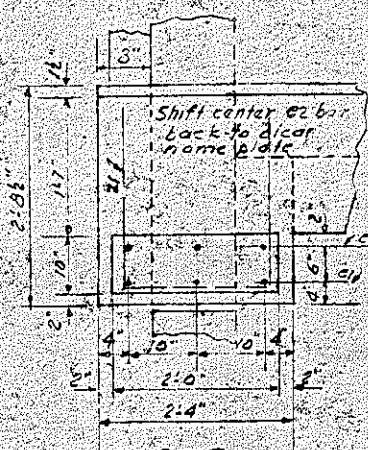
See conc. plan for computed camber and dead load deflections.
 See S-N Sheet for additional notes.



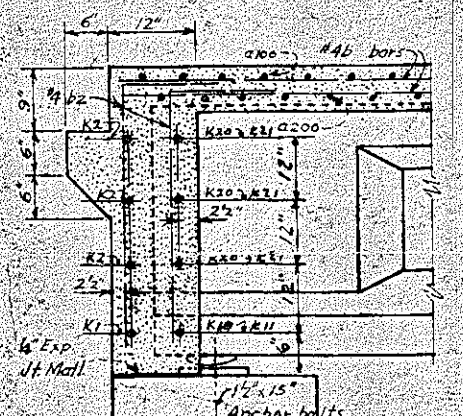
HALF END ELEVATION



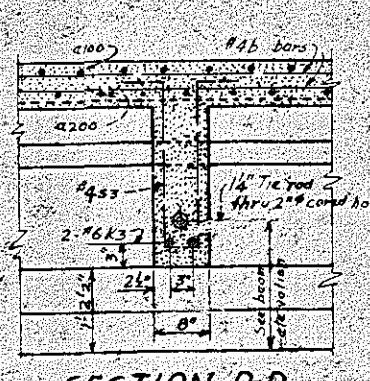
SECTION THRU CURB



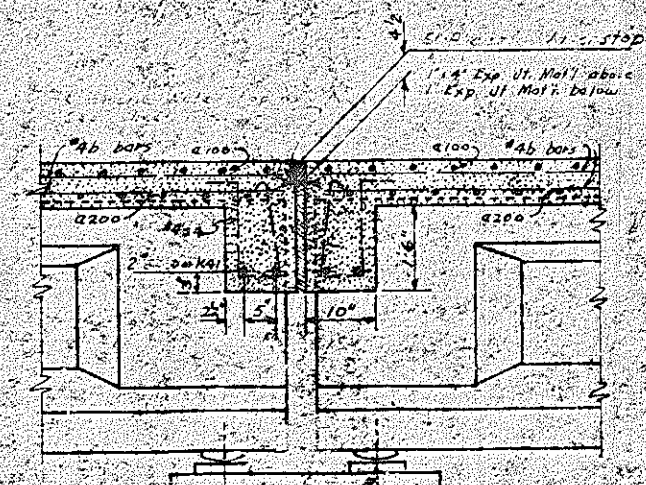
END POST



SECTION A-A



SECTION D-D



SECTION B-B

PROJECT NO. 817542
 SURRY STOKES COUNTY
 STATION: 20+87.1

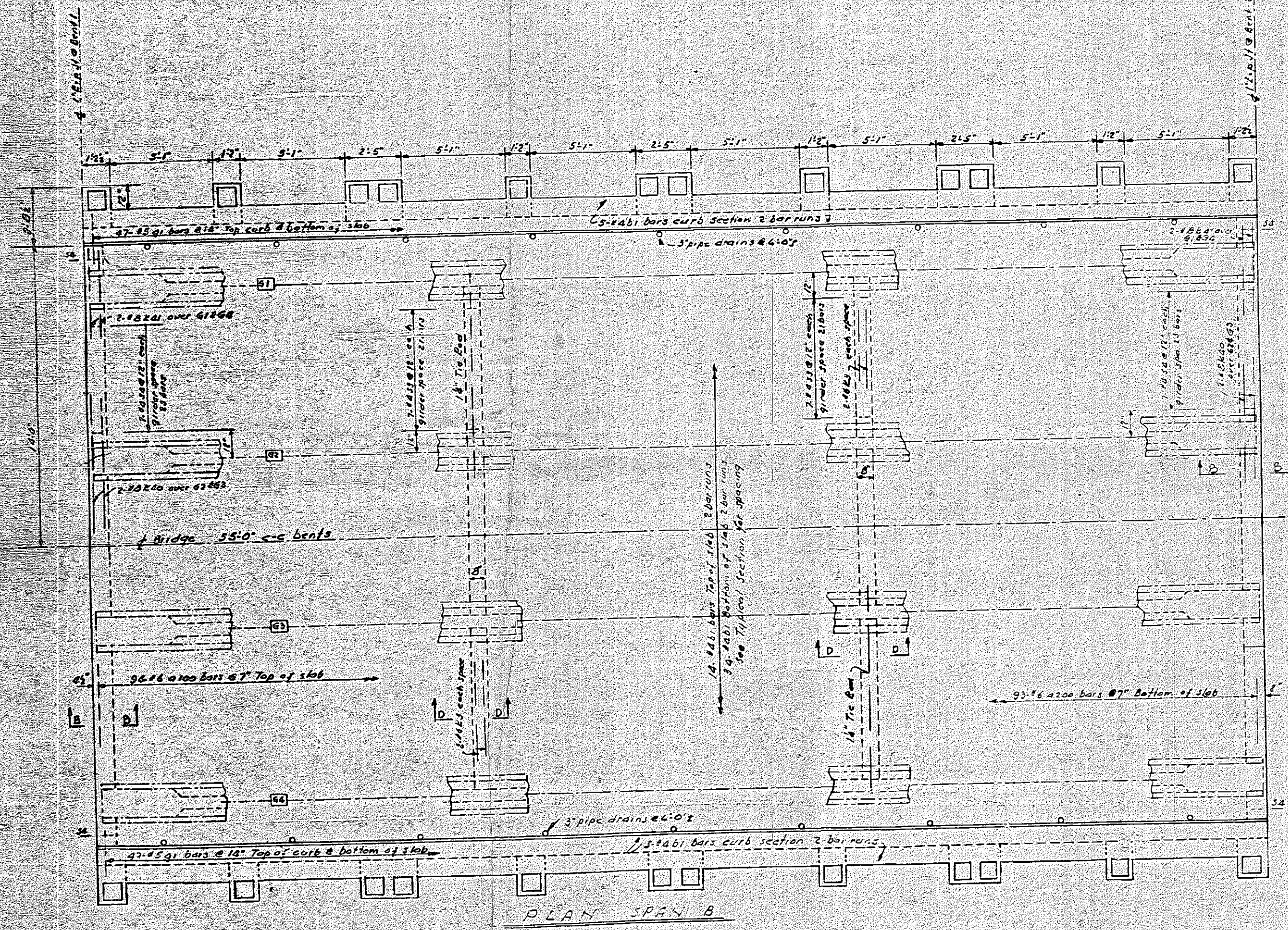
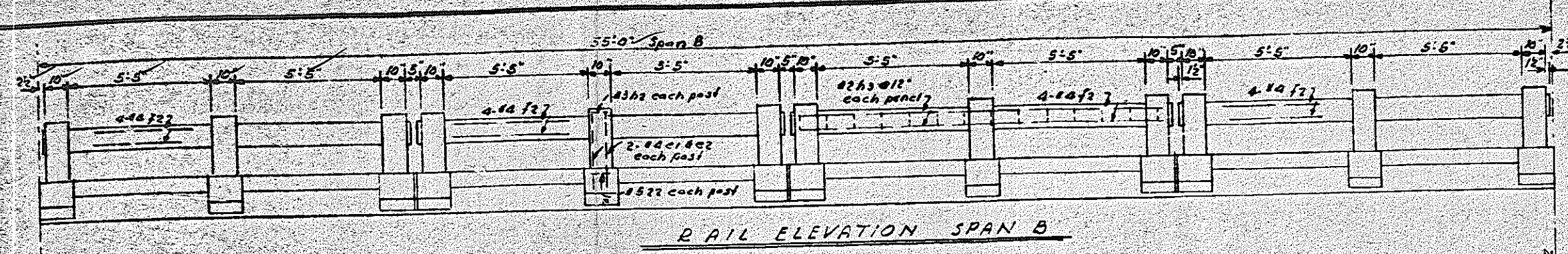
STATE OF NORTH CAROLINA	
STATE HIGHWAY COMMISSION	
RALEIGH	
SUPERSTRUCTURE	
TYPICAL SECTIONS	
4-45" PRESTRESSED CONCRETE BEAMS	
28' ROADWAY 18" CURB	
JULY 1959	
DATE	DESIGNED BY
DATE	CHECKED BY
DATE	APPROVED BY
DATE	SCALE

ASSEMBLY BY: [Name]
 DRAWN BY: Mack Underwood
 CHECKED BY: [Name]
 DATE: July 1959

SJP
 O.A.EAD
 5-11-80

PROJ. NO.	817542
SHEET	F-177 (B)
TOTAL	281

NOTE
For center and dead load deflections
see Plan for spans A & C.



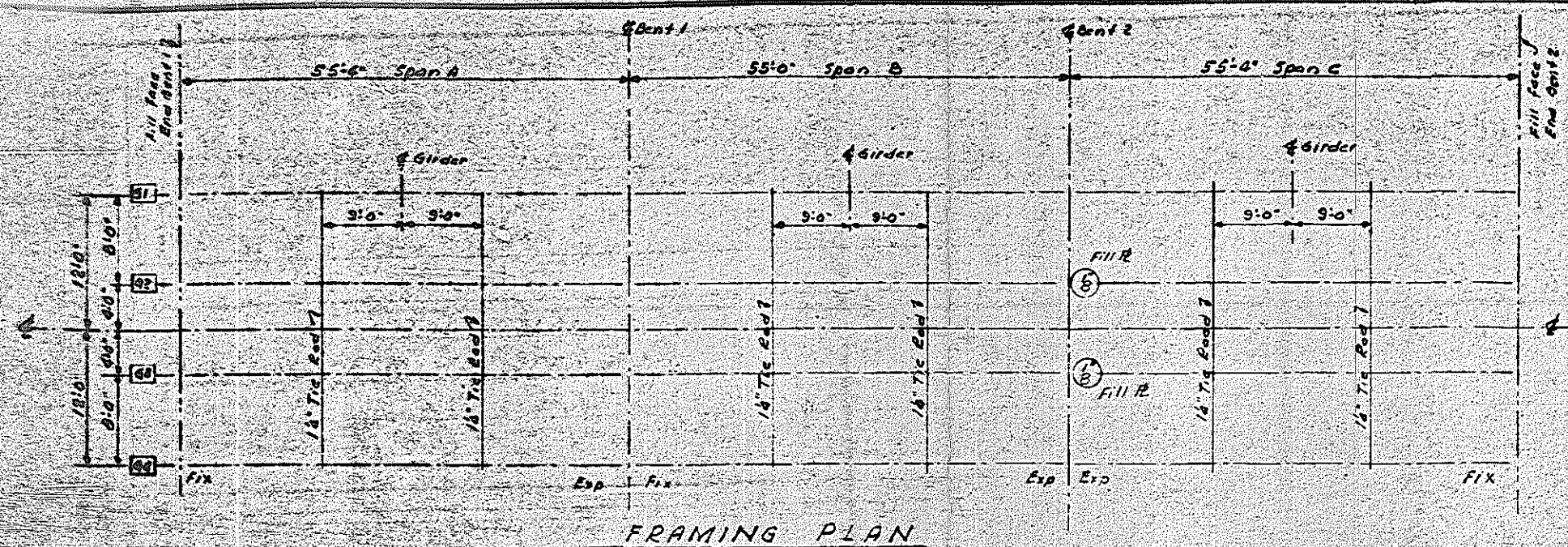
Project No. 817542
SURREY STOKES COUNTY
STATION 28-61 E

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
BALDWIN
SUPERSTRUCTURE
CONCRETE PLAN
INTERIOR SPAN B
SEPT 1959

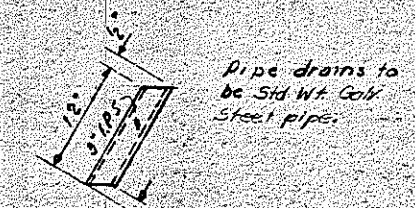
REV.	BY	DATE	DESCRIPTION
1		5-29	
2		1-18-80	

SJP
D.A.E.A.P.
3-11-80

177542
3-11-80



FRAMING PLAN

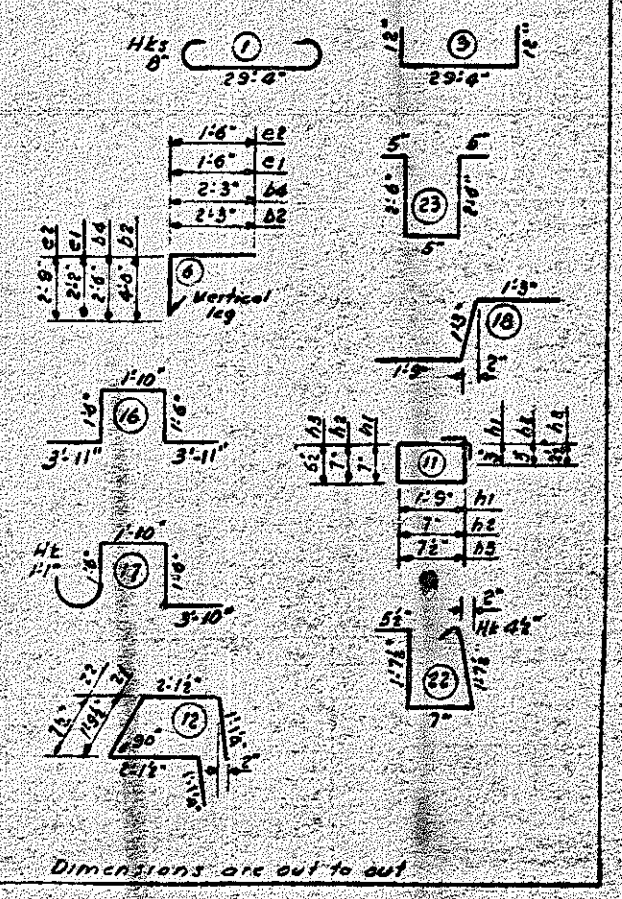


DRAIN DETAIL
Required 54 pcs

Pipe drains to be 5/8" Wt. Galv. Steel pipes.

REINFORCING STEEL BAR SCHEDULE FOR 3 SPANS
Bending Diagrams

Bar No.	N ^o /Pcs	Size	Type	Length	Weight
a100	284	#6	1	30'-8"	12082
a200	281	#6	3	37'-4"	13224
b1	348	#4	5/11	28'-3"	6567
b2	48	#4	6	6'-3"	200
b4	8	#4	6	4'-9"	25
q1	282	#5	18	4'-3"	1250
k1	4	#6	5/11	17'-8"	107
k10	6	#6	5/9	5'-9"	52
k11	4	#6	5/6	3'-6"	21
k2	12	#4	17/3	17'-3"	135
k20	18	#4	6/3	6'-3"	75
k21	12	#4	3/9	3'-9"	30
k3	36	#6	5/11	7'-0"	378
k40	16	#6	16	12'-8"	547
k41	16	#8	17	9'-9"	410
s3	126	#4	23	6'-3"	526
s4	92	#4	22	4'-0"	287
c1	108	#4	6	3'-8"	363
c2	108	#4	6	4'-3"	420
h1	4	#3	11	5'-2"	8
h2	68	#3	11	2'-0"	72
h3	340	#2	11	2'-7"	147
z1	4	#5	12	8'-3"	34
z2	60	#5	12	7'-1"	502
f1	16	#4	5/11	14'-4"	153
f2	80	#4	5/11	18'-4"	713



Dimensions are out to out

SUPERSTRUCTURE QUANTITIES

Class A Concrete	167.2 CY
Reinforcing Steel	3933.1 lbs
45' Prestressed Concrete Girders - No. 12	656'-0" LF

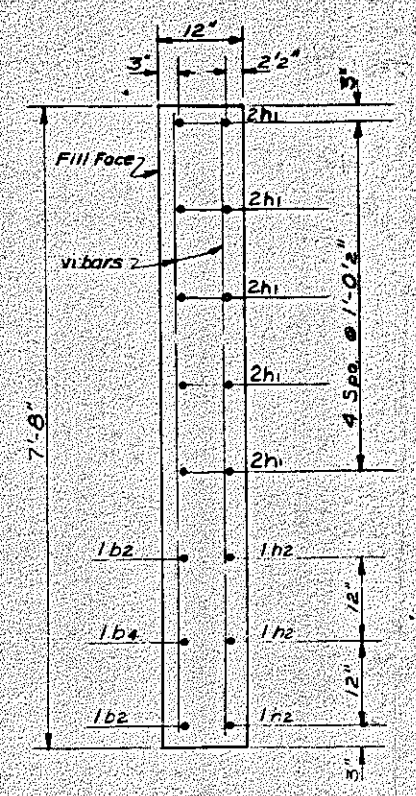
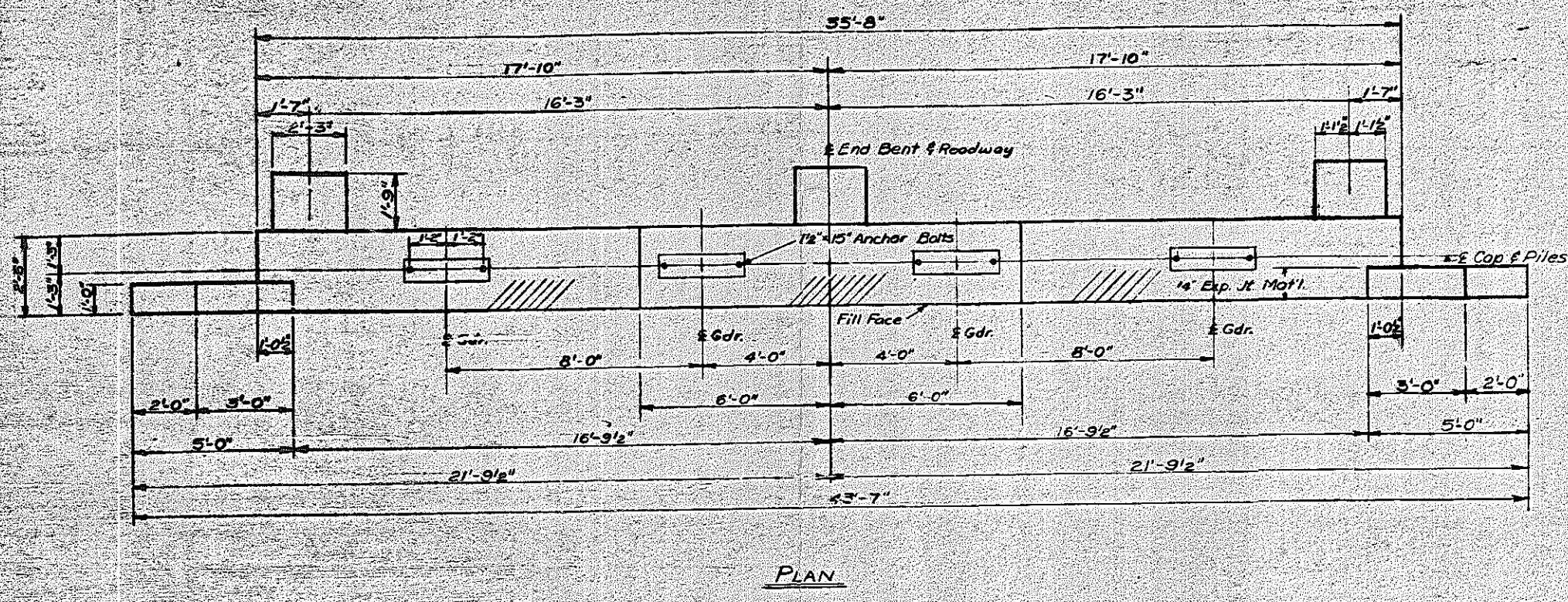
Project No. 0.17562
SUBBY STORES, County
Station: 28+67.1

