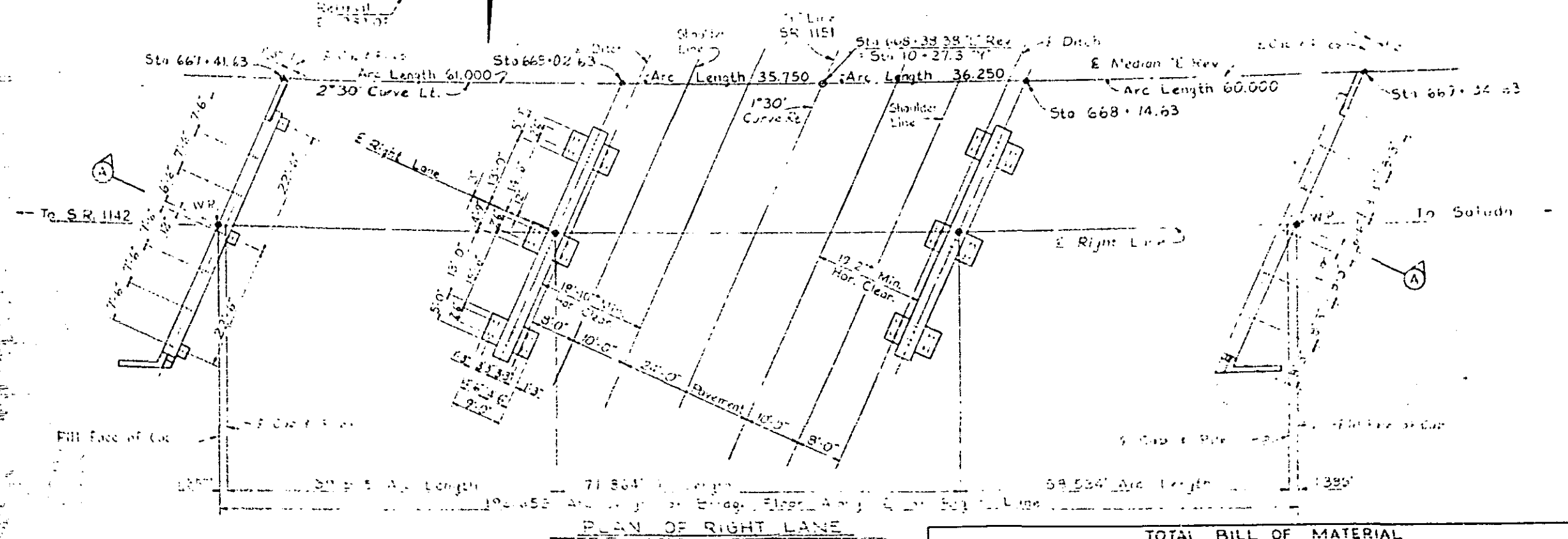


NOTE:
For Notes, Extended Tangent Layout,
and Location Sketch see General Drawing
for Left Lane.

98 POLK



I hereby certify that this structure was
built according to plan *O.J. Davis*
Resident Engineer

RIGHT LANE
PROJECT No. 8.1869003
POLK COUNTY
STATION 668+38.38 E. Med.
10+27.3'Y

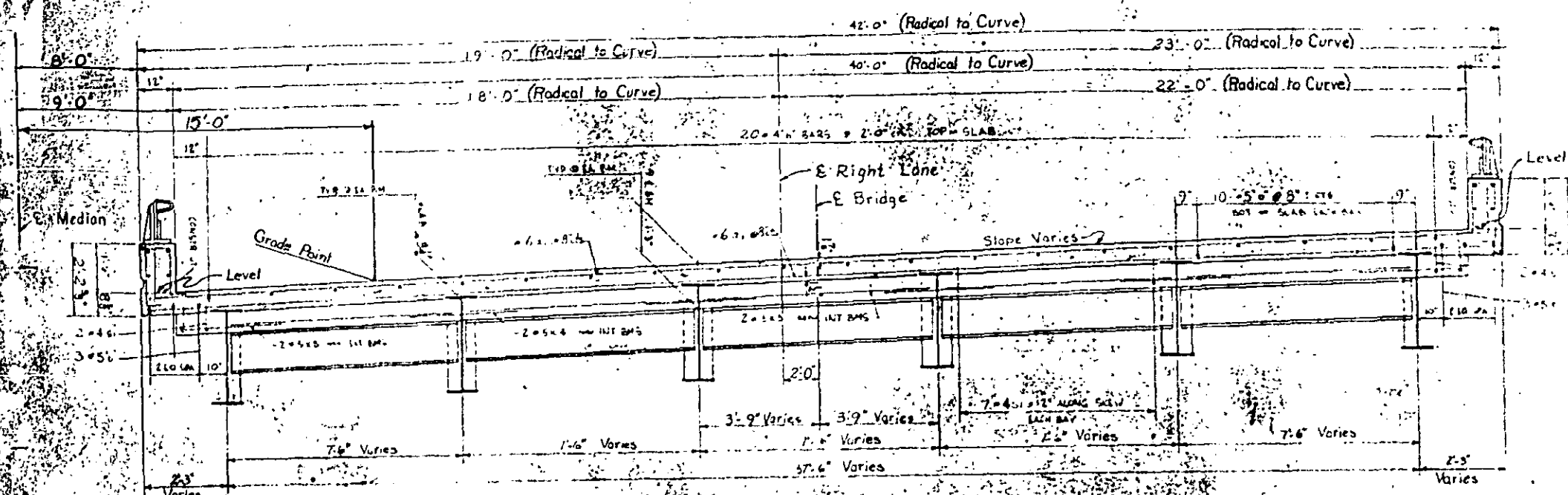
NOTE: See Special Provisions for method of curing
bridge deck and mixing and applying the
insect on solution.

	TOTAL BILL OF MATERIAL						
	CLASS 'A' CONCRETE	CLASS 'AA' CONCRETE	REINF. STEEL	STRUCT. STEEL	12H53 STEEL PILES	UNCLASS. STRUCT. METAL	1-BAR METAL
	Cu Yds	Sq Yds	Lbs	Sq Yds	Linear Ft	Sq Ft	Linear Ft
SUPERSTRUCTURE			56,781	201,300			373.71
END BENT #1	17.4		3,878		101.75		10.6014
BENT #1	59.6		9,288		181.45		18.3653
BENT #2	58.6		9,048		181.45		18.3653
END BENT #2	1.85		3,525		7.315		2.2816
TOTALS	154.1	242.8	82,220	201,300	651.975		373.71 + 19

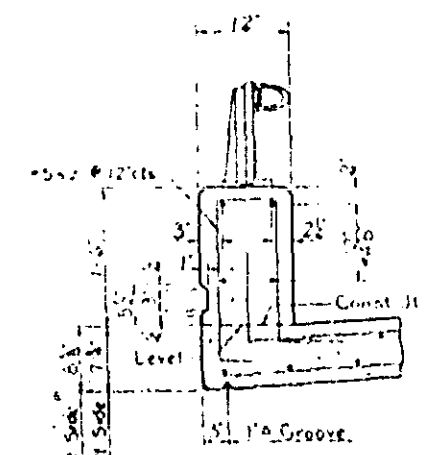
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
GENERAL DRAWING FOR
BRIDGE ON PROJECT BETWEEN
SR 1142 AND SALUDA
OVER S.R. 1151
AUGUST 1967