STATE OF MISSISSIPPI
STATE HIGHWAY COMMISSION

SUPERSTRUCTURE
FRAMING DETAIL
BILL OF MATERIAL

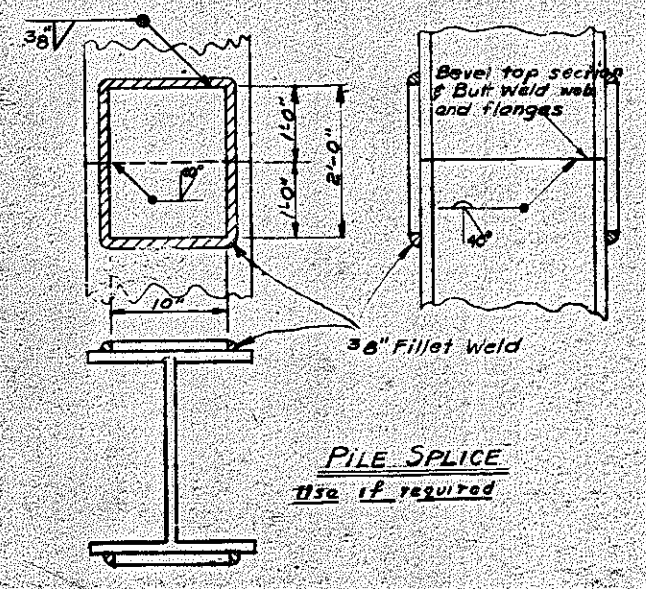
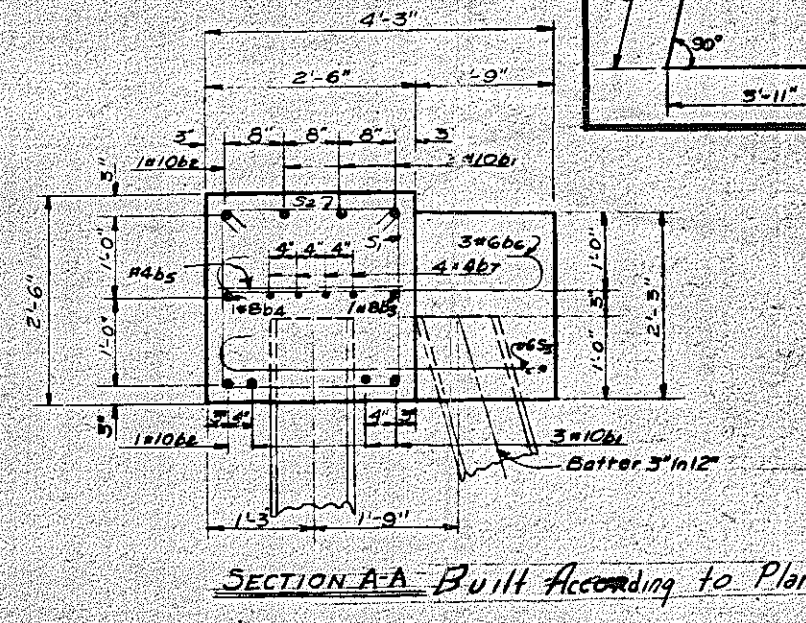
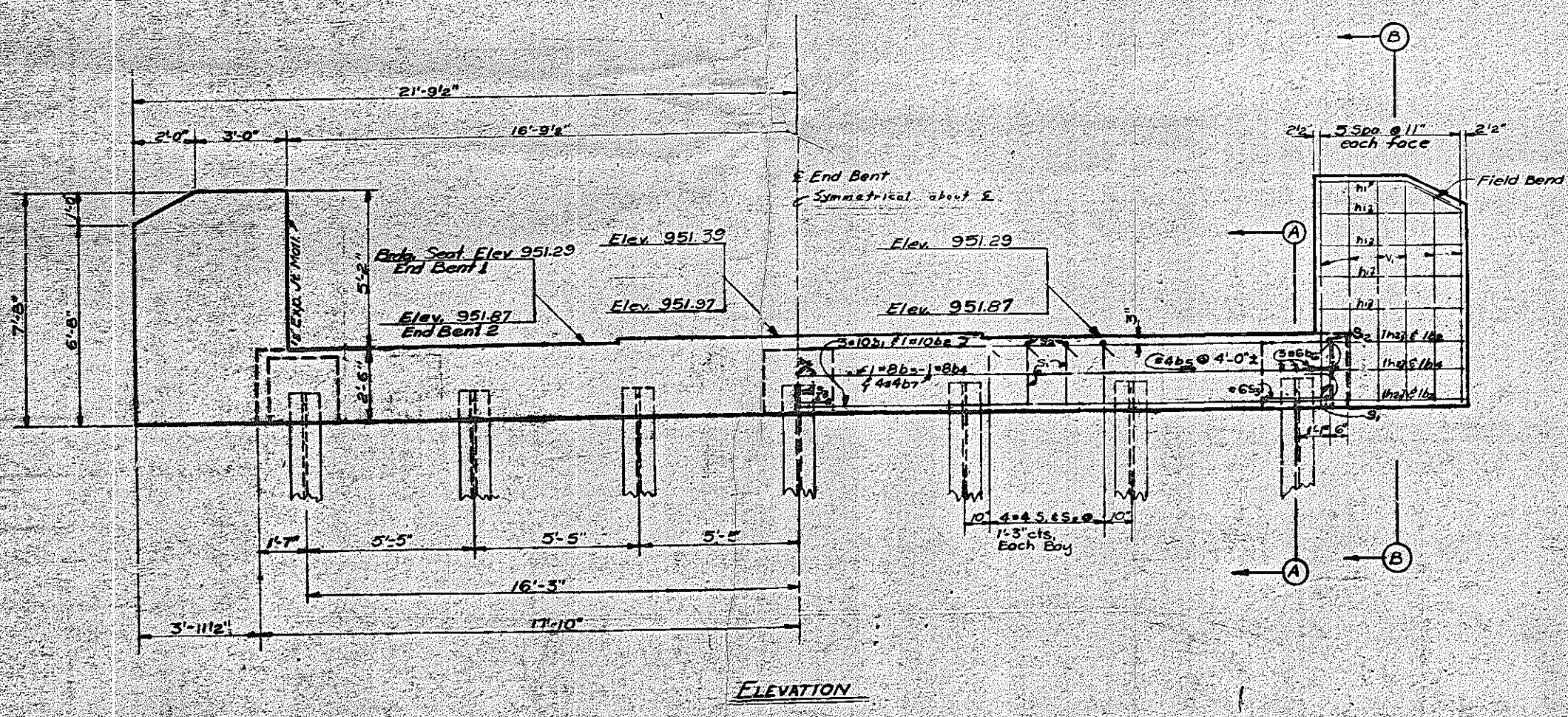
SEPT. 1959

NO.	REV.	DATE	BY	CHK.	REASON	S. 200
1						
2						175



BAR TYPES		BILL OF MATERIAL				
FOR ONE END BENT						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
b1	6	#10	1	33'-0"	921	
b2	2	#10	Str	43'-3"	372	
b3	1	#8	Str	35'-2"	94	
b4	1	#8	Str	43'-3"	115	
b5	10	#4	Str	2'-2"	12	
b6	9	#6	1	5'-3"	71	
b7	6	#4	Str	18'-5"	93	
h1	20	#4	Str	4'-8"	62	
h2	6	#4	Str	5'-3"	21	
v1	24	#4	Str	7'-4"	118	
S1	26	#4	3	7'-3"	126	
S2	26	#4	2	2'-11"	51	
S3	5	#6	4	11'-4"	50	

Reinforcing Steel 2178 lbs.
 Class "A" Concrete 11.9 cu yd.
 End Bent 1 12M53 Piles No 10 300 LF.
 End Bent 2 12M53 Piles No 10 250 LF.
 244'-2"



Piles to be driven to a minimum bearing capacity of 26 tons each.

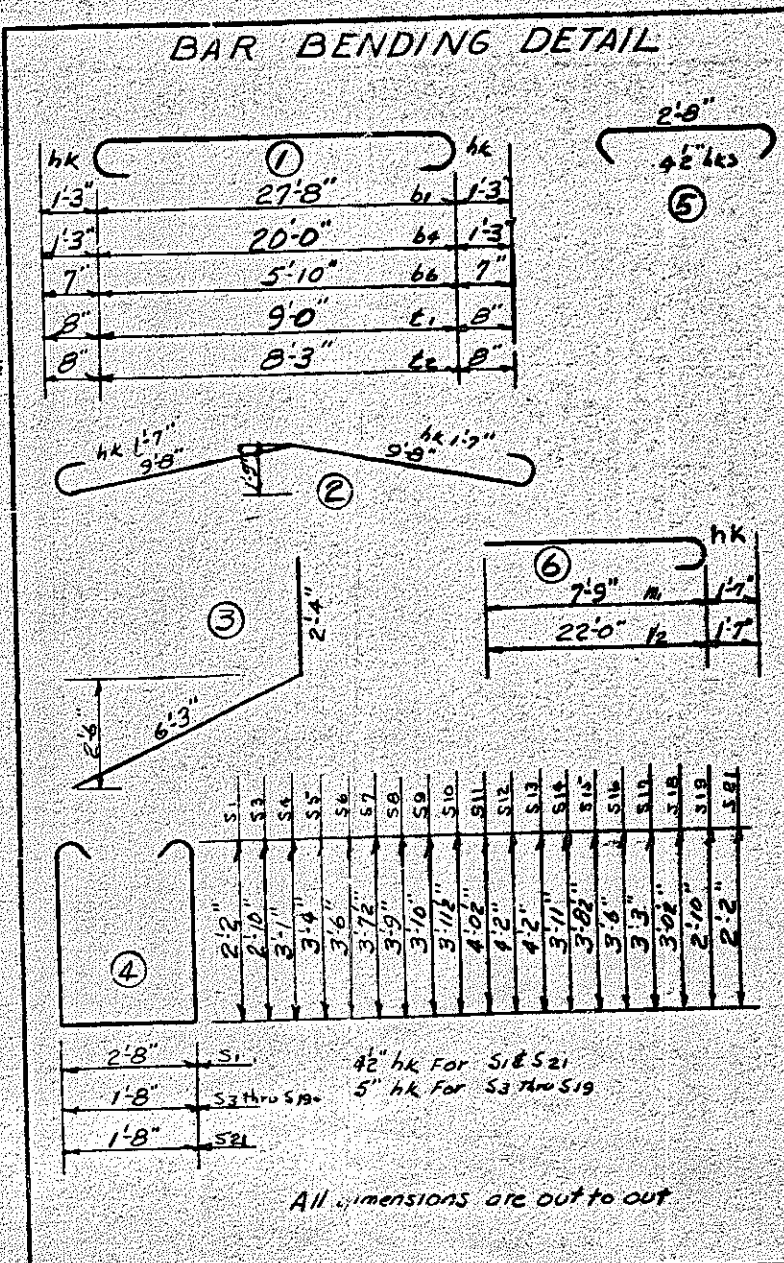
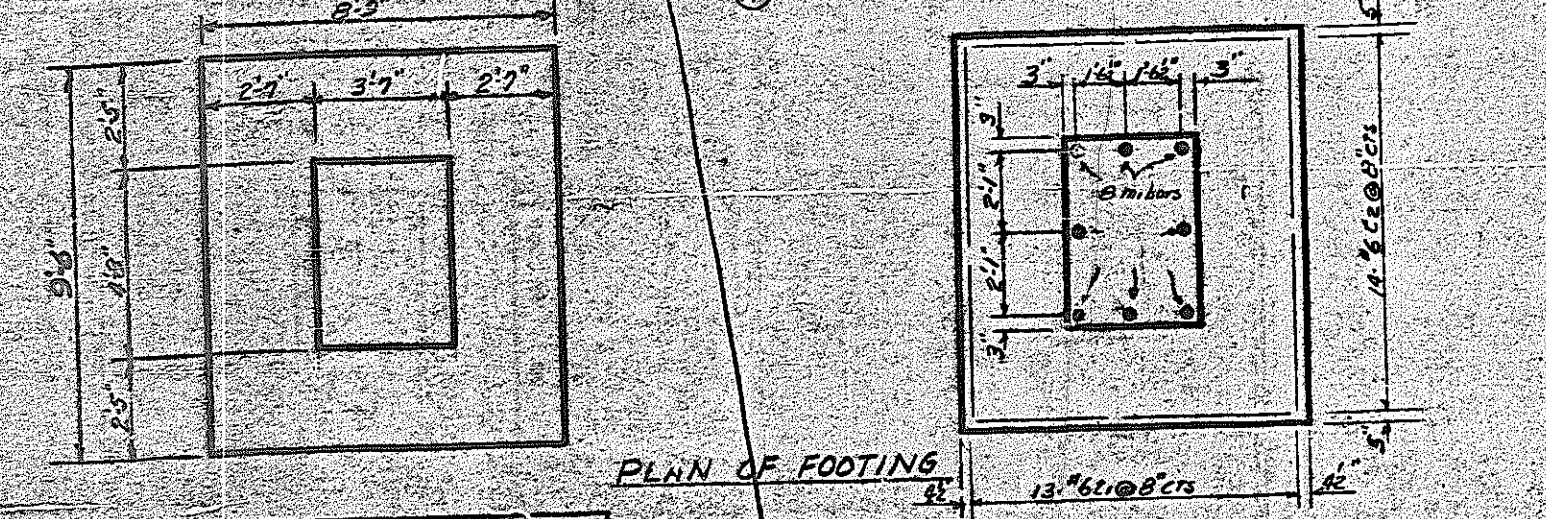
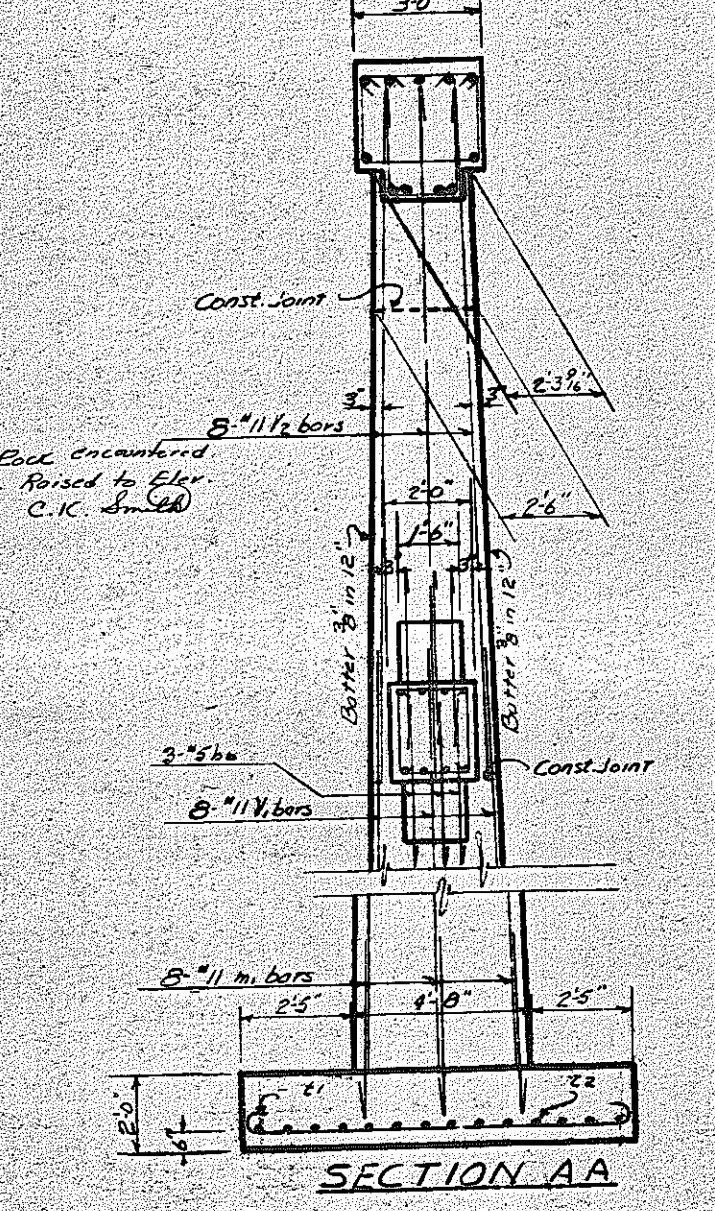
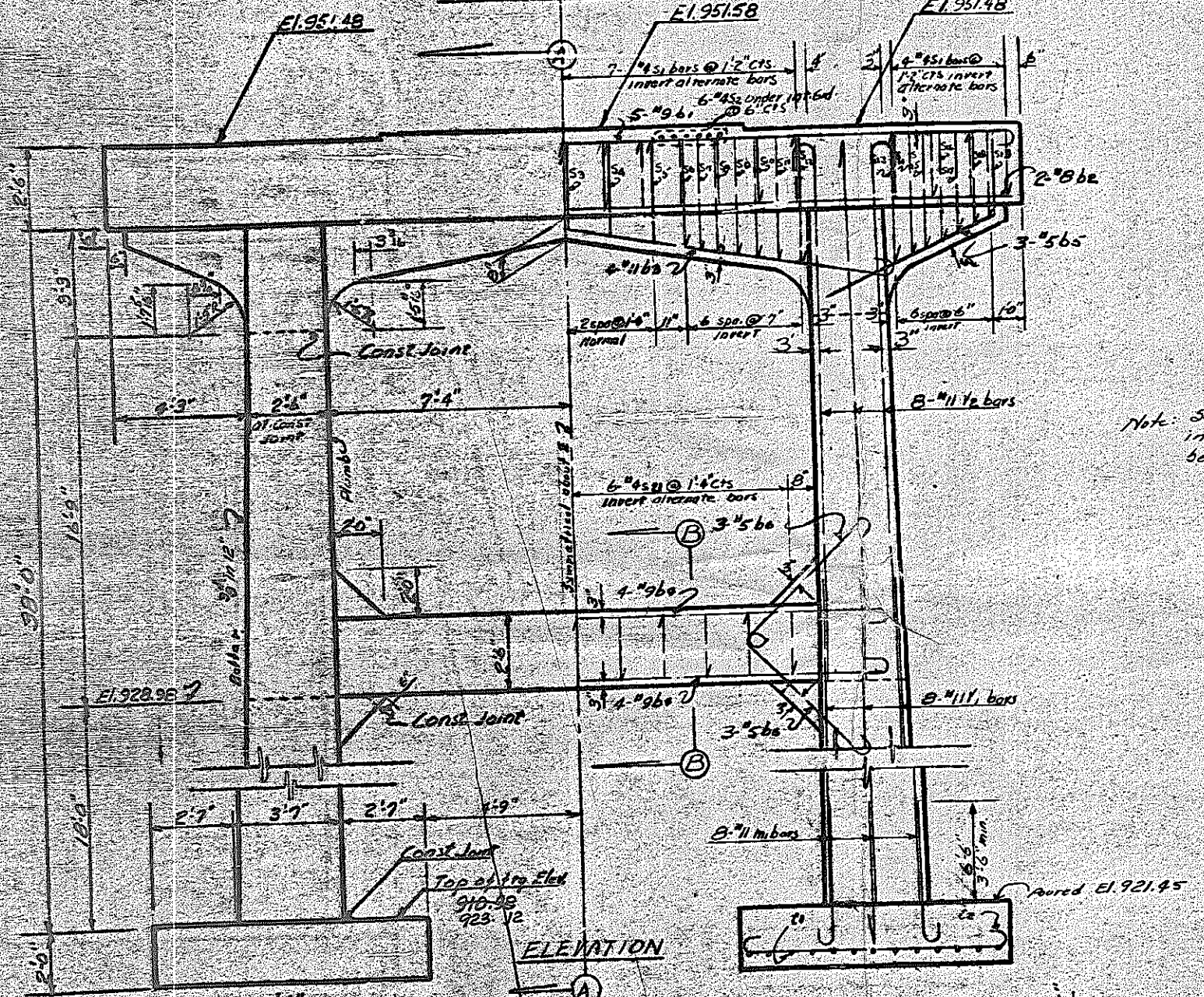
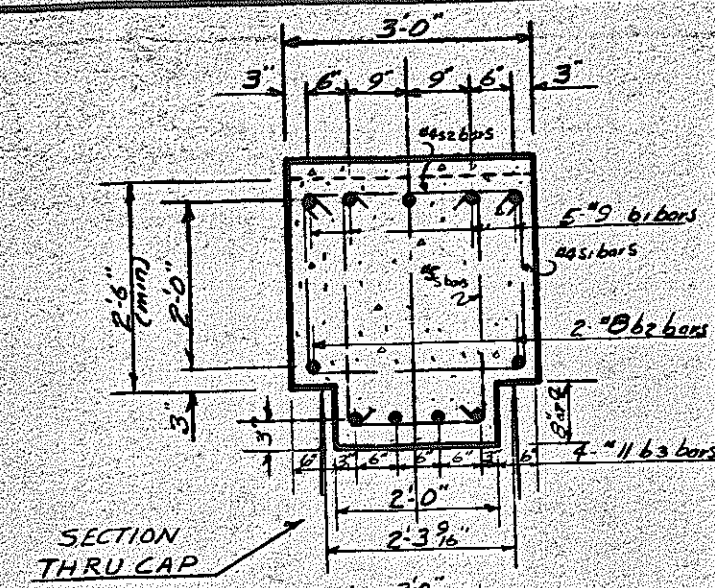
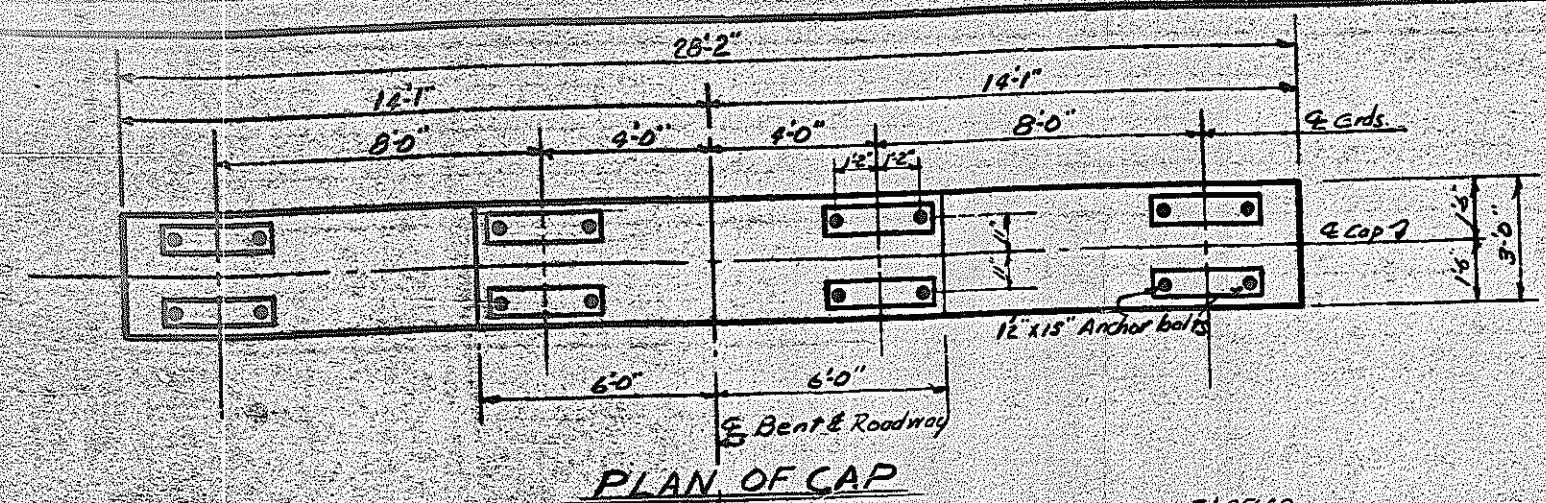
PROJECT NO. 8.17542
 SURRY-STONES COUNTY
 STATION: 28+67

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 SUBSTRUCTURE
 END BENT 1 & 2

September 1959

DRAWN BY: P.S. Hicks
 CHECKED BY: J.H. Ellis
 DATE: Sept. 1959

Darnley



BILL OF MATERIAL					
BENT NO. 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
b1	5	#9	1	30'-2"	512
b2	2	#8	SPR.	27'-8"	162
b3	4	#11	2	22'-6"	478
b4	8	#9	1	22'-6"	612
b5	6	#5	3	8'-7"	22
b6	12	#5	1	7'-0"	55
s1	21	#4	4	7'-9"	102
s2	12	#4	5	3'-5"	27
s3	1	#5	4	8'-2"	9
s4	2			8'-8"	18
s5				9'-2"	12
s6				9'-6"	22
s7				9'-9"	20
s8				10'-0"	21
s9				10'-2"	21
s10				10'-5"	22
s11				10'-7"	22
s12				10'-10"	23
s13				10'-4"	22
s14				9'-11"	21
s15				9'-6"	20
s16				9'-0"	19
s17				8'-7"	18
s18				8'-2"	17
s19	2	#5		8'-9"	17
s21	11	#8	4	6'-9"	50
a1	16	#11	6	9'-4"	793
v1	16	#11	STR	21'-6"	1828
f1	16	#11	6	23'-7"	2005
f1	26	#6	1	10'-8"	404
f2	28	#6	1	9'-7"	403

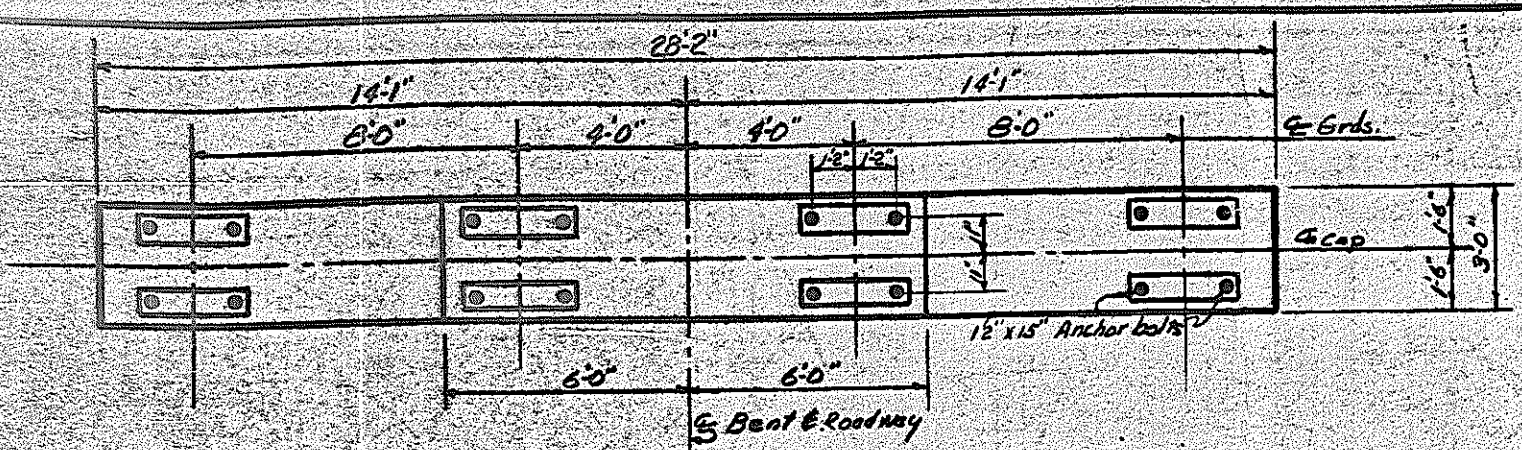
NOTE: Computed foundation pressure equals 3 tons per sq. ft.
 Built according to Plan

Class A Concrete	C.Y.	23.4060
Reinf. Steel	lbs.	5574
Dry Excavation	C.Y.	175.95 40
NET EXCAVATION	C.Y.	152.54 45

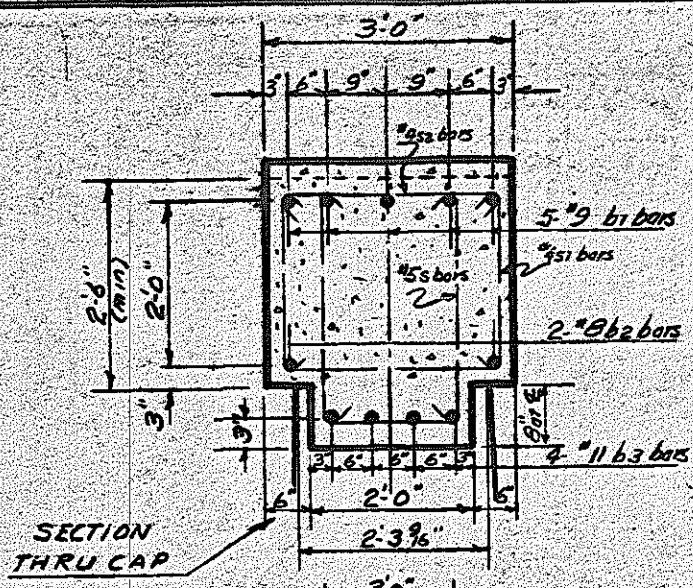
PROJECT NO. 817542
 SURRY-STOKES COUNTY
 STATION: 28+67.2

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 SUBSTRUCTURE
 BENT NO. 1
 SEPT. 1959

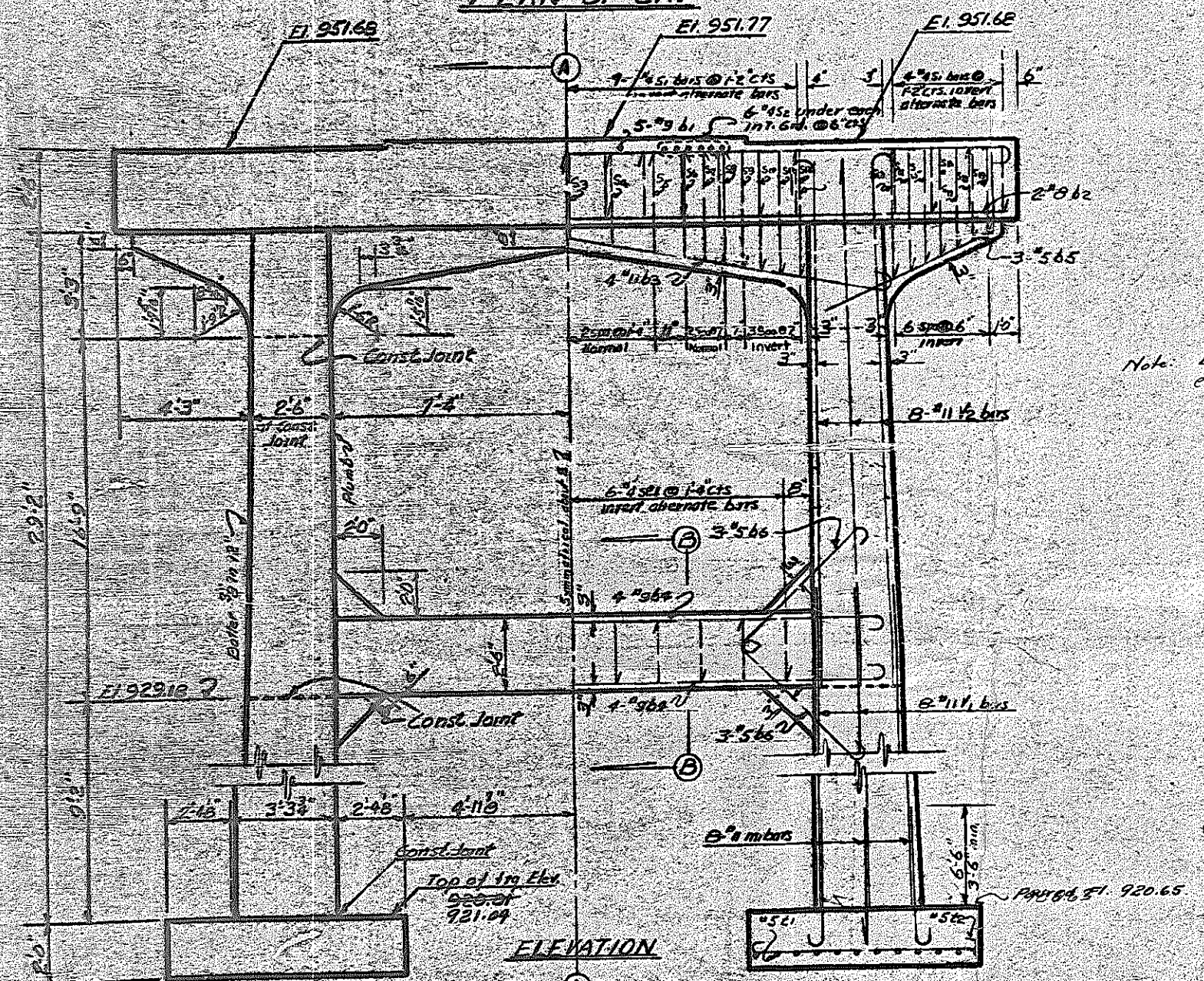
DESIGNED BY: J. J. H. [Signature]
 DRAWN BY: [Signature]
 DATE: 16 Sept. 1959



PLAN OF CAP

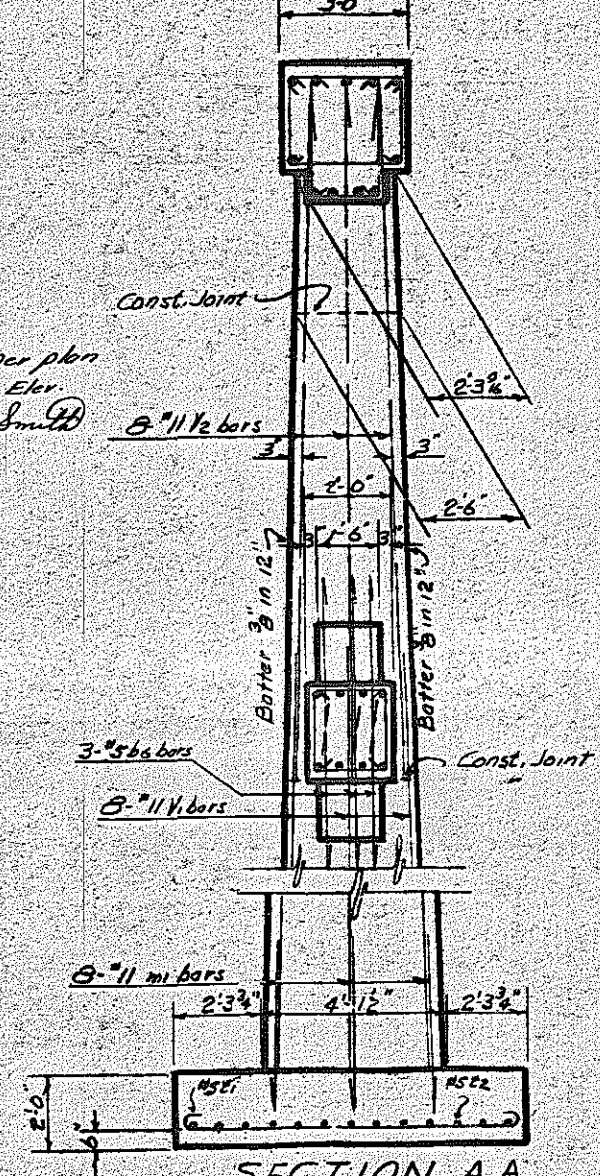


SECTION THRU CAP

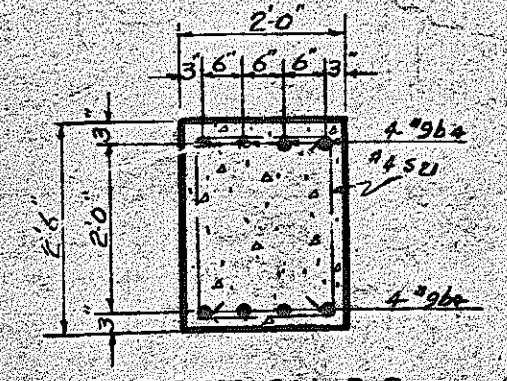


ELEVATION

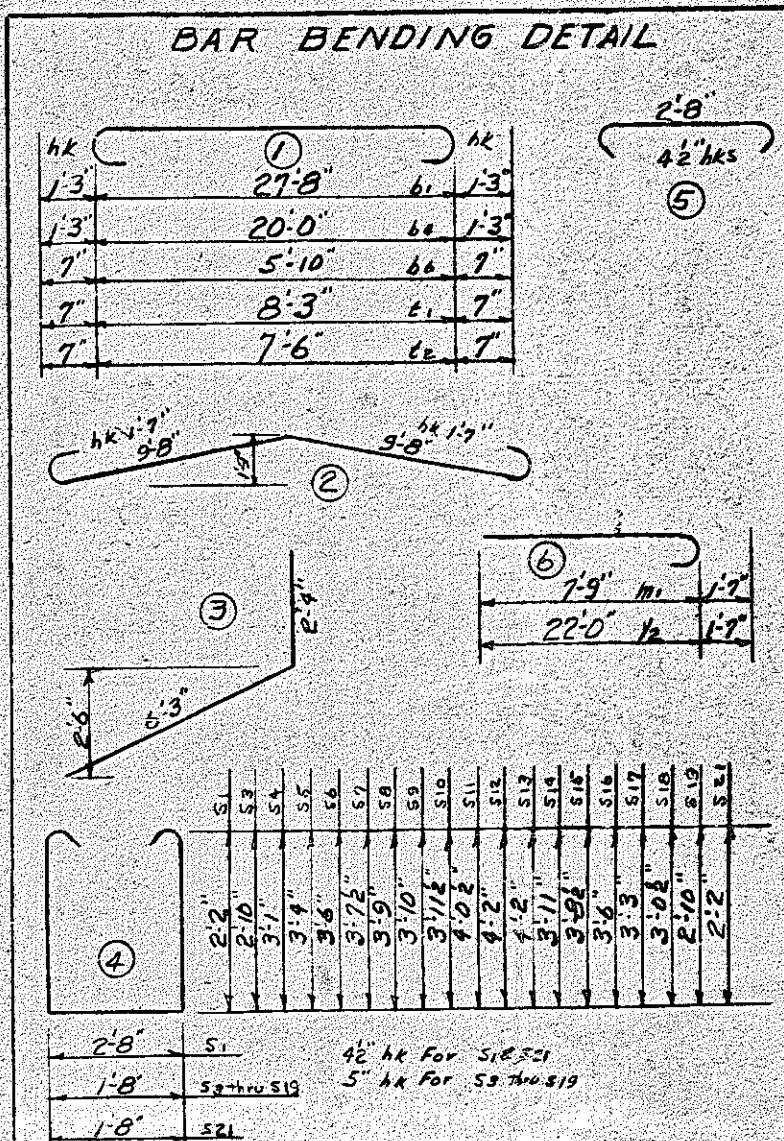
Note: Built as per plan except Hg. Elev. C.K. Smith



SECTION AA



SECTION BB



BAR BENDING DETAIL

BILL OF MATERIAL BENT NO 2

BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
b1	5	#9	1	30'-2"	573
b2	2	#8	Str	27'-8"	148
b3	4	#11	2	22'-5"	278
b4	8	#9	1	22'-5"	612
b5	6	#5	3	8'-7"	52
b6	12	#5	1	7'-0"	95
S1	21	#4	4	7'-9"	100
S2	12	#4	5	3'-5"	27
S3	1	#5	4	8'-2"	9
S4	2			8'-5"	18
S5				9'-2"	19
S6				9'-2"	20
S7				9'-9"	20
S8				10'-0"	21
S9				10'-2"	21
S10				10'-5"	22
S11				10'-7"	22
S12				10'-10"	23
S13				10'-10"	23
S14				10'-4"	22
S15				9'-11"	21
S16				9'-6"	20
S17				9'-0"	19
S18				8'-7"	18
S19	2	#5	4	8'-2"	17
S21	11	#4	4	6'-9"	20
m1	16	#11	6	9'-4"	793
v1	16	#11	Str	12'-8"	1077
v2	16	#11	6	23'-9"	2005
L1	32	#5	1	9'-5"	316
L2	32	#5	1	8'-8"	307

All dimensions are cut to out

NOTE: Computed foundation pressure equal 3 tons per sq. ft.

Built According to Plan

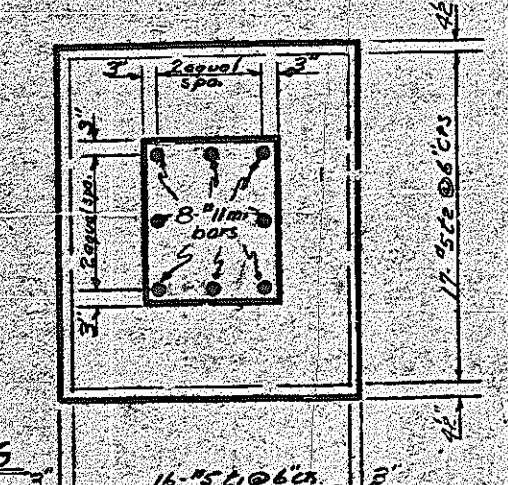
Class 'A' Concrete	C.Y.	49.9440	43.8
Rein. Steel	lbs.	6017	
Dry Excavation	C.Y.	51.05	50
Wet Excavation	C.Y.	60.36	65

PROJECT NO. B.17542
 SURRY-STOKES COUNTY
 STATION: 28+67.2

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 SUBSTRUCTURE
 BENT NO 2
 SEPT. 1959

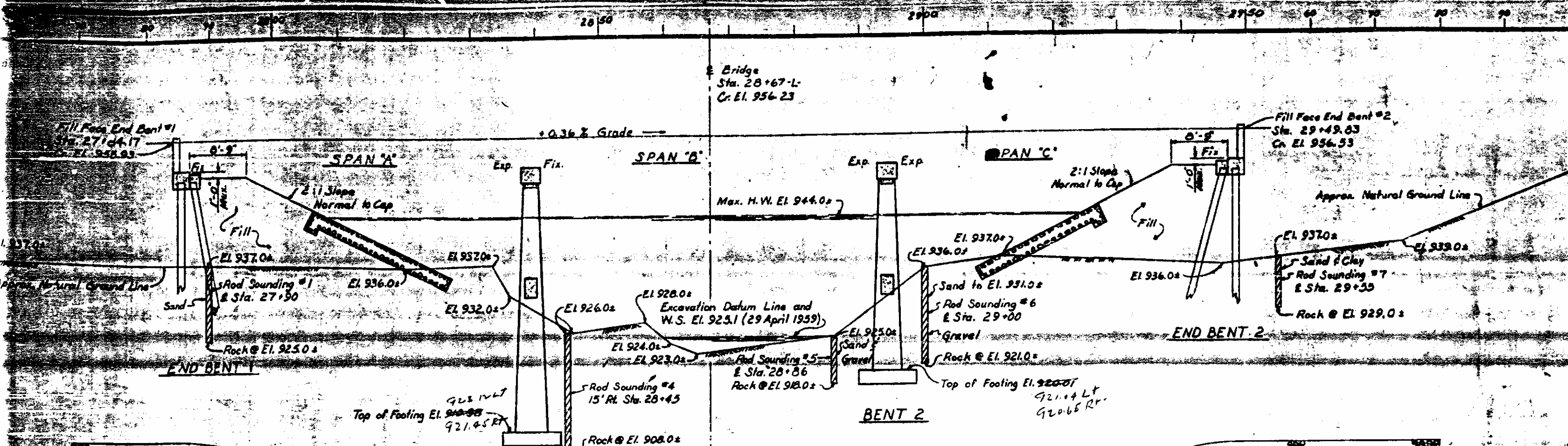
APPROVED BY: [Signature]
 DATE: 11 Sept. 1959
 DRAWN BY: [Signature]
 DATE: [Signature]