NOTES

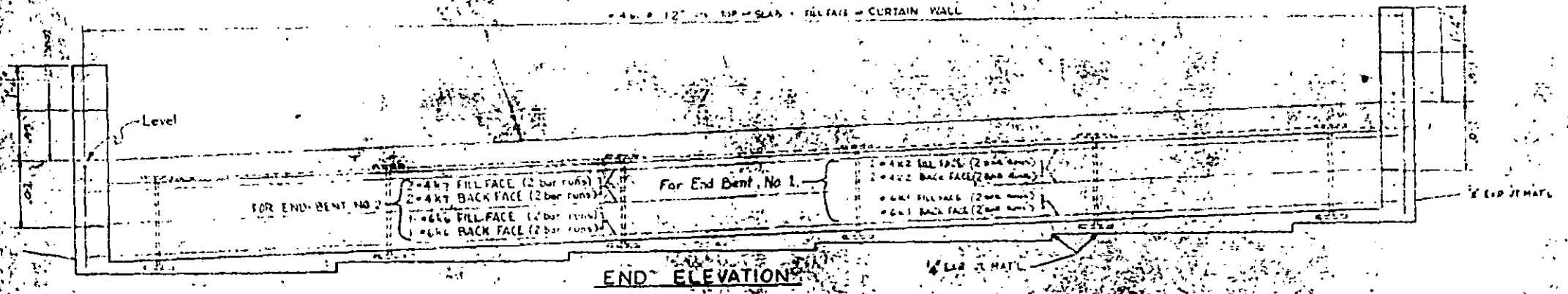
Assumed Live Load... 120' S16 44' on Alternate Loading.
 Concrete in Compression... 100 lbs per square inch.
 Reinforcing Steel in Tension... 20,000 lbs per square inch.
 For other design data and General Notes see S-N sheet.
 For bars indicated and no bar marks shown see concrete plan for each span.
 Expansion joints to be kept free of concrete. Seal with hot-poured rubber asphalt material. See Special Provisions.



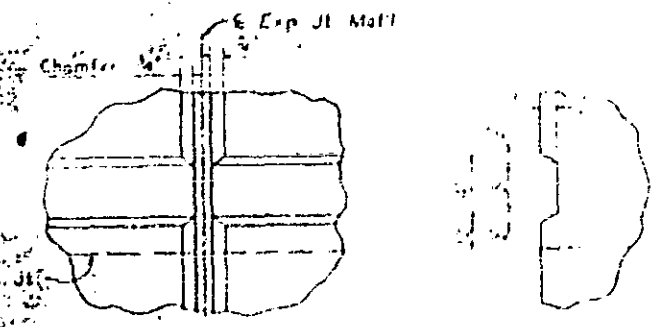
TYPICAL SECTION
(MULTI-SPAN BRIDGE AT BENTS)