PLAN OF FOOTING

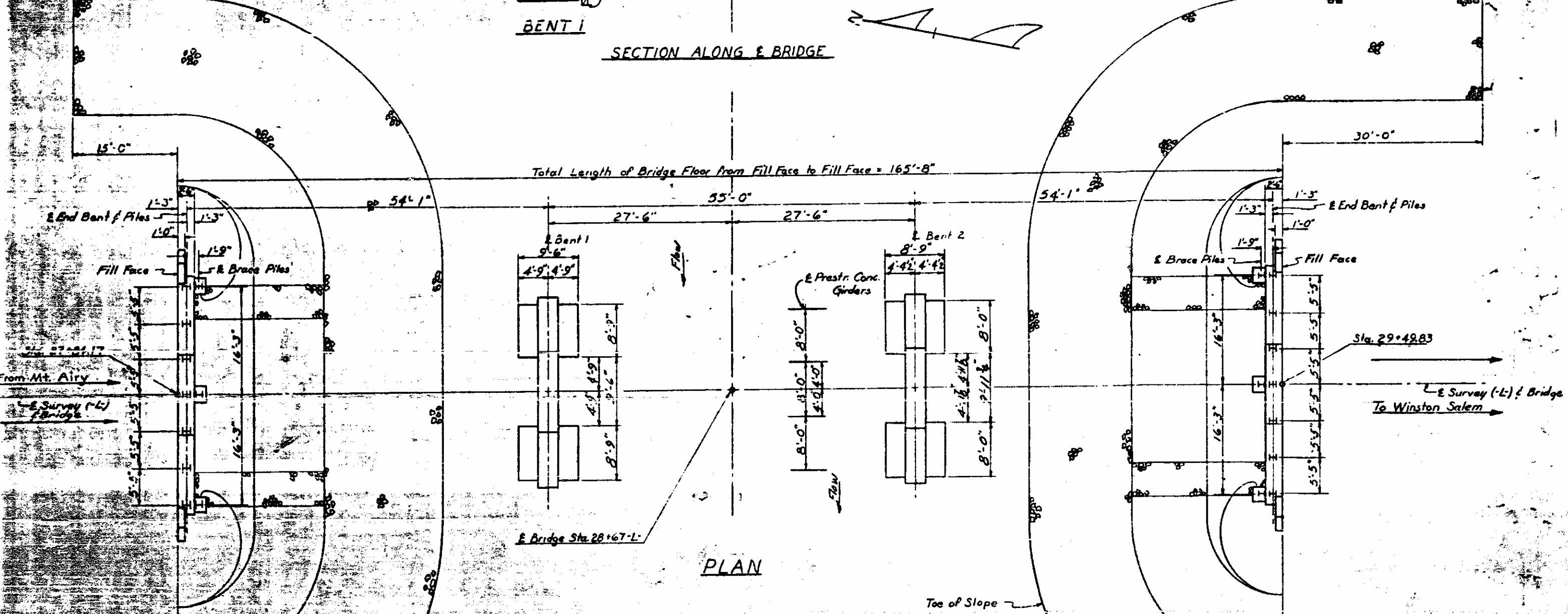


NOTES

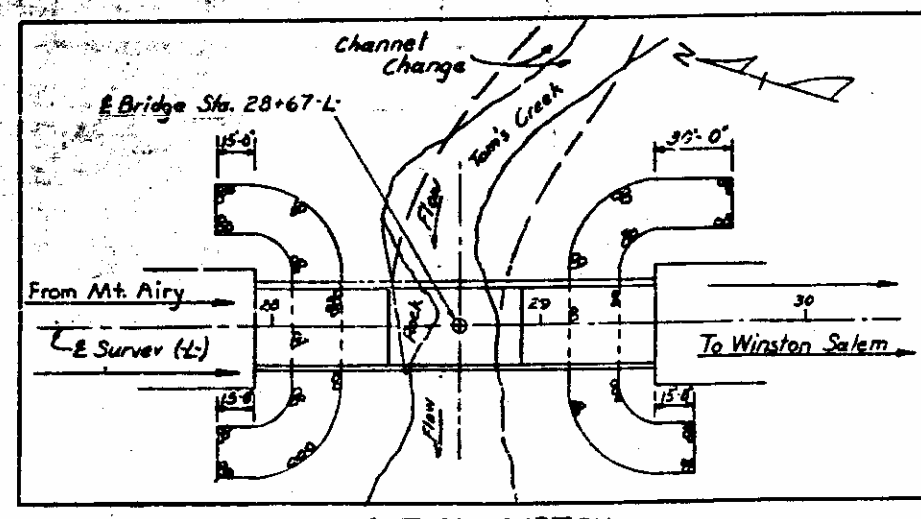
Assumed Live Load = H20-S16 (44) or Alternate Loading.
 For other design data and General Notes see sheet S-11.
 Computed foundation load for Bents 1 and 2 equals 3 tons per square foot.
 Footings to be carried on least 6" into rock with minimum thickness as shown on plan.
 No test piles are required. Order length shall be 30 feet for End Bent 1 and 25 feet for End Bent 2.
 Piles for End Bents 1 and 2 to be driven to a minimum bearing capacity of 25 tons.
 Piles for End Bents 1 and 2 to be driven through the roadway fill.
 B.M. #9 - 2 Nails in Base 15" Spacing 28" L.A. Sta. 29+65.4. Class 900.53



SECTION ALONG E BRIDGE



PLAN



LOCATION SKETCH

Note: This Str. Built as per plan except as noted: C.K. Smith
 Note: Br. Floor Raised 3/4" due to excess Camber in Pre. Stress. Girders C.K. Smith

TOTAL BILL OF MATERIAL

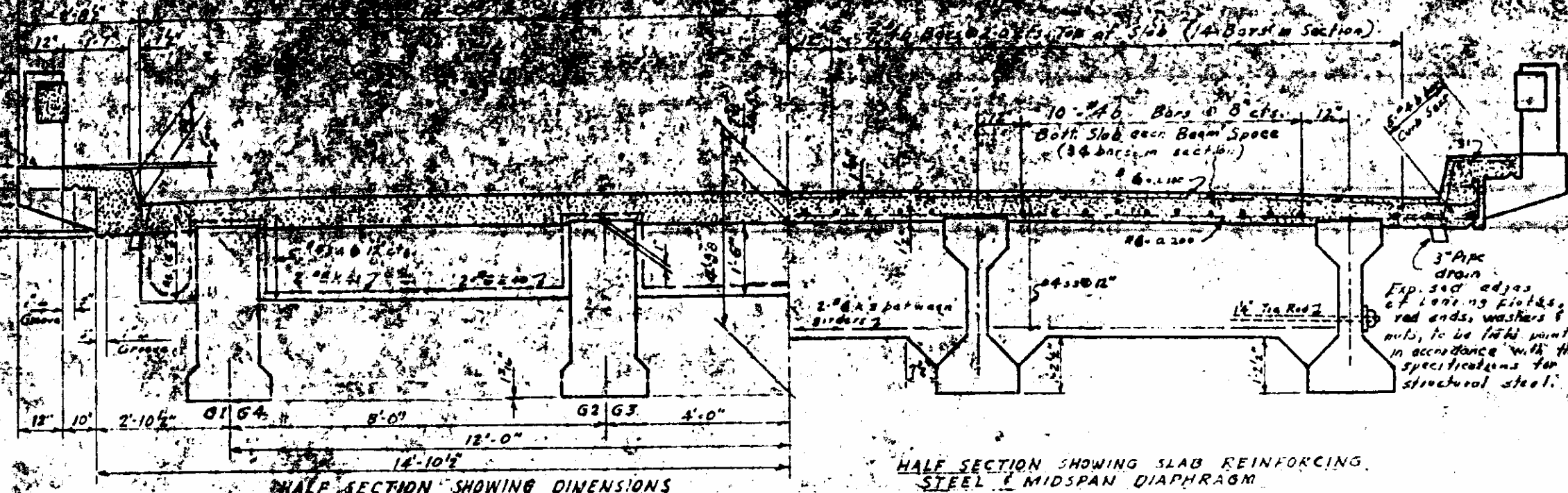
Class	A	Reinforcing Steel	45° Prest. Concrete Girders	12 H.53 Steel		Excavation		Plain Rip Rap Class 2	Concrete Rip Rap	18 H.53 Rip Rap
				Wet	Dry	C.Y.	C.Y.			
Superstructure	C. V.	Lbs.	No.	L.F.	No.	L.F.				
End Bent #1	167.2	393.31	18	636.0	10	300		470	2500	0
Bent #1	43.4060	7854					30	666.5		
Bent #2	42.8400	6917					30	572.74		
End Bent #2	11.9	2173			10	300		485	500	1' 10"
Approach Curbs	3.2	76								
Total	268.5700	505.324	18	636.0	20	600	60	1200.500	1100.00	1' 10"

PROJECT NO. 8.17542
SURRY - STOKES COUNTY
STATION: 28+67-L

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 GENERAL DRAWING
 BRIDGE OVER TOM'S CREEK ON
 LINE 'L'

September 1953

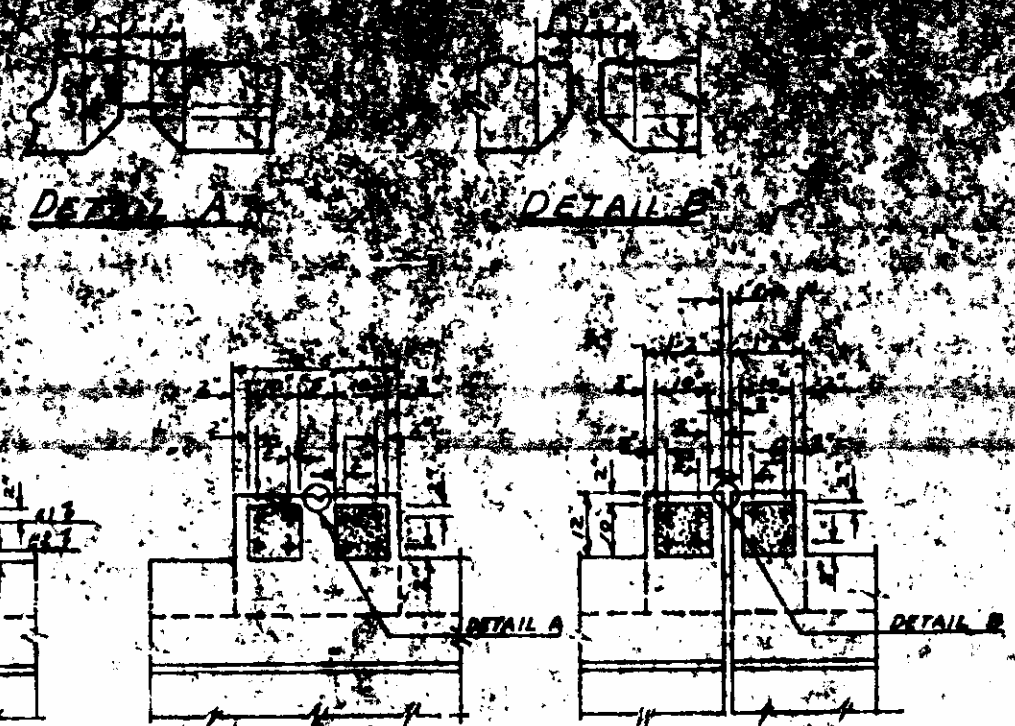
DESIGNED BY: W.C. Rogers
 DRAWN BY: W.C. Rogers
 CHECKED BY: H.H. Ellis
 DATE: Sept. 1953
 DATE: Sept. 1953
 DATE: Oct. 1953



HALF SECTION SHOWING DIMENSIONS
DIAPHRAGM AT INTERIOR BENTS

HALF SECTION SHOWING SLAB REINFORCING
STEEL & MIDSPAN DIAPHRAGM

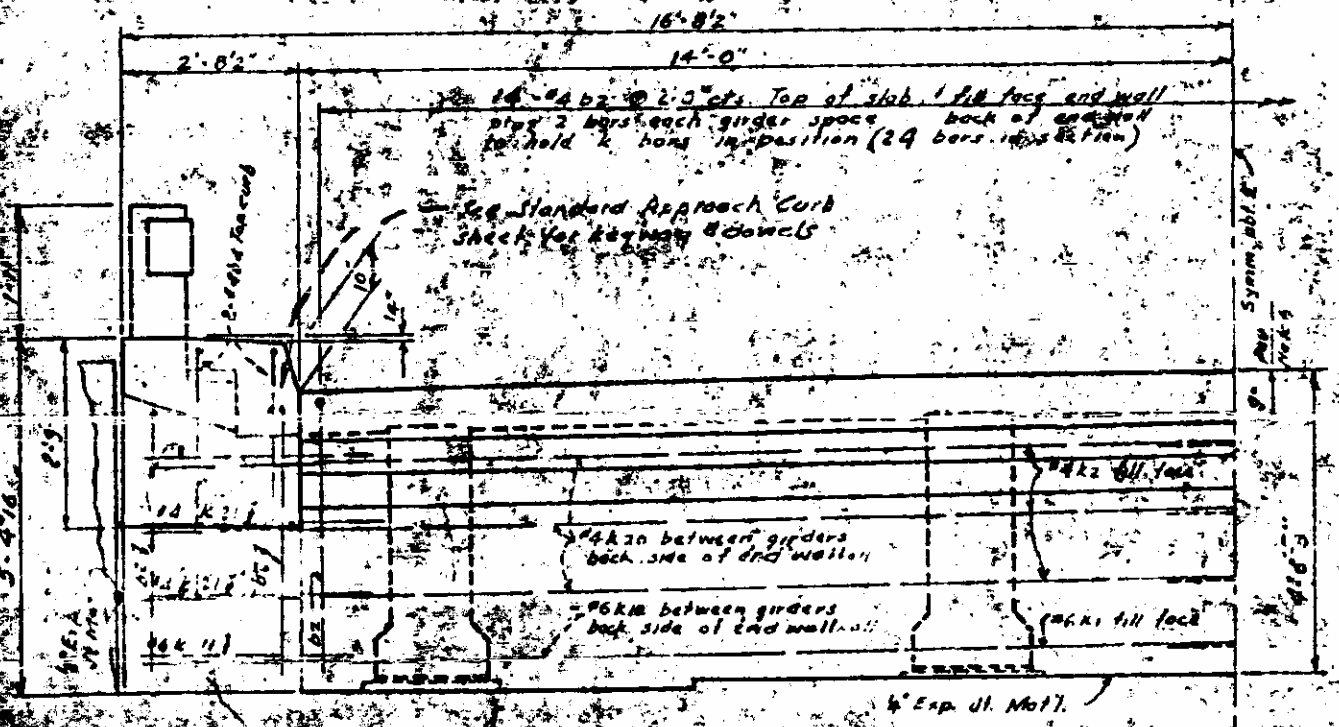
TYPICAL SECTION



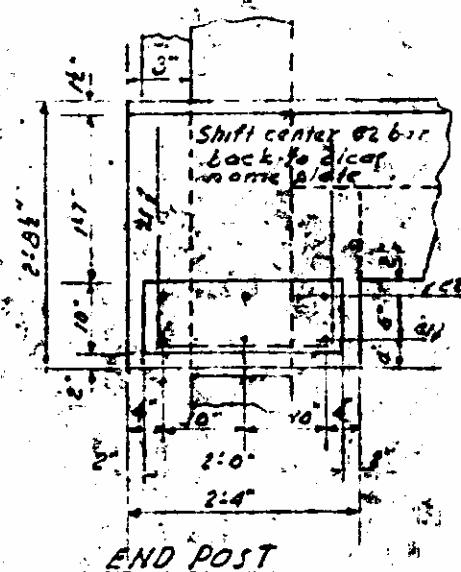
RAIL POST DETAILS

Reinforcing steel shall be placed between
prestressed members in accordance with the drawings
and the bars shall be 1/2" dia. bars shall be fully
finished before members are cast. Stress
shall be maintained until after concrete is
placed. The 1/2" dia. shall be reinforced after
the concrete is placed.

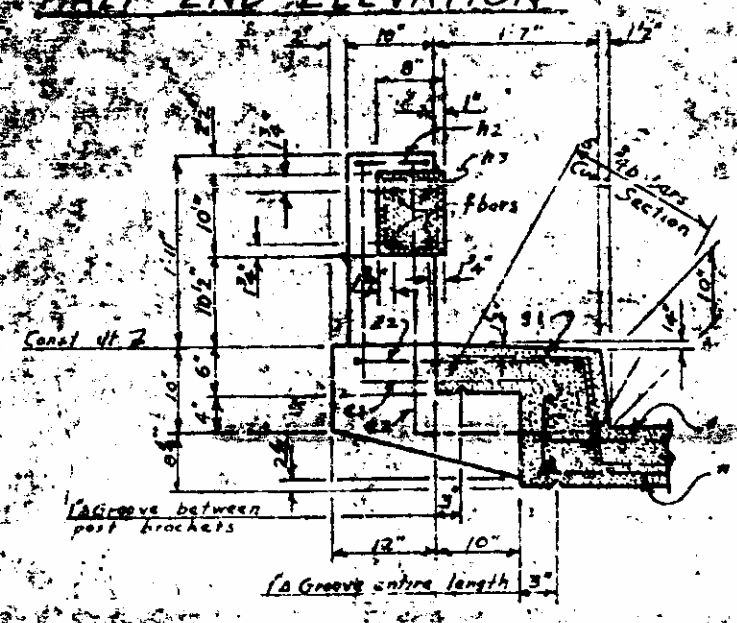
See conc. plan for computed, camber and dead
load deflections.
See S.N. Sheet for additional notes.



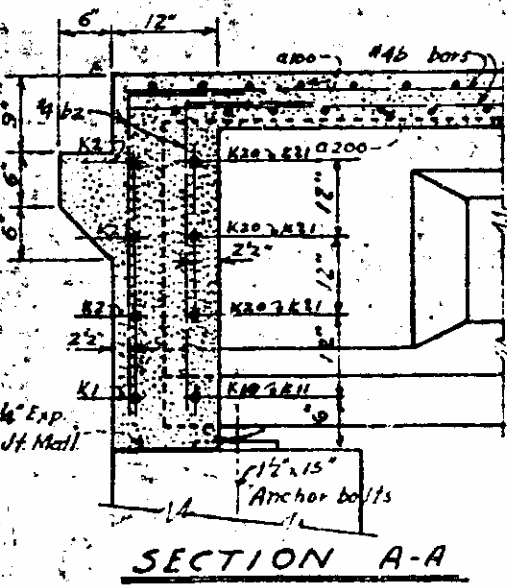
HALF END ELEVATION



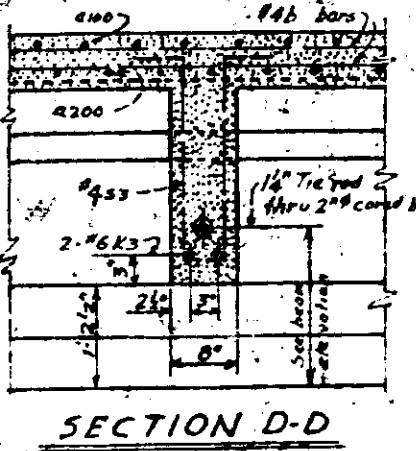
END POST



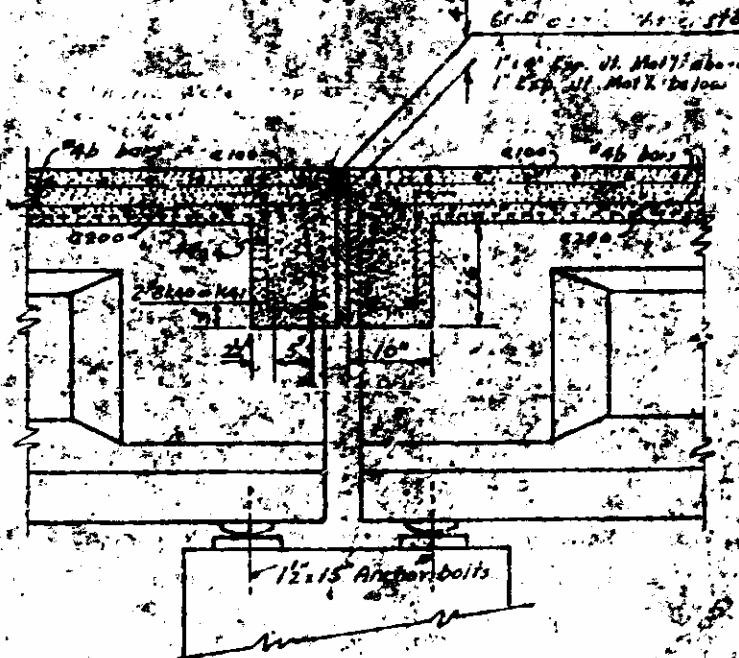
SECTION THRU CURB



SECTION A-A



SECTION D-D



SECTION B-B

PROJECT NO. 47342
SURRY STOKES COUNTY
STATION 26+21.2

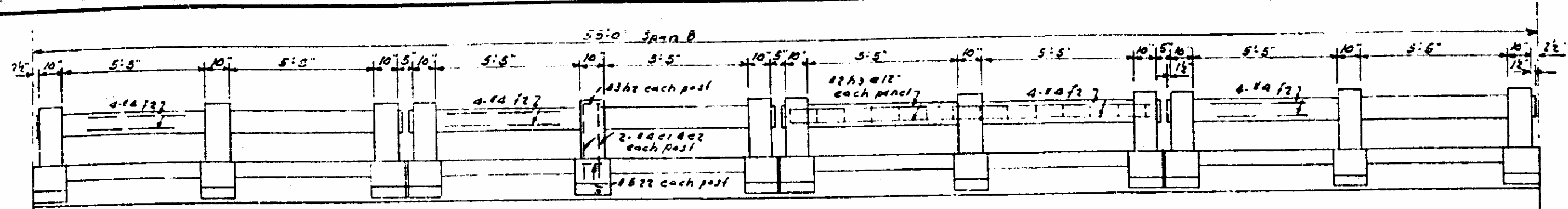
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
SUPERSTRUCTURE
TYPICAL SECTIONS
4.45' PRESTRESSED CONCRETE BEAM
28' ROADWAY 18' CURB
JULY 1959

ASSEMBLY
DESIGNED BY Mack Underwood
CHECKED BY
DATE July 1959

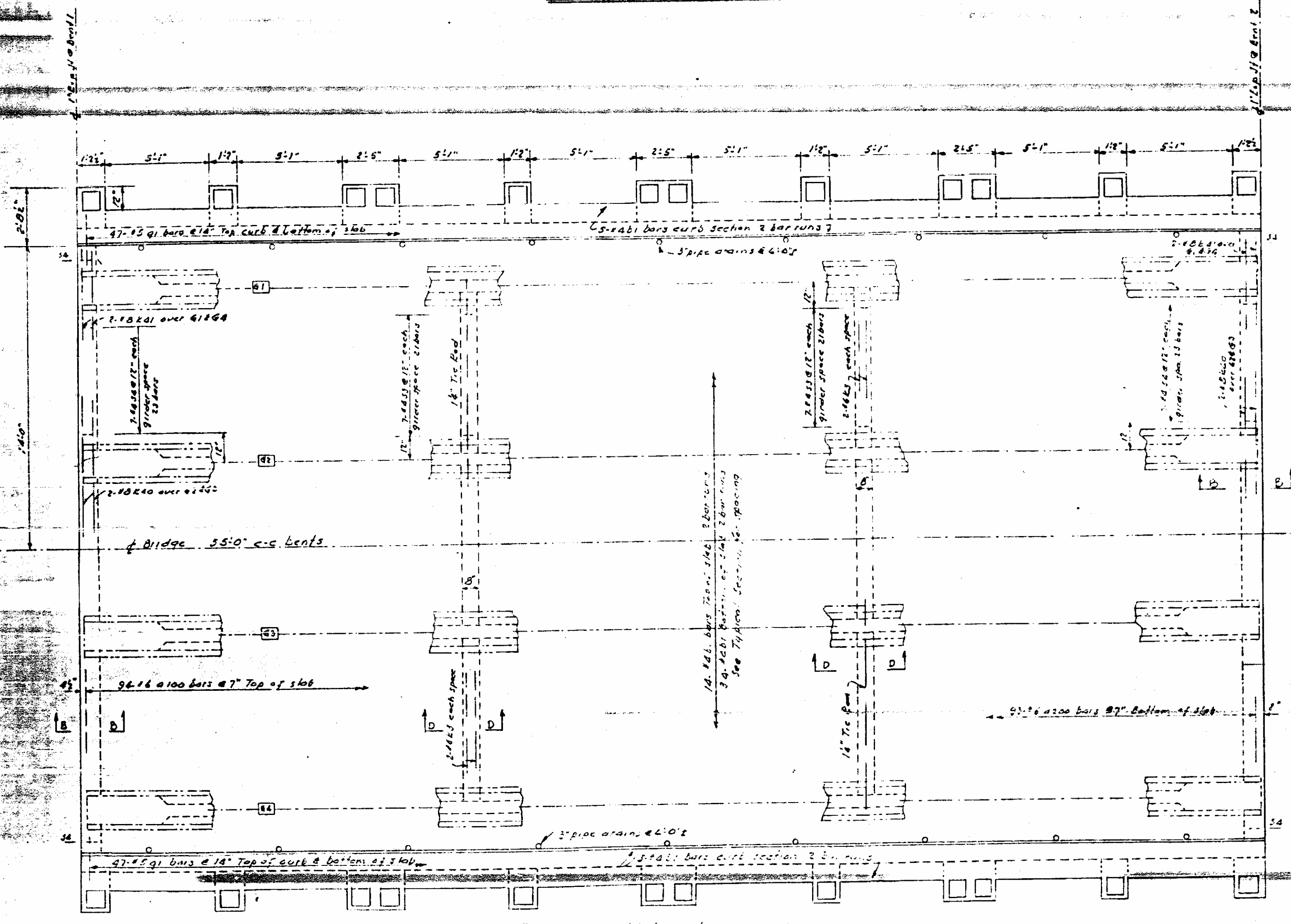
FED. ROAD DIST. NO.	STATE	PROJECT
8	N.C.	81742
R. & PROJECT F-177 (B)		
SHEET 30	TOTAL 381	

NOTES

For center and dead load deflections see Plan for end spans A & C.



RAIL ELEVATION SPAN B



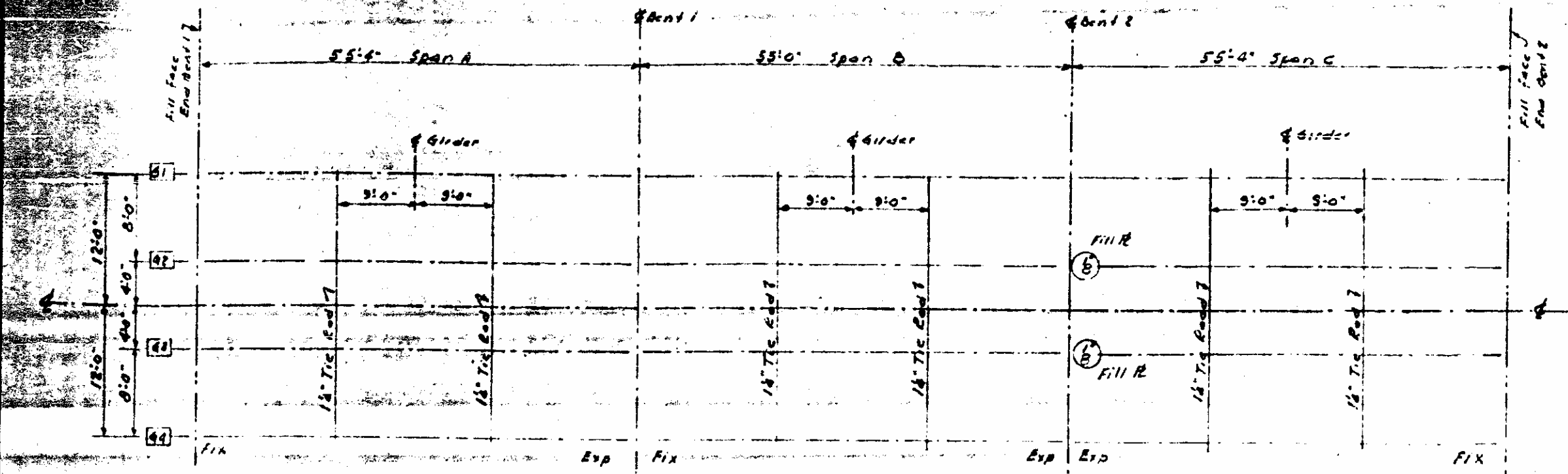
PROJECT No. 817542
SURRY-STOKES COUNTY
STATION 28+67.6

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 RALEIGH
 SUPERSTRUCTURE
 CONCRETE PLAN
 INTERIOR SPAN B

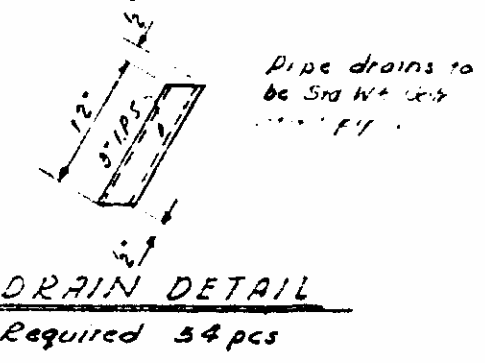
SEPT 1959

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

DATE: 11-11-59
 DATE: 11-11-59
 DATE: 11-11-59



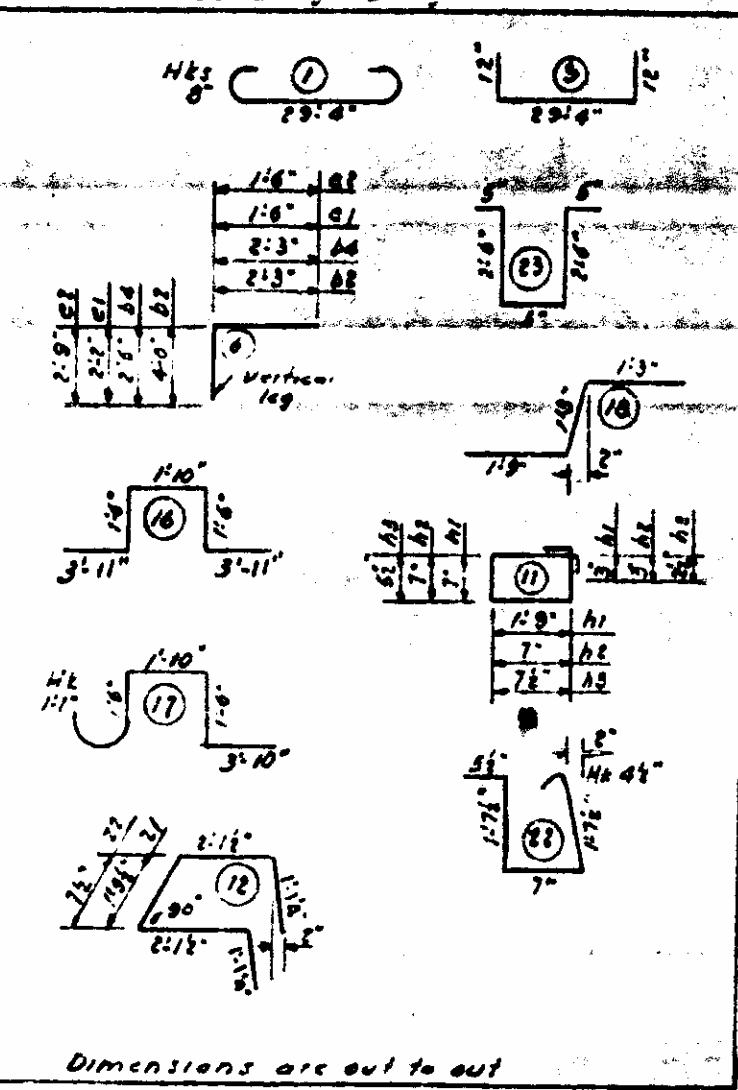
FRAMING PLAN



DRAIN DETAIL
Required 54 pcs

REINFORCING STEEL BAR SCHEDULE FOR SPANS
Bending Diagrams

Bar No.	N ^o of Pcs	Size	Type	Length	Weight
0100	284	#6	1	30'-8"	13082
0200	281	#6	3	31'-8"	13224
01	348	#4	5/8"	20'-3"	6567
02	48	#4	6	6'-3"	200
04	0	#4	6	4'-9"	25
09	282	#5	10	4'-3"	1150
01	4	#6	5/8"	17'-9"	107
010	6	#6	1	5'-9"	52
011	4	#6	1	3'-6"	21
02	12	#4	1	17'-3"	130
020	10	#4	1	6'-3"	75
021	12	#4	1	3'-9"	30
03	36	#6	5/8"	7'-0"	370
040	16	#6	16	12'-9"	501
041	16	#8	17	9'-9"	416
03	126	#8	23	6'-3"	526
04	92	#4	22	4'-0"	287
01	148	#4	6	3'-0"	363
02	148	#4	6	4'-3"	420
01	4	#3	11	5'-2"	0
02	68	#3	11	8'-0"	72
03	340	#2	11	2'-7"	147
01	4	#5	12	8'-3"	34
02	68	#5	12	7'-1"	502
01	16	#4	5/8"	14'-4"	153
02	80	#4	5/8"	18'-4"	713



Dimensions are out to out

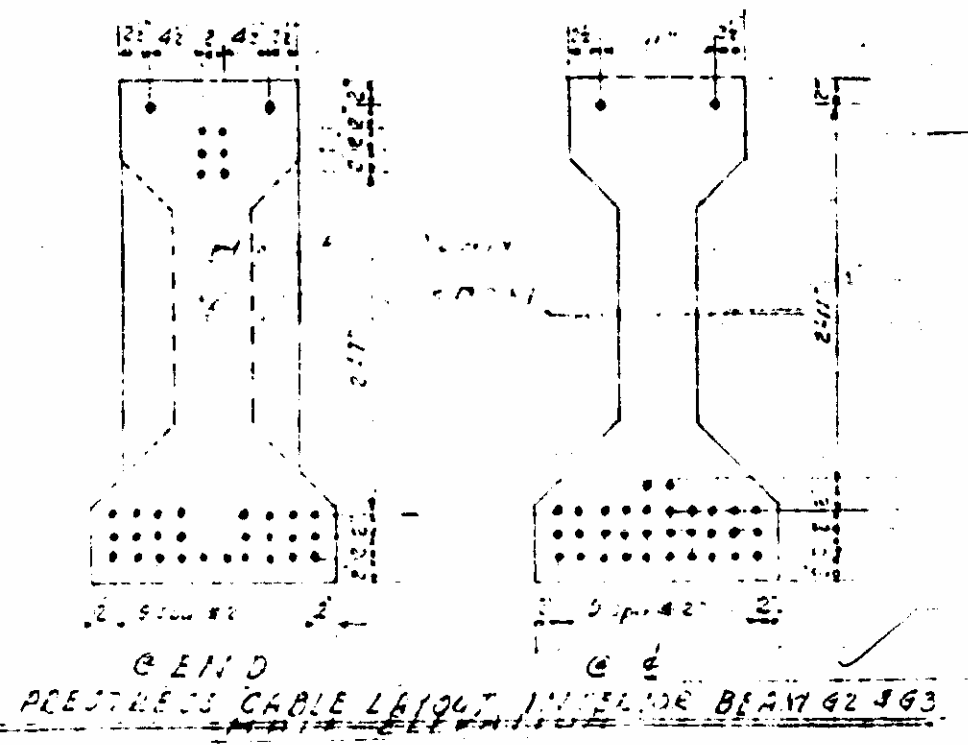
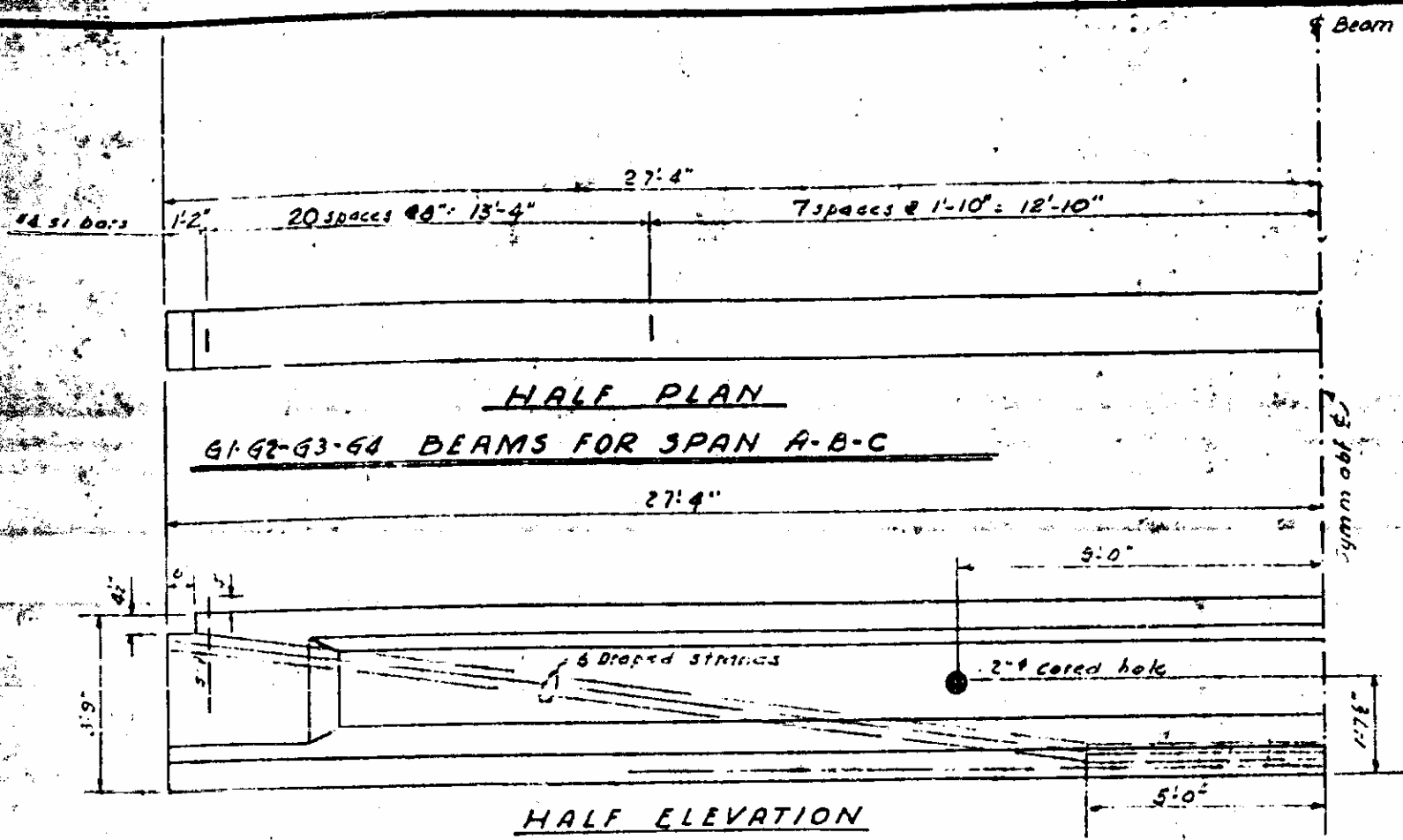
SUPERSTRUCTURE QUANTITIES

Class A Concrete	167.2 CY
Reinforcing Steel	39331 lbs
45" Prestressed Concrete Girders - No. 12	656' 0" LF

Project No. 312542
SURREY STOKES
DATE: 28-07-59

STATE HIGHWAY COMMISSION
SUPERSTRUCTURE
FRAMING DETAIL
BILL OF MATERIAL
SEPT. 1959

Rev.	By	Check	Date
1			
2			
3			



NOTE

All prestress strands to be 1/2 stress. Release cables. Each cable to be prestressed at 18000 lbs.

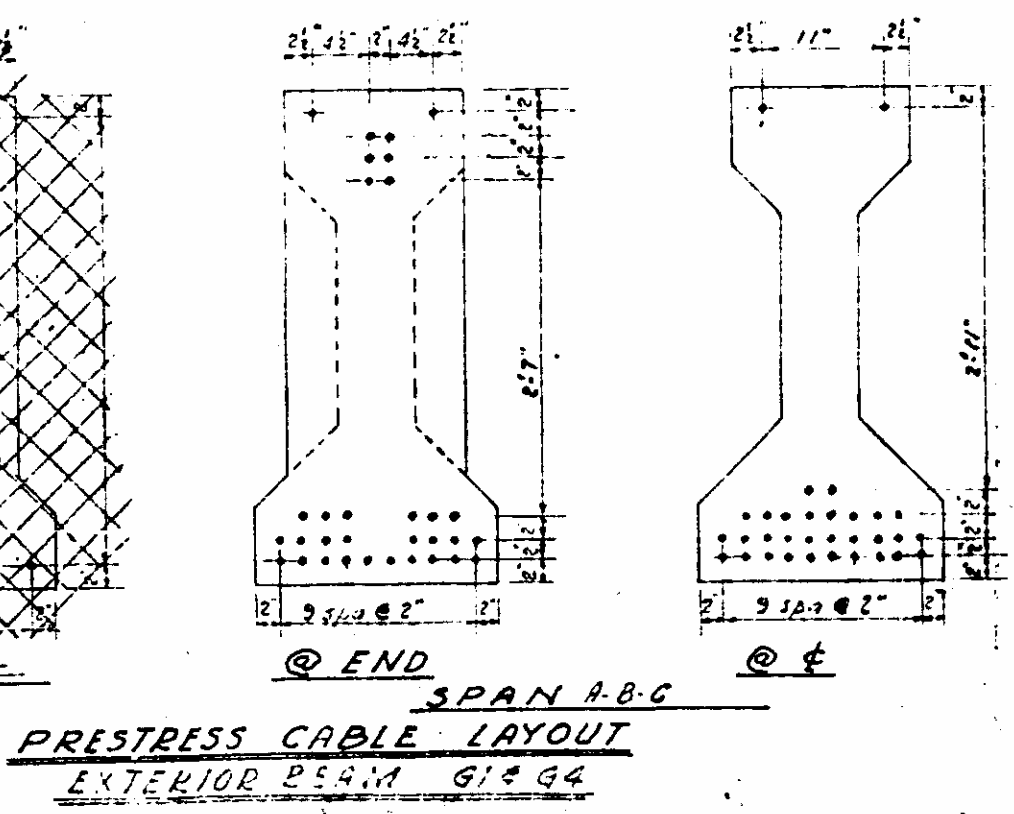
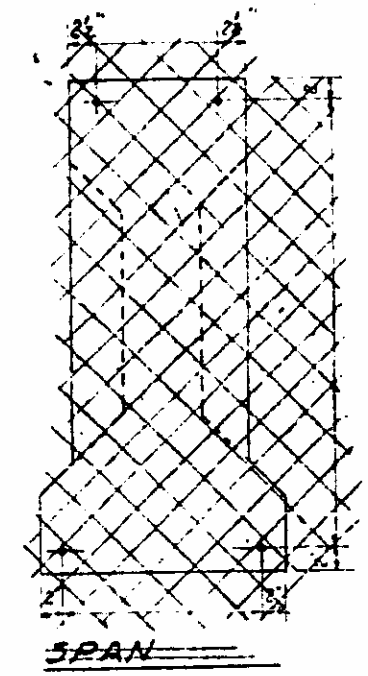
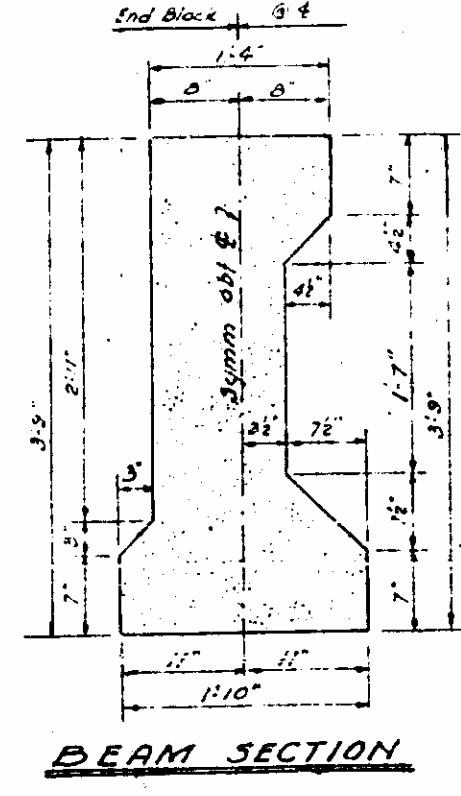
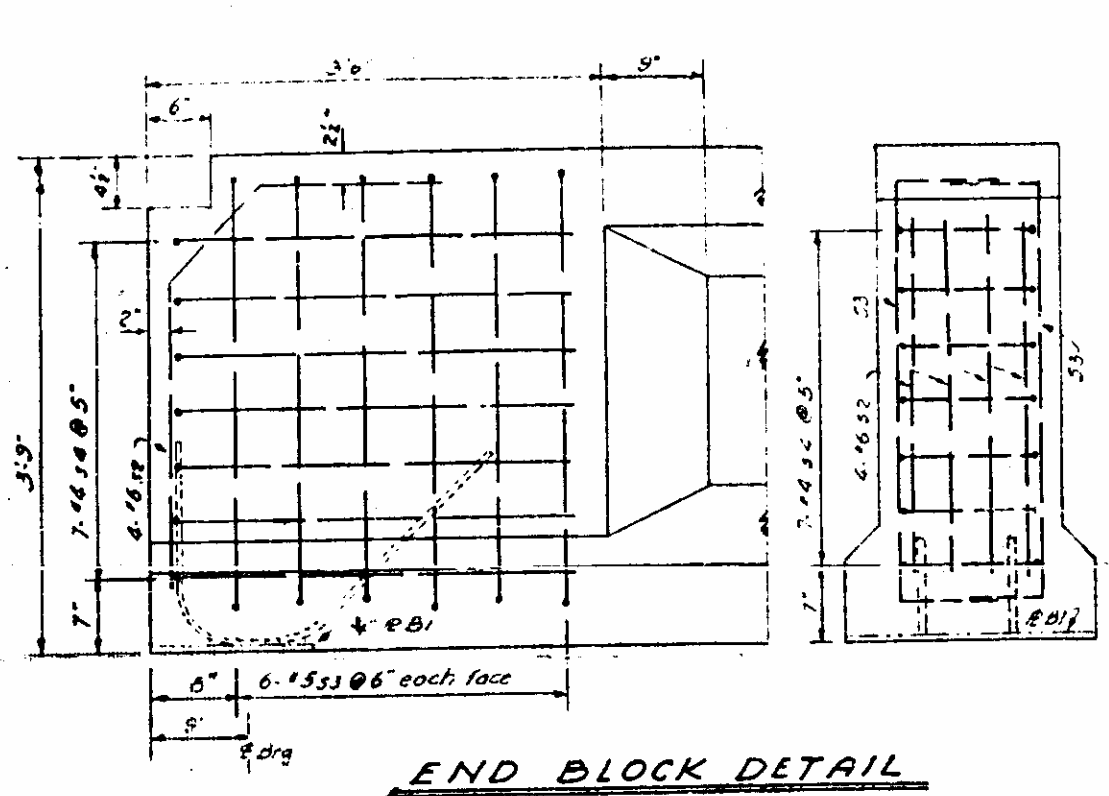
Cables to be cut off within 1' of end of beam.