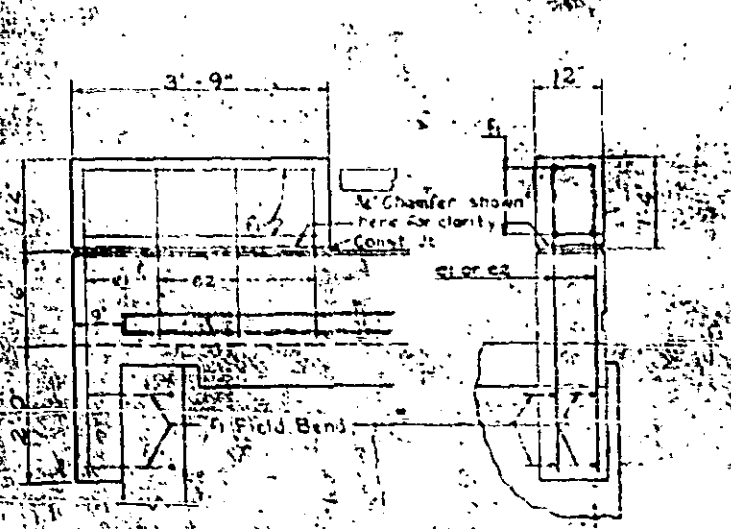
SECTION THRU PARAPET



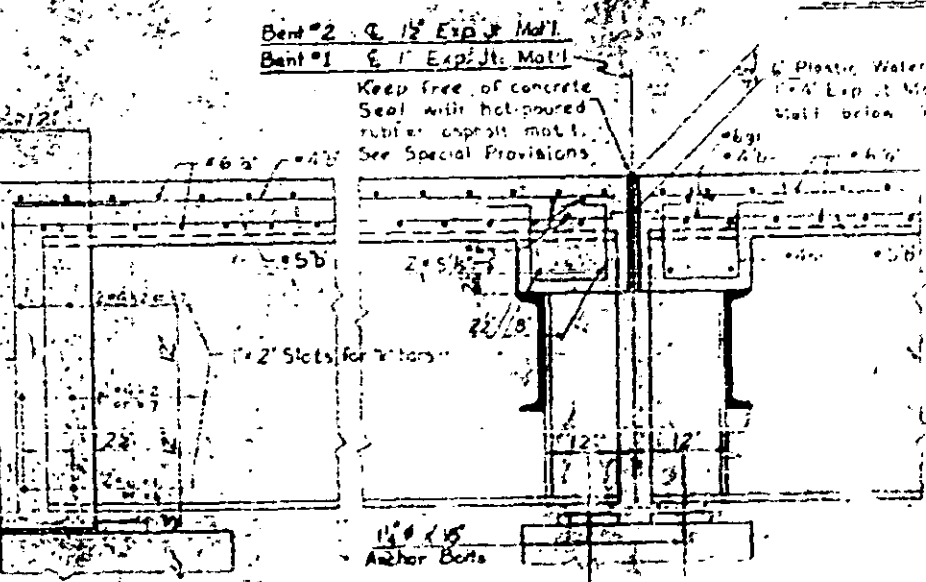
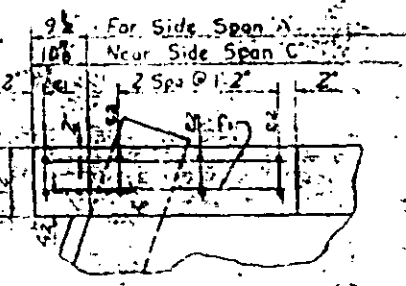
END ELEVATION