No surface finish will be required for prestressed concrete beams. However, the outside face of beams shall be carefully cleaned of drippings and other discolorations.

See drawing plate sheet 2-4.

See Framing Plan for location of beam & expansion joints & fill plates.

Exposed edges of bearing plates, exposed tie rod ends, washers, and nuts to be field painted in accordance with the specifications for structural steel.



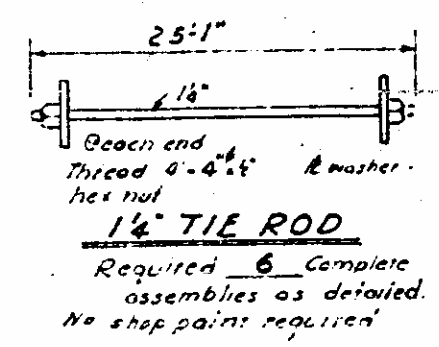
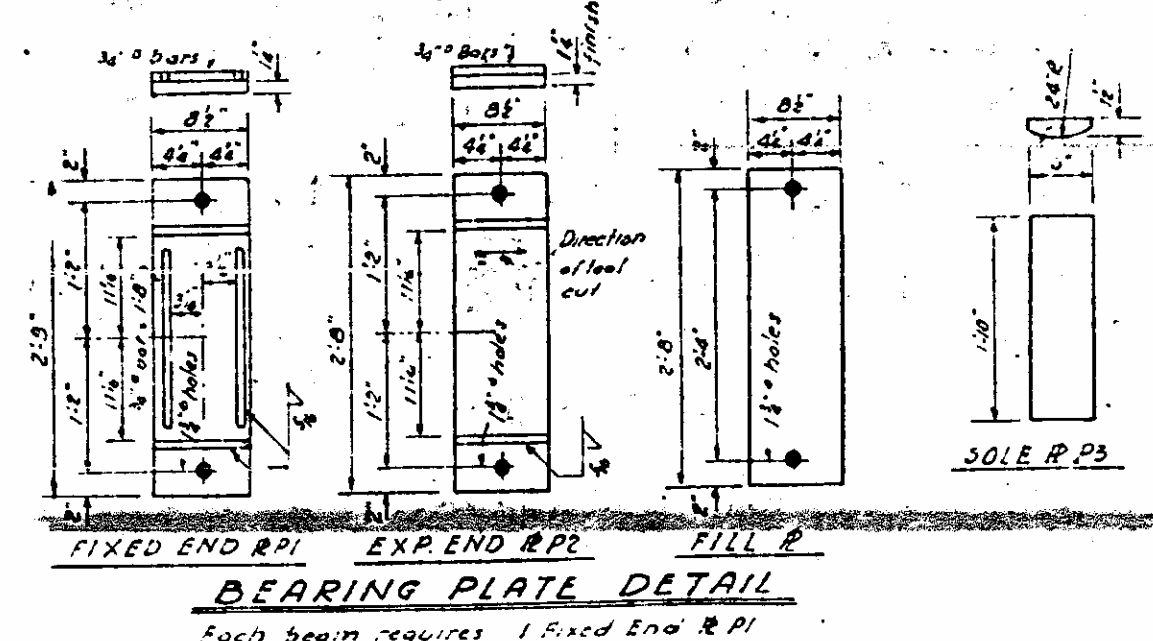
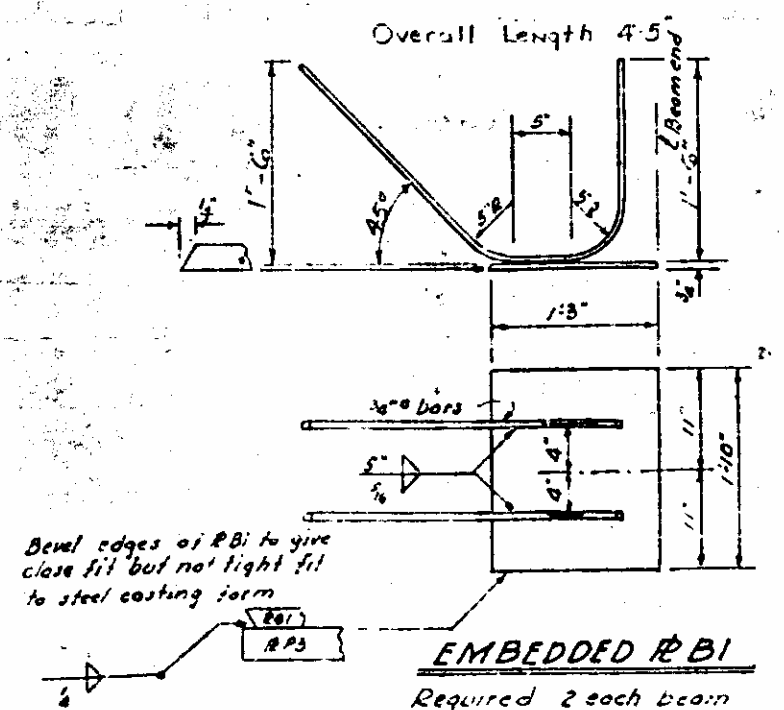
REINFORCING STEEL FOR ONE(1) BEAM						Bending Diagrams	
Bar	No	Size	Type	Length	Weight		
54'-5" Beam	31	55	4	7	0.6"	31.2	
Beam	31	44	7	0.6"			
Beam	31	44	7	0.6"			
Beam	31	44	7	0.6"			
	32	8	4	8"		5.8	
	33	24	15	0	5.0"	13.8	
	34	14	4	6	7.4"	6.9	

Dimensions are out to out

If cable stress is relieved by burning the following order of burning shall be strictly adhered to:

- (1) Bottom cables 1-1
- (2) Draped cables 2-2
- (3) Draped cables 3-3
- (4) Bottom cables 4-4
- (5) Draped cables 5-5
- (6) Top cables 6-6
- (7) Release hold downs

Each pair of cables 1-1 thru 16-16 or 17-17 shall be burned at ends of bed and between girders before burning any of the next pair of cables. See Specifications & Errata sheet.



QUANTITIES ONE(1) BEAM	
Reinforcing Steel	
54'-8" Beam	575 lbs
Beam	lbs
Beam	lbs
Beam	lbs
3000 psi Concrete	
54'-8" Beam	6.3 CY
Beam	CY
Beam	CY
Beam	CY
1/6" S.R. Cables	
54'-8" Beam G1-G4	32 N°
54'-8" Beam G2-G3	34 N°
Beam	N°
Beam	N°

BEAMS REQUIRED	
6 @ 24'-8" length 41'-44"	338'-0" LF
6 @ 54'-8" length 42'-42"	328'-0" LF
6 @ length	LF
6 @ length	LF

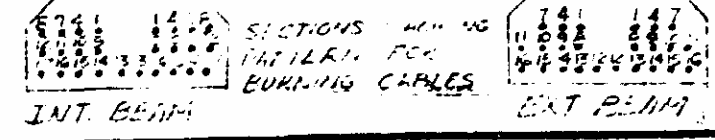
PROJECT NO. 8/7546
SUREY STOKES COUNTY
STATION: 20+67.1

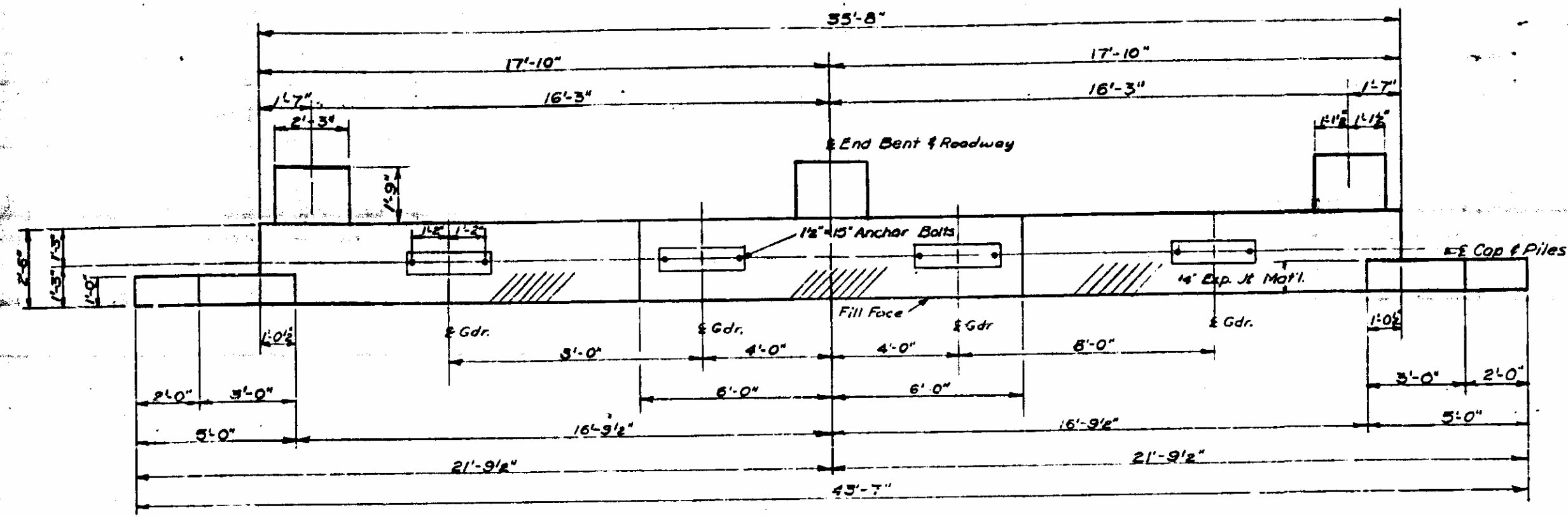
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
DIVISION

STANDARD
45" PRESTRESSED
CONCRETE BEAM

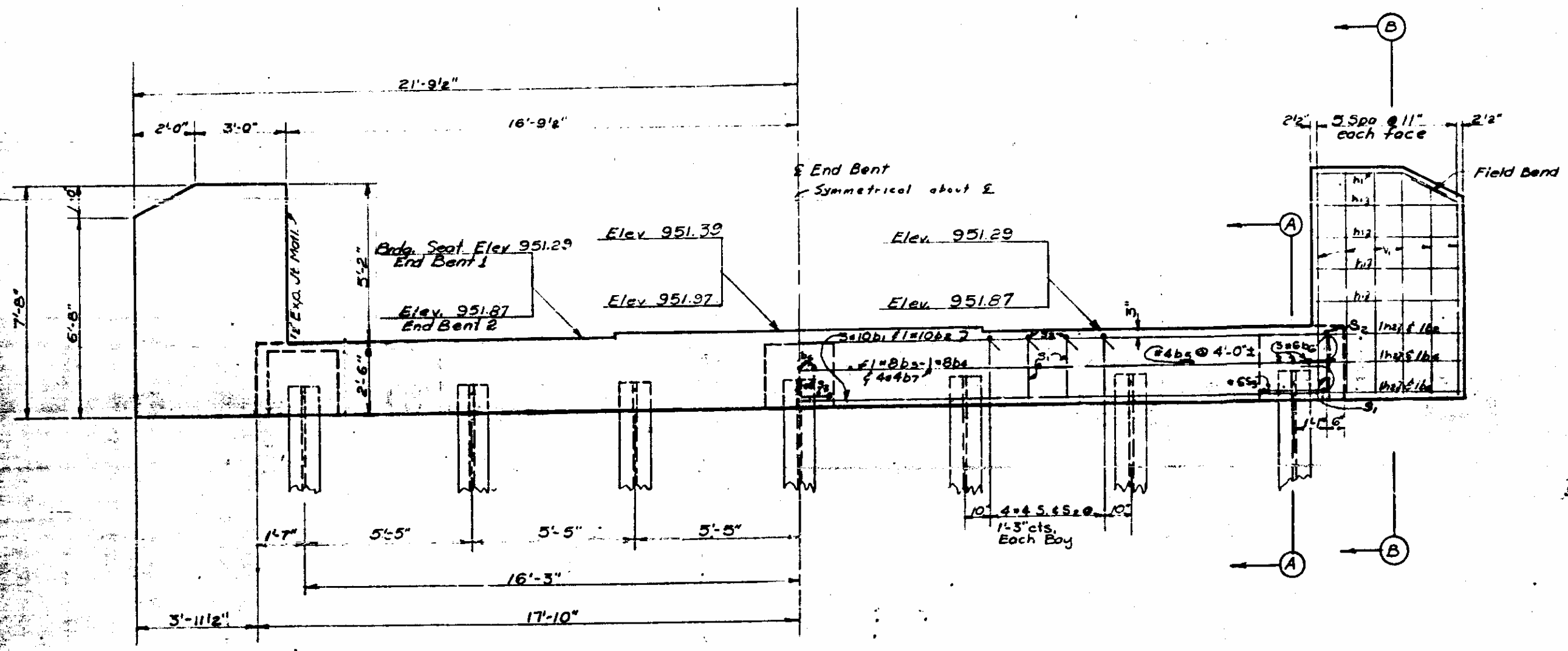
MAY 1958

DESIGNED BY: Jack L. Lamm
DATE: May 5, 1958
DRAWN BY: Jack L. Lamm
DATE: May 5, 1958
CHECKED BY: Mark Underwood
DATE: July 1958

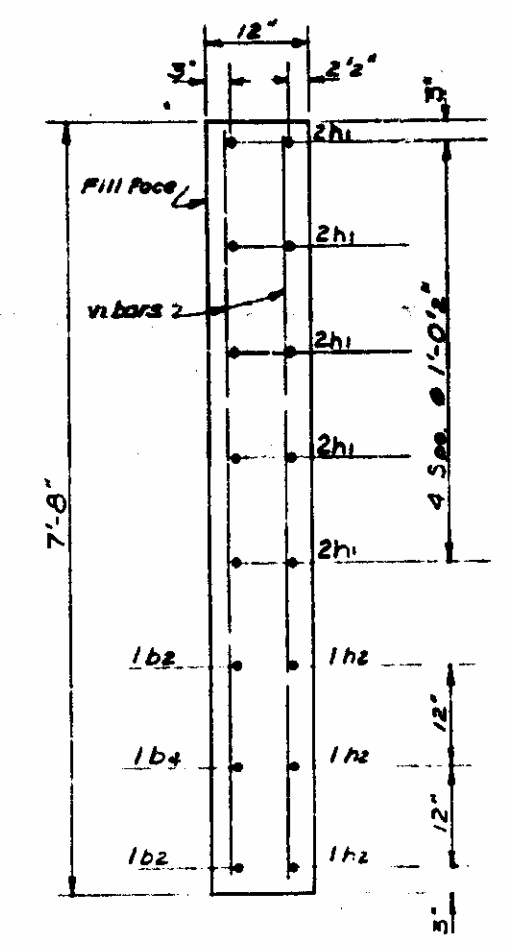




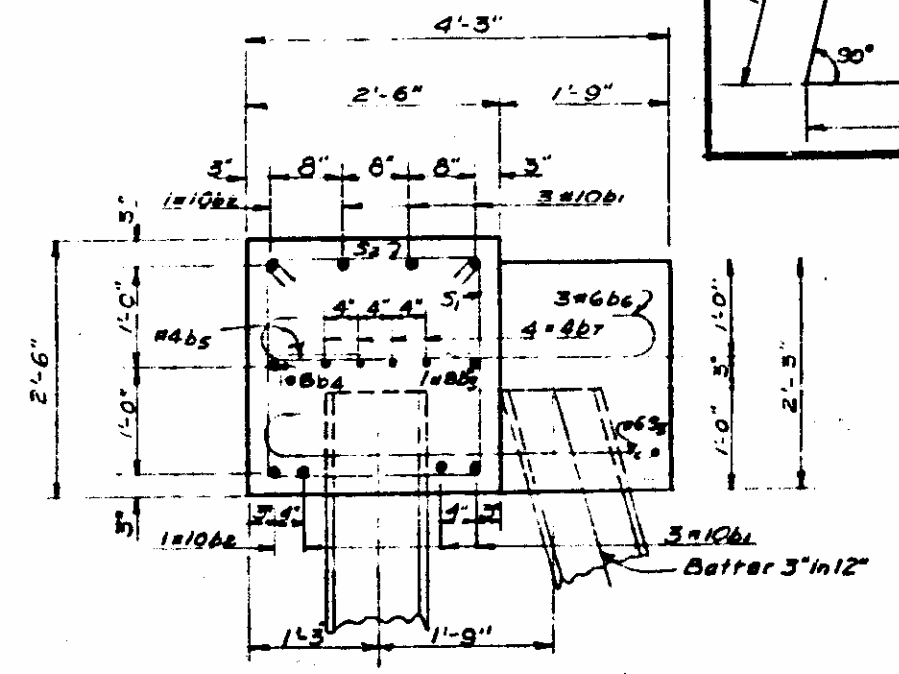
PLAN



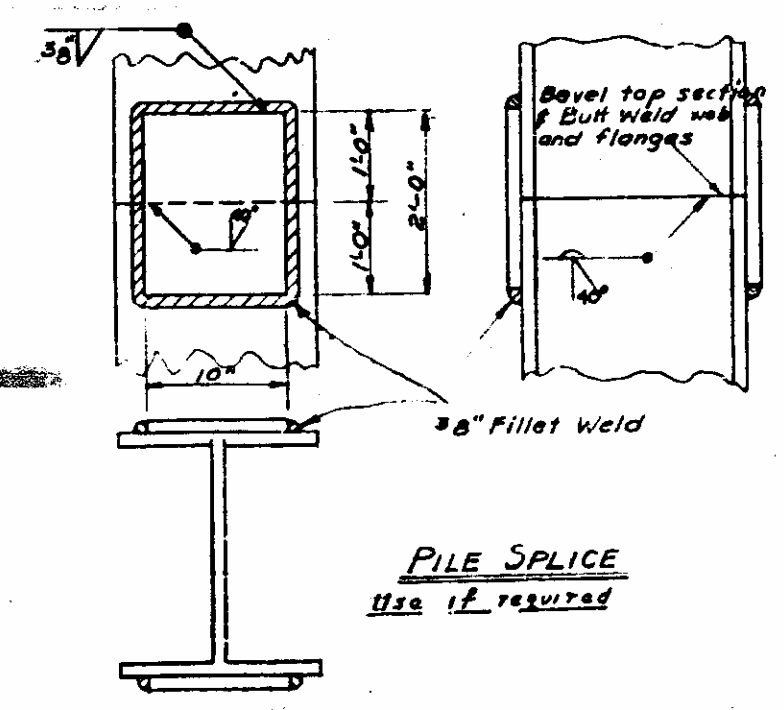
ELEVATION



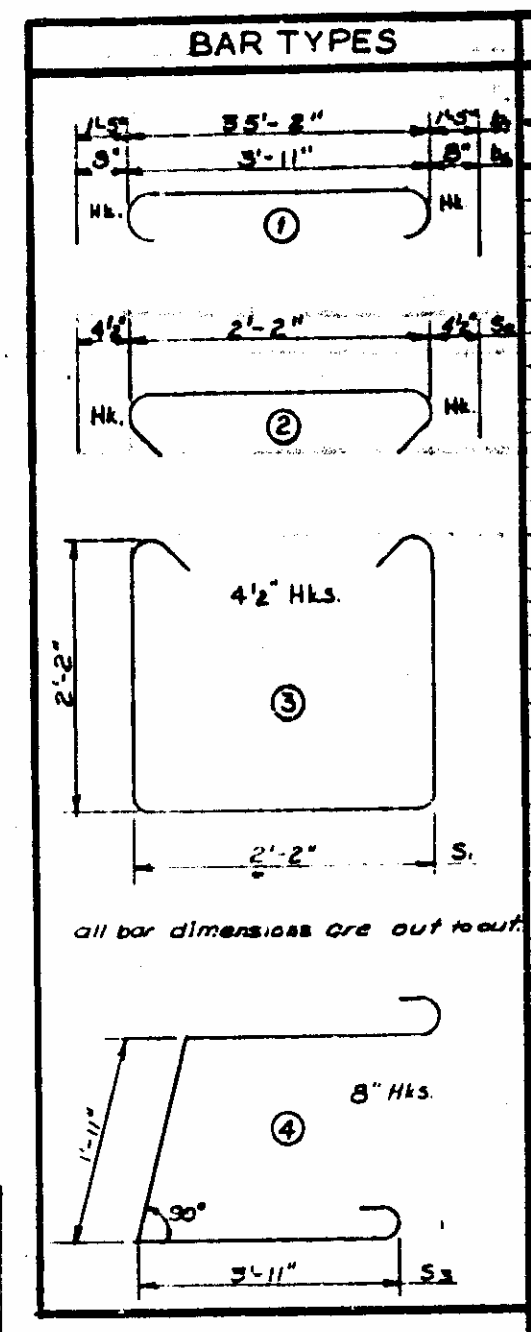
SECTION B-B



SECTION A-A Built According to Plan



PILE SPLICE
Use if required



BAR TYPES		BILL OF MATERIAL				
		FOR ONE END BENT TWO REQUIRED				
BAR	NO.	SIZE	TYPE	LENGTH	WGT.	
b1	6	#10	1	58'-0"	981	
ba	2	#10	Str	45'-0"	302	
ba	1	#8	Str	35'-0"	92	
ba	1	#8	Str	45'-0"	118	
ba	10	#4	Str	2'-0"	14	
ba	9	#6	1	4'-0"	71	
ba	6	#4	Str	18'-0"	82	
h1	20	#4	Str	4'-0"	82	
h2	6	#4	Str	5'-3"	21	
V1	24	#4	Str	7'-4"	124	
S1	26	#4	3	7'-3"	186	
S2	26	#4	2	2'-11"	58	
S3	3	#6	4	11'-1"	58	

Reinforcing Steel 217866
 Class "A" Concrete 1054
 End Bent 1 12H53 Piles No 10 3021
 End Bent 2 12H53 Piles No 10 3501

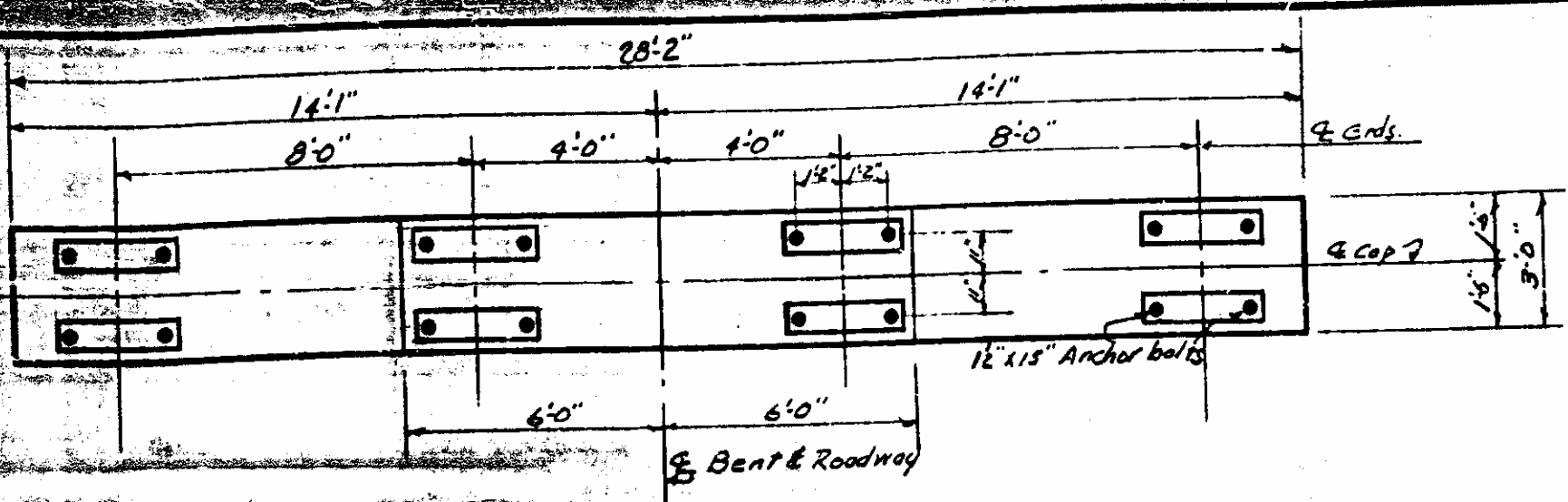
PROJECT NO. 817542
 SURRY-STONES COUNTY
 STATION: 28.67

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 BALDWIN
 SUBSTRUCTURE
 END BENT 142

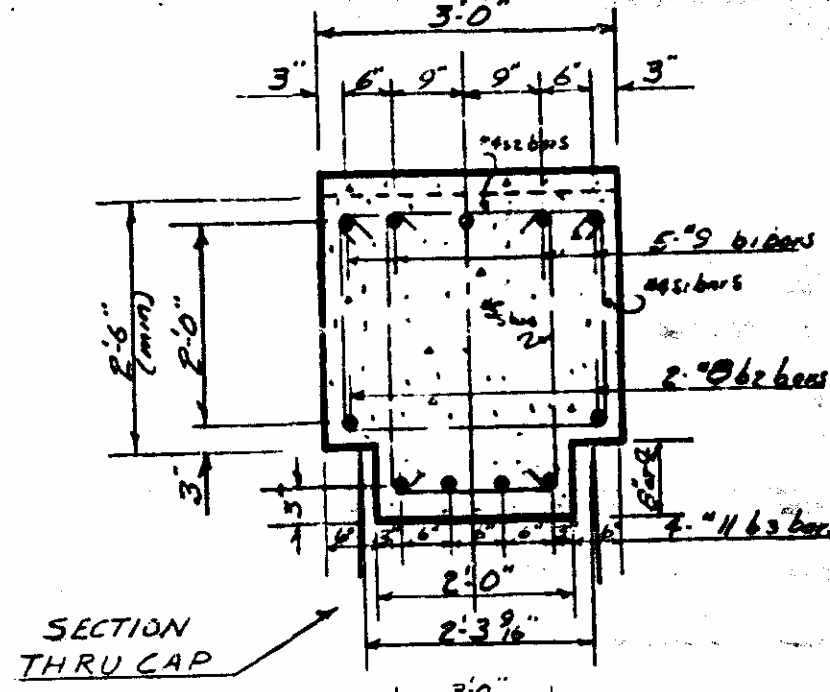
September 7, 1959

DESIGNED BY: P. S. McLA
 DATE: Sept, 1959
 CHECKED BY: H. H. Ellis
 DATE: Oct, 1959

Piles to be driven to a minimum bearing capacity of 26 tons each.

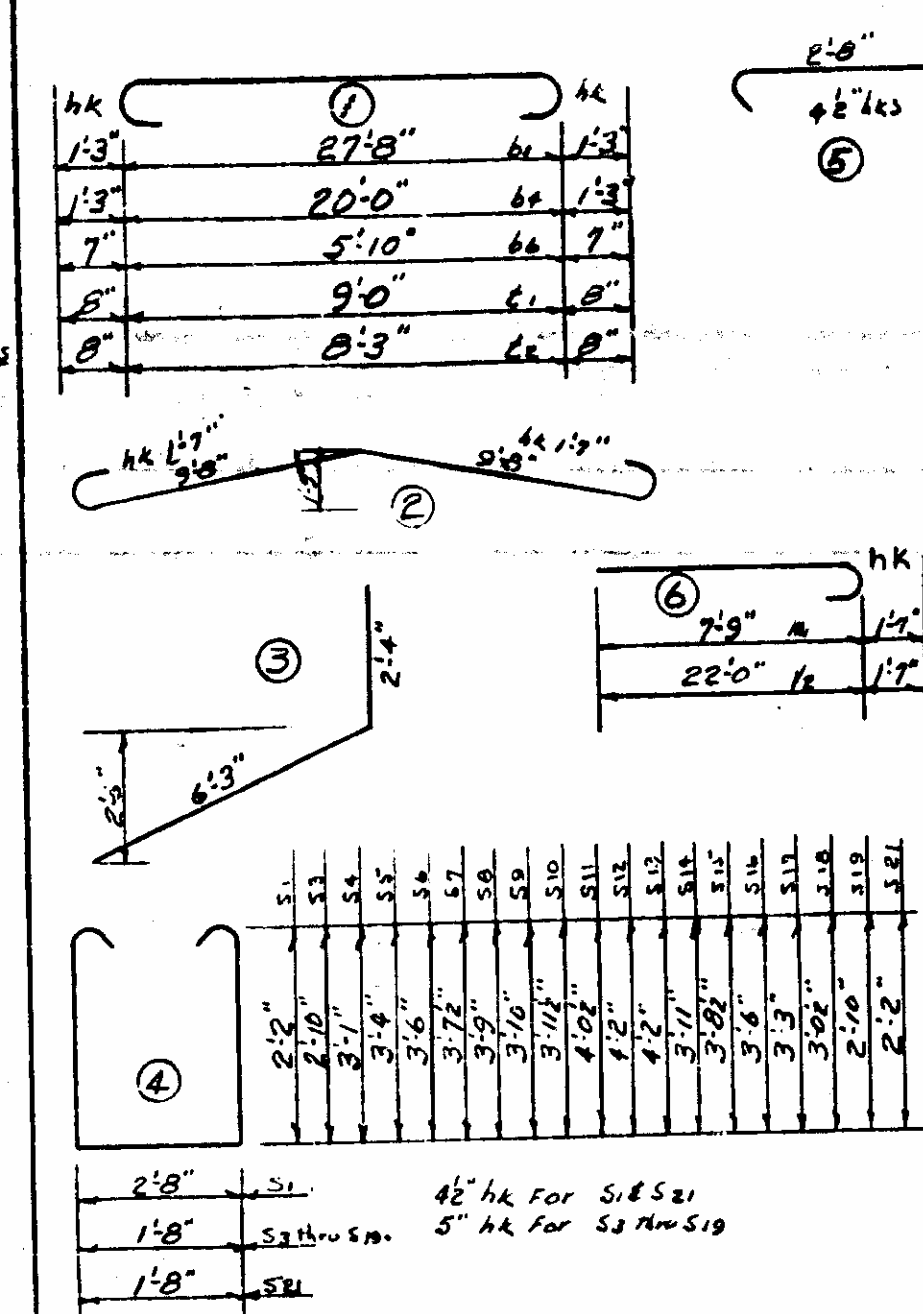


PLAN OF CAP



SECTION THRU CAP

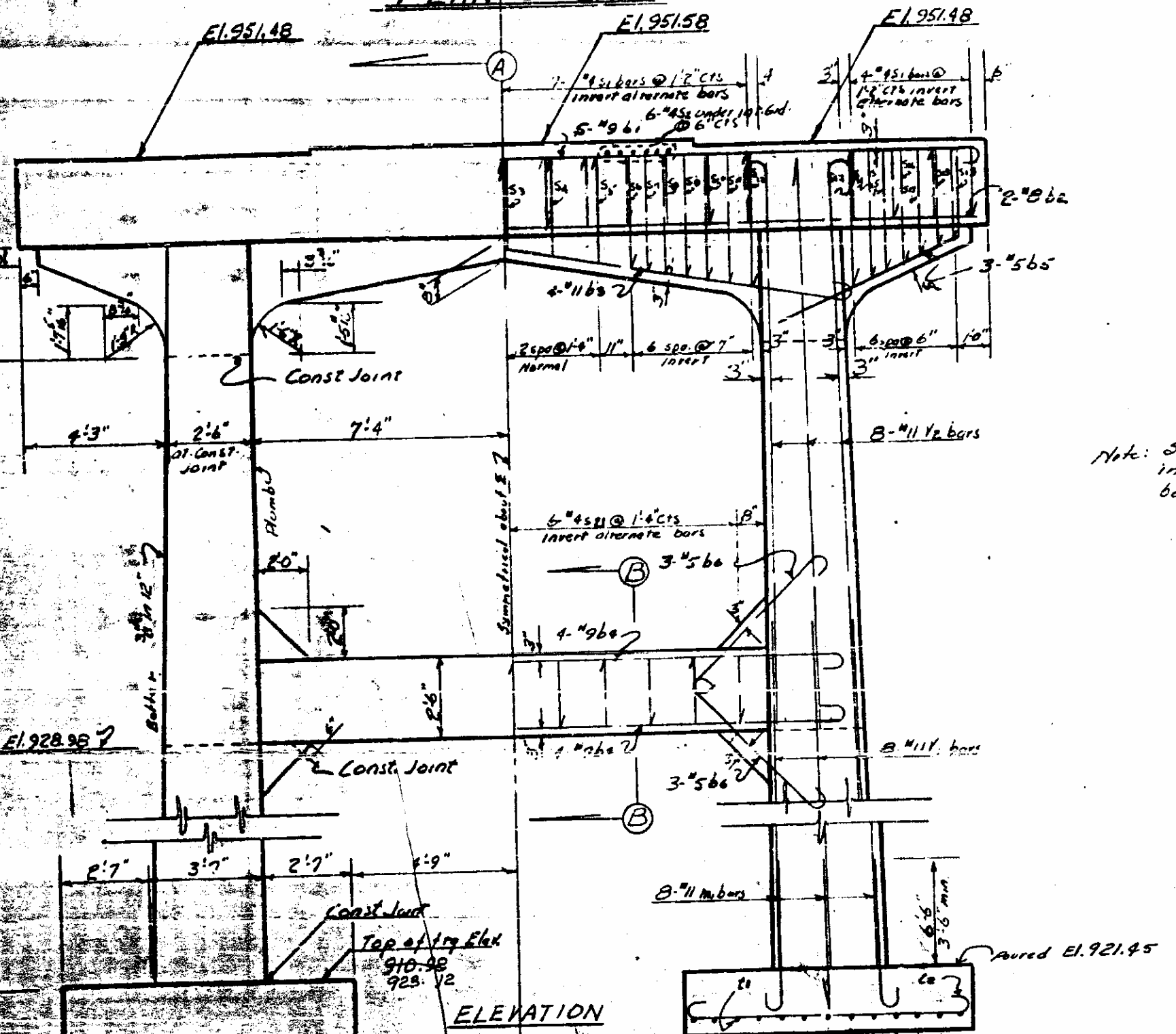
BAR BENDING DETAIL



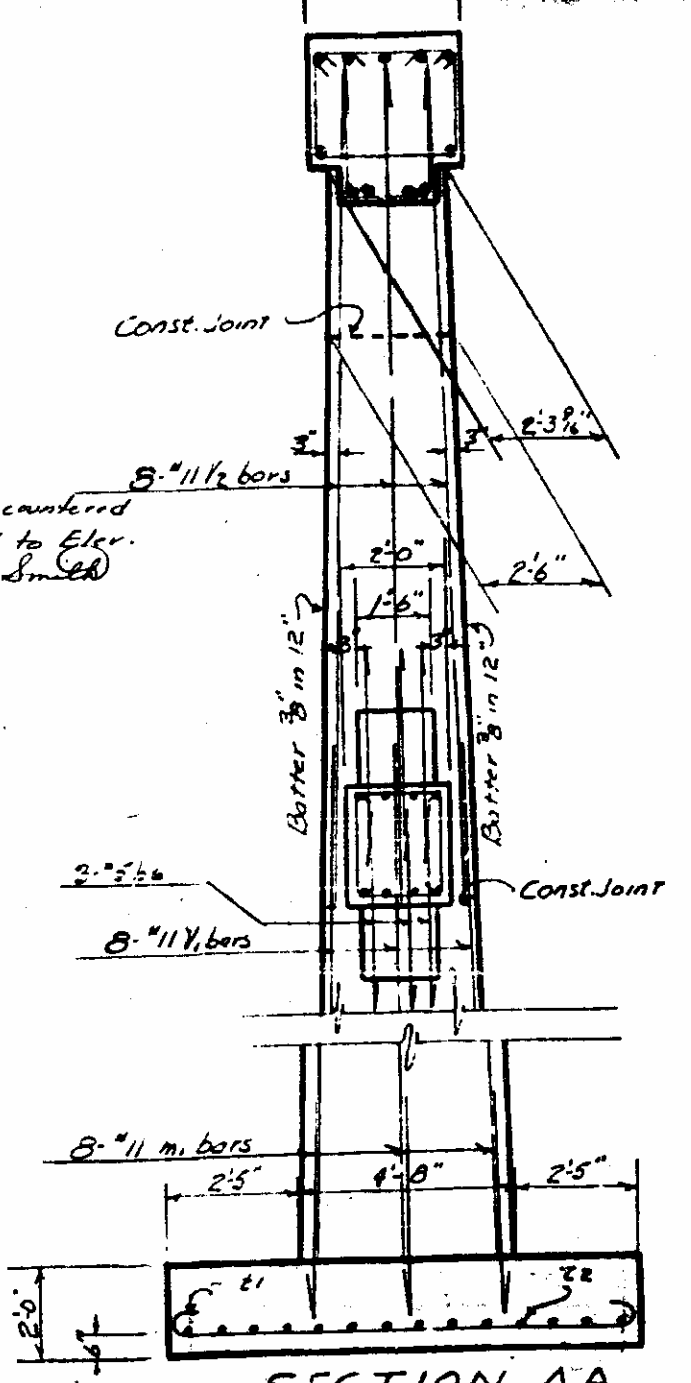
BILL OF MATERIAL

BENT NO. 1

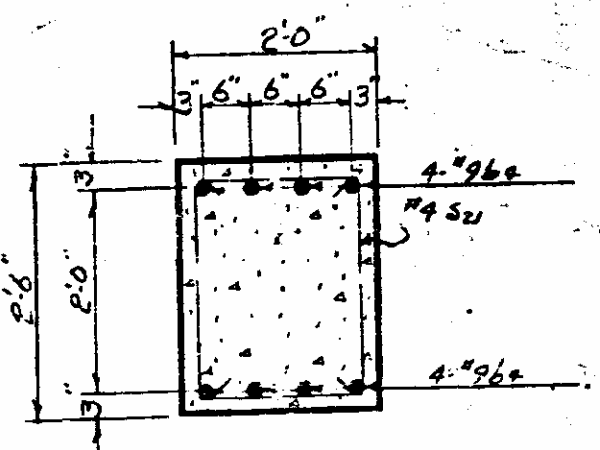
BAR NO	SIZE	TYPE	LENGTH	WEIGHT
b1	#9	1	30'-2"	51
b2	#8	5cr	27'-8"	15
b3	#11	2	22'-6"	47
b4	#9	1	22'-6"	47
b5	#8	3	8'-7"	2
b6	#5	1	7'-0"	1
b7	#4	4	7'-9"	10
b8	#4	5	3'-5"	7
b9	#5	4	8'-8"	12
b10	#5	1	9'-2"	15
b11	#5	1	9'-8"	16
b12	#5	1	9'-9"	16
b13	#5	1	10'-0"	17
b14	#5	1	10'-2"	17
b15	#5	1	10'-3"	17
b16	#5	1	10'-7"	18
b17	#5	1	10'-10"	19
b18	#5	1	10'-4"	18
b19	#5	1	9'-11"	17
b20	#5	1	9'-6"	16
b21	#5	1	9'-0"	15
b22	#5	1	8'-7"	14
b23	#5	1	8'-2"	13
b24	#5	1	6'-9"	11
b25	#11	6	9'-4"	32
b26	#11	STR	21'-6"	183
b27	#11	6	23'-7"	205
b28	#6	1	10'-4"	40
b29	#6	1	9'-7"	38



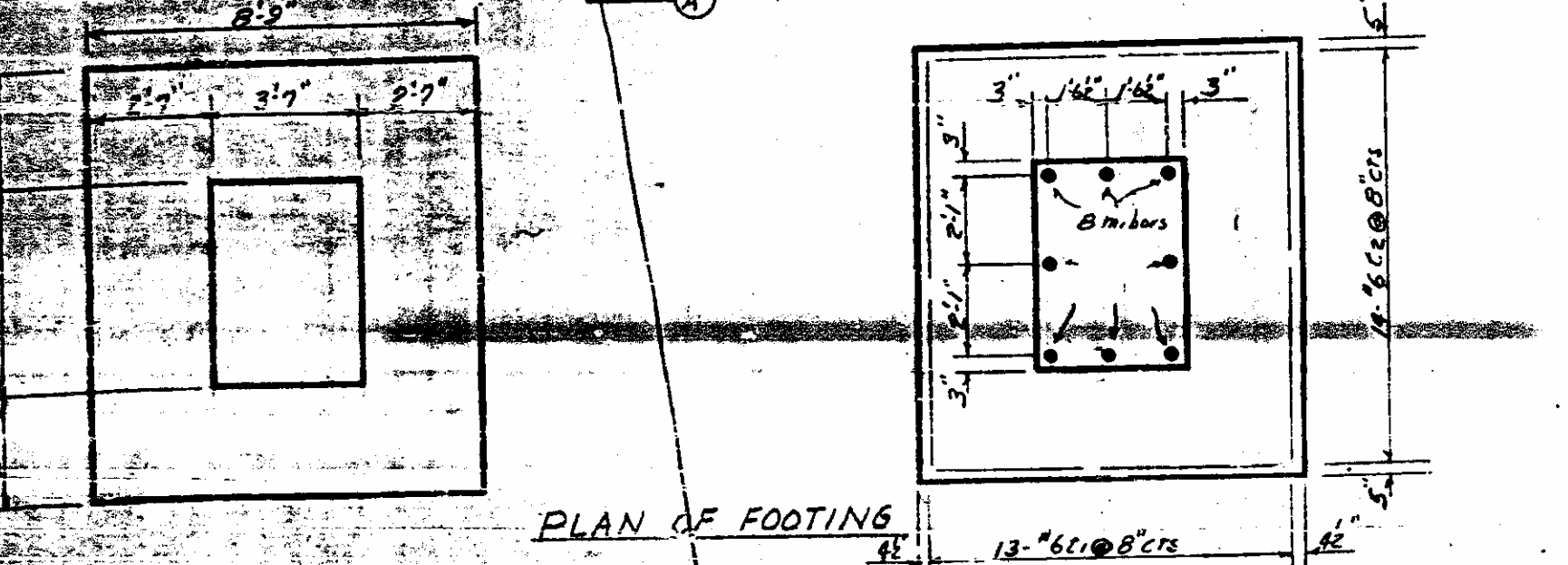
ELEVATION



SECTION AA



SECTION BB



PLAN OF FOOTING

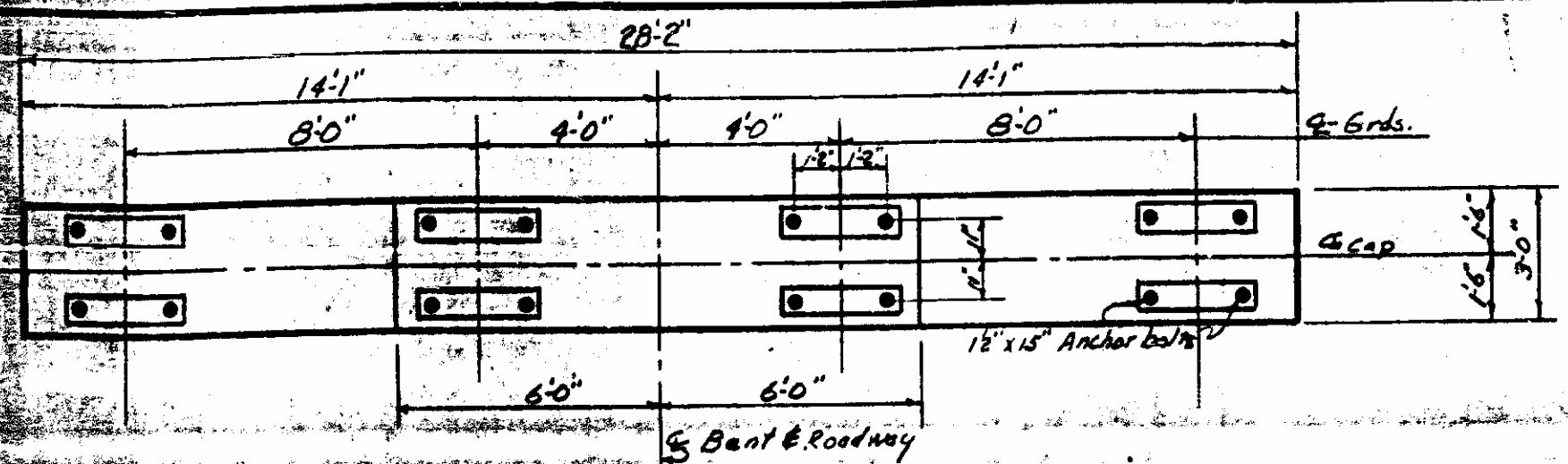
NOTE: Computed foundation pressure equals 3 tons per sq. ft.

Build According to Plan

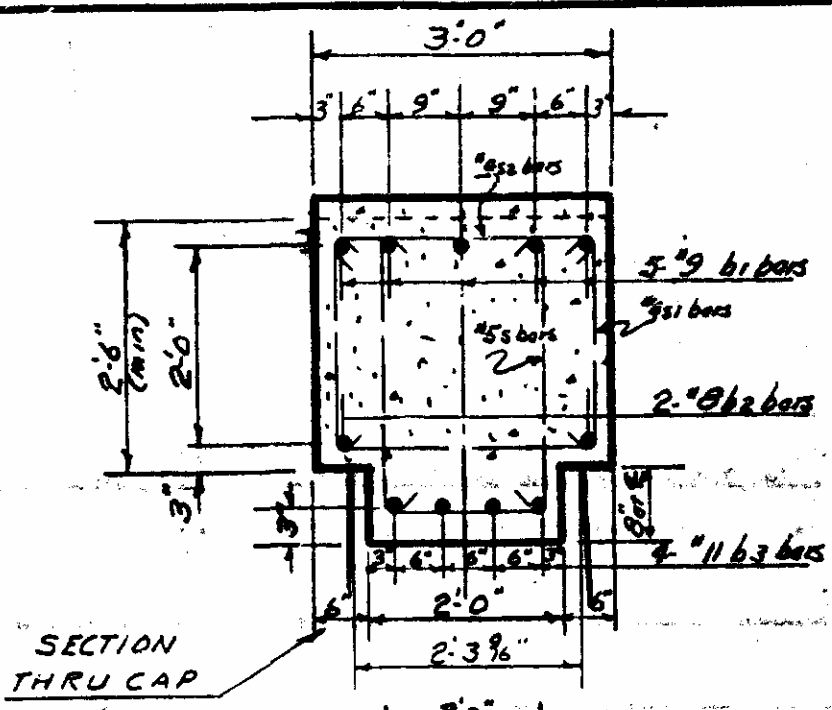
PROJECT NO. 817542
 SURRY-STOKES COUNTY
 STATION: 28+67.2

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 SUBSTRUCTURE
 BENT NO. 1
 SEPT. 1959

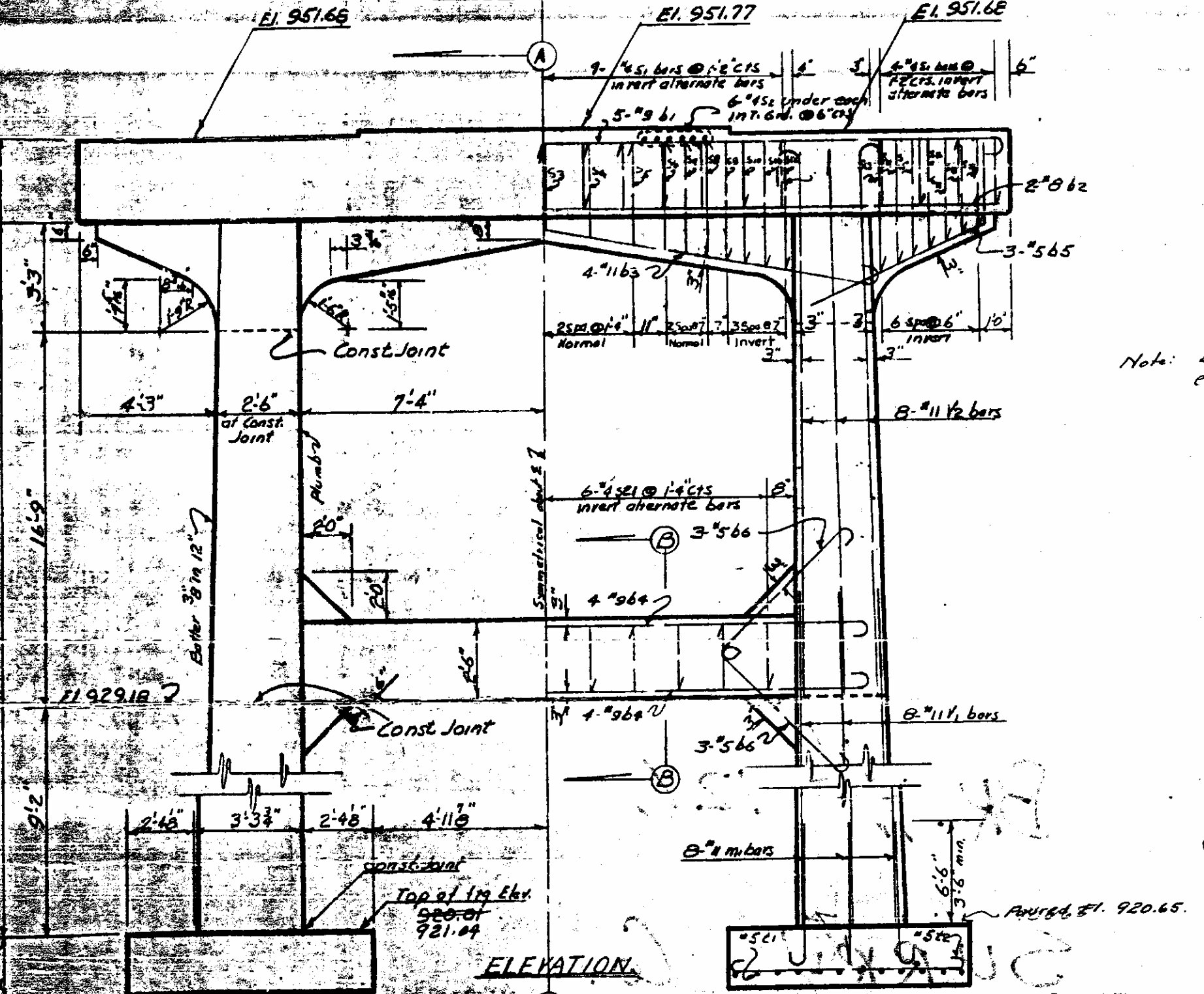
DESIGNED BY: James H. ... DATE: 16 Sept. 1959
 DRAWN BY: ... DATE: ...
 CHECKED BY: ... DATE: 27.1.1959



PLAN OF CAP

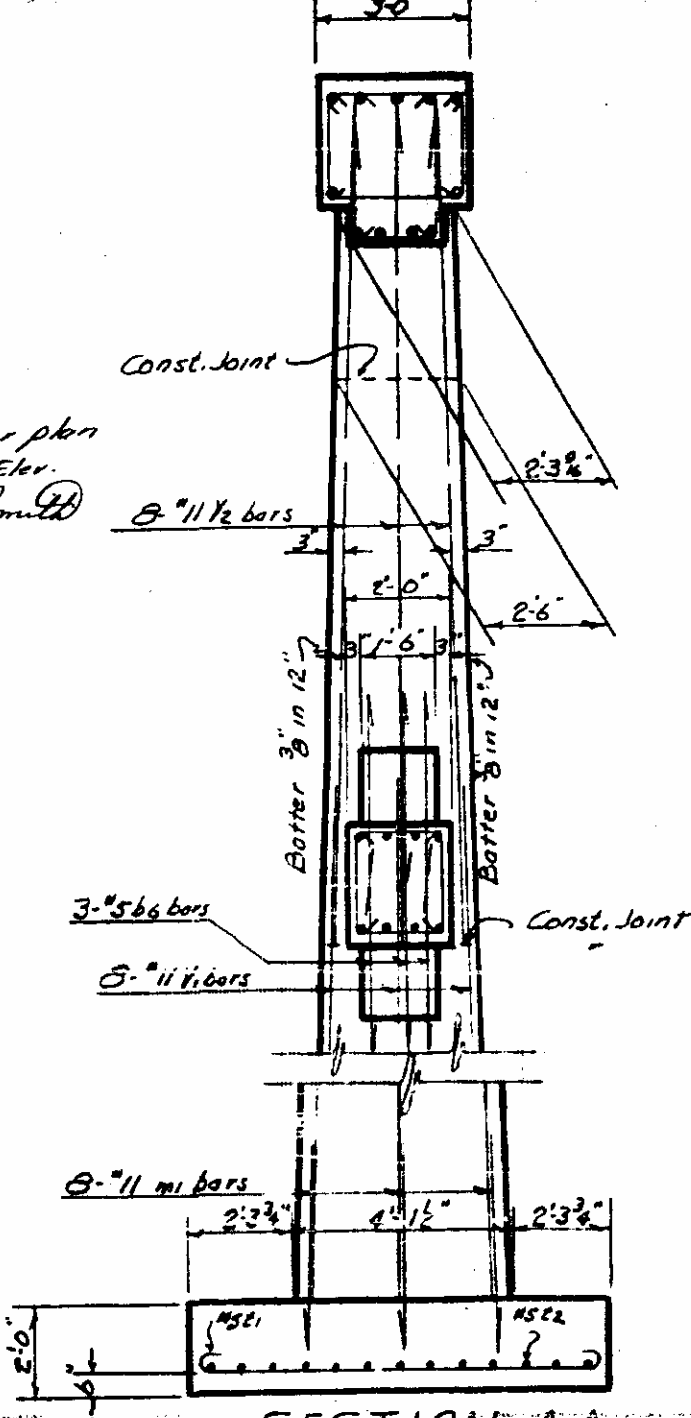


SECTION THRU CAP

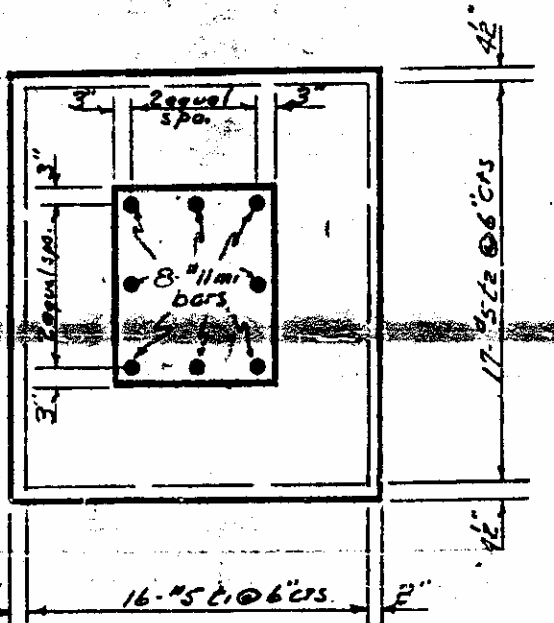


ELEVATION

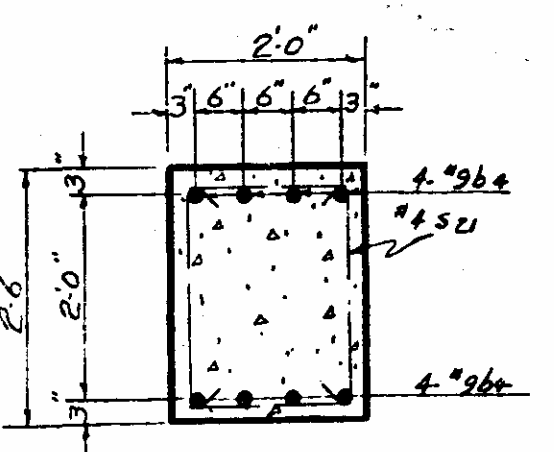
Note: Built as per plan except Hg. Elev. C. K. Smith



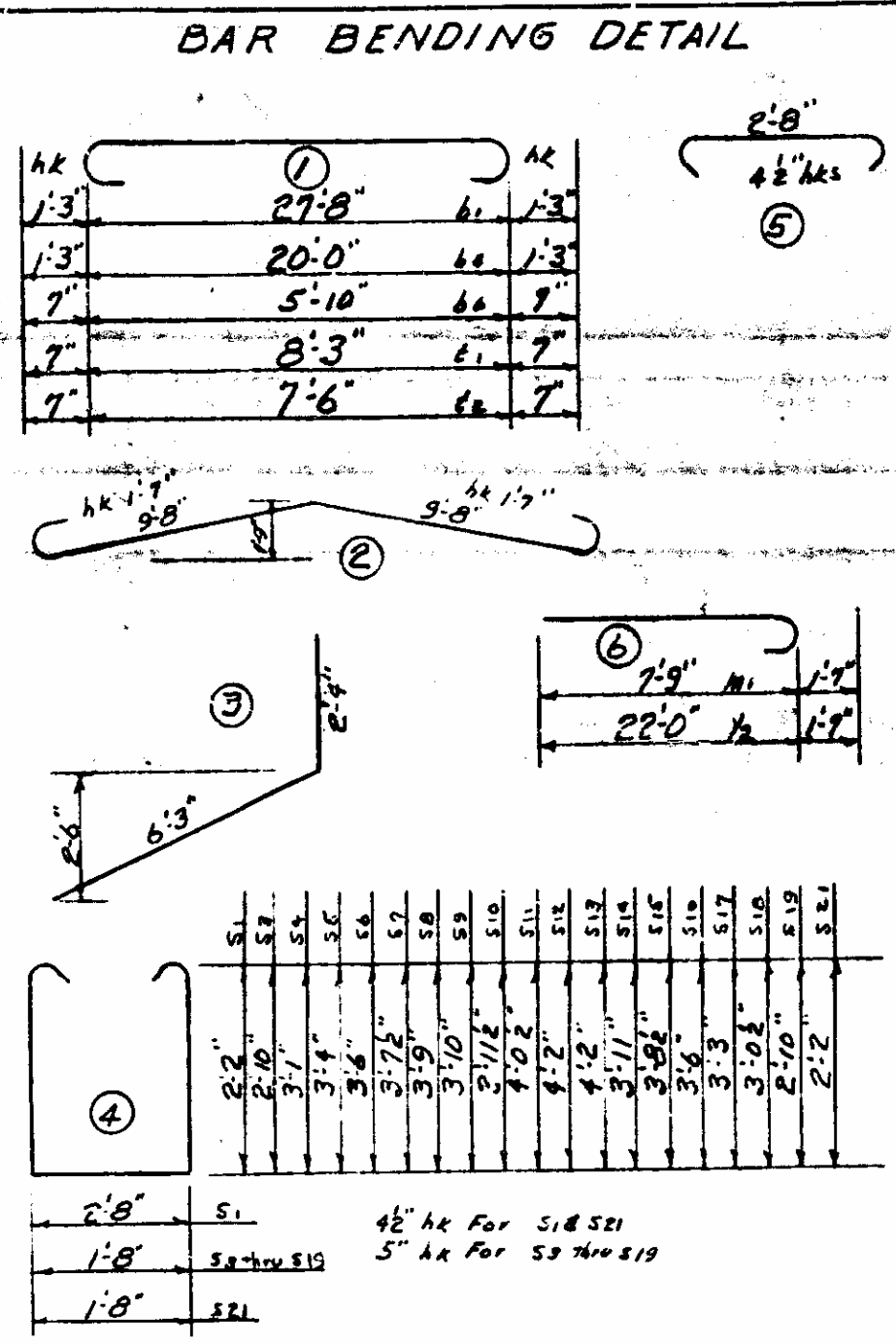
SECTION AA



PLAN OF FOOTING



SECTION BB



BAR BENDING DETAIL

BILL OF MATERIAL					
BENT NO 2					
BAR NO	SIZE	TYPE	LENGTH	WEIGHT	
61	5	#9	1	30.2	58
62	2	#8	STR	27.8	16
63	4	#11	2	22.6	67
64	8	#9	1	22.6	47
65	4	#5	3	8.7	9
66	12	#5	1	7.0	3
51	21	#4	4	7.8	10
52	12	#4	5	3.5	7
53	1	#5	4	8.2	10
54	2			8.8	11
55				9.2	12
56				9.6	13
57				9.9	14
58				10.0	15
59				10.3	16
510				10.5	17
511				10.7	18
512				10.10	19
513				10.4	20
514				10.4	21
515				9.11	22
516				9.6	23
517				9.0	19
518				8.7	18
519	2	#5		8.2	17
521	11	#4	4	6.9	10
m1	16	#11	6	9.4	73
11	16	#11	STR	12.8	107
12	16	#11	6	23.7	200
1	32	#5	1	9.5	36
12	34	#5	1	8.8	37

All dimensions are out to out

NOTE: Computed foundation pressure equal 3 tons per sq. ft.

Built According to Plan

Class "A" Concrete	C.Y.	49.7640
Reint. Steel	lbs.	6077
Dry Excavation	C.Y.	51.05
Wet Excavation	C.Y.	60.36

PROJECT NO. B.1754E
SURRY-STOKES COUNTY
STATION: 28+67 L

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
SUBSTRUCTURE
BENT NO 2
SEPT. 1959

DESIGNED BY: [Signature] DATE: 17 Sept. 1959
DRAWN BY: [Signature] DATE: [Blank]
CHECKED BY: [Signature] DATE: Oct. 1, 1959