PARAPET GROOVE DETAIL



END POST DETAILS



SECTION A-A

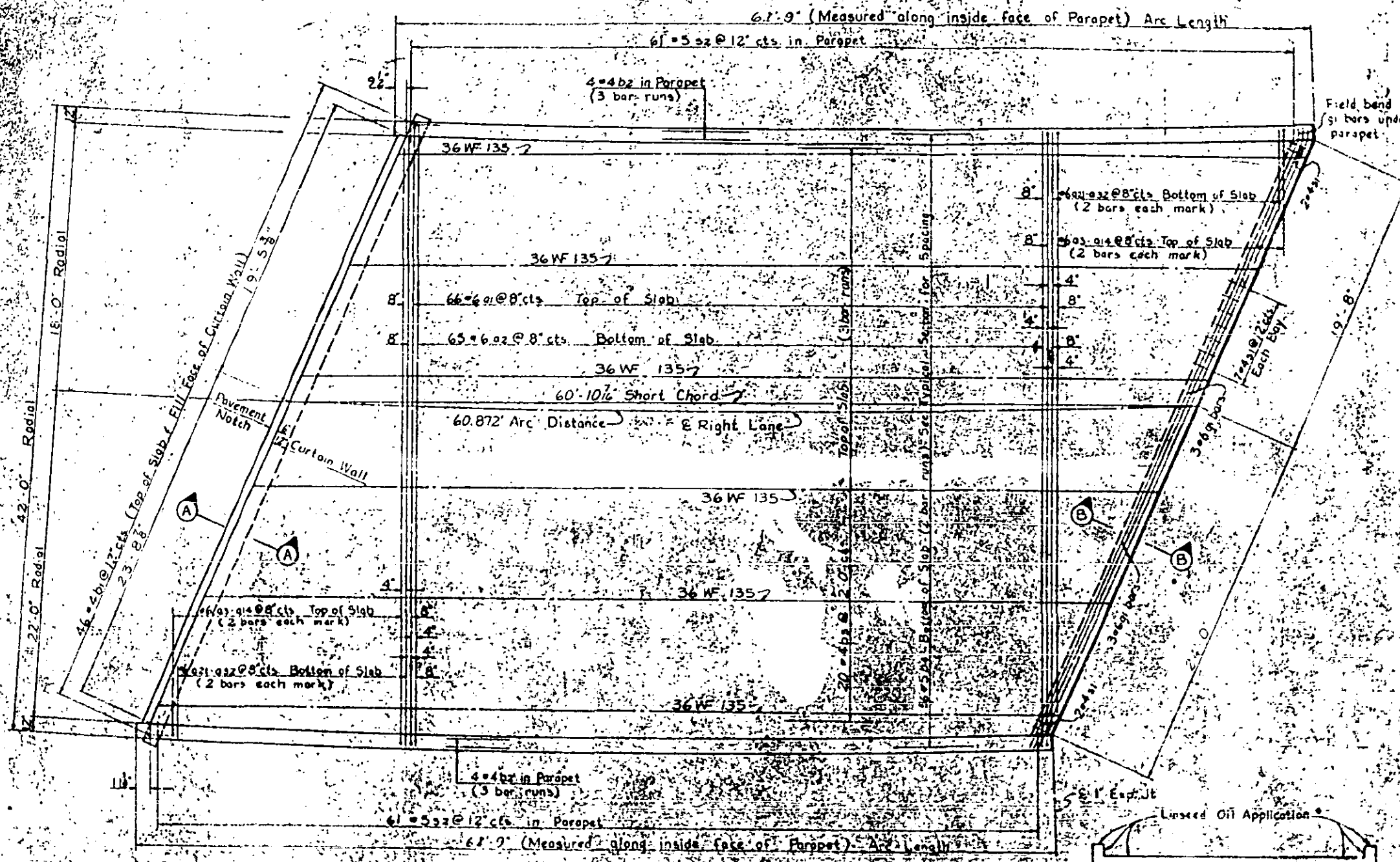
SECTION B-B

PROJECT NO. 81869003
POLK COUNTY
STATION: 668+38.38 E Med
RIGHT LANE

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

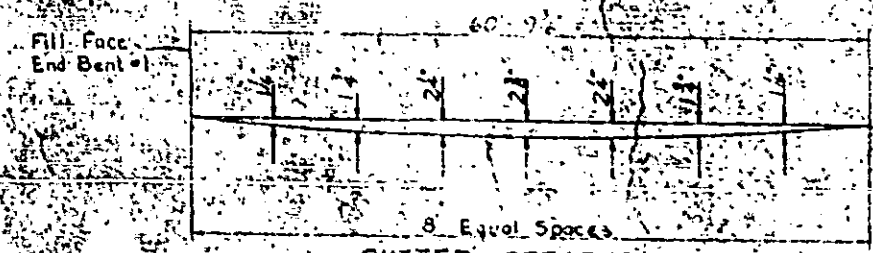
SUPERSTRUCTURE
STANDARD TYPICAL SECTION
NO. 100 - STEEL BEAMS

DATE	BY
JUNE 1967	
5-81	
5-81	
5-112	

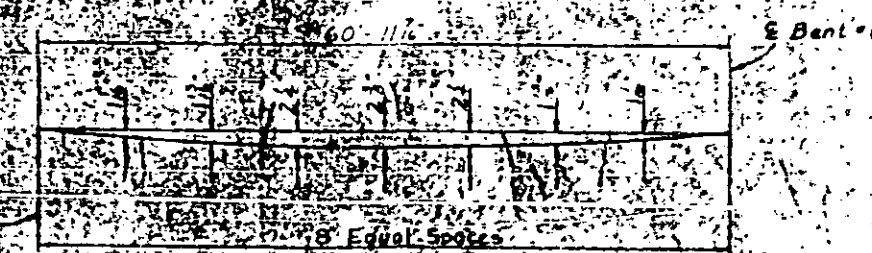


PLAN - SPAN A

SKETCH SHOWING LOCATION OF LINSBED OIL APPLICATION



GUTTER OFFSETS NEAR SIDE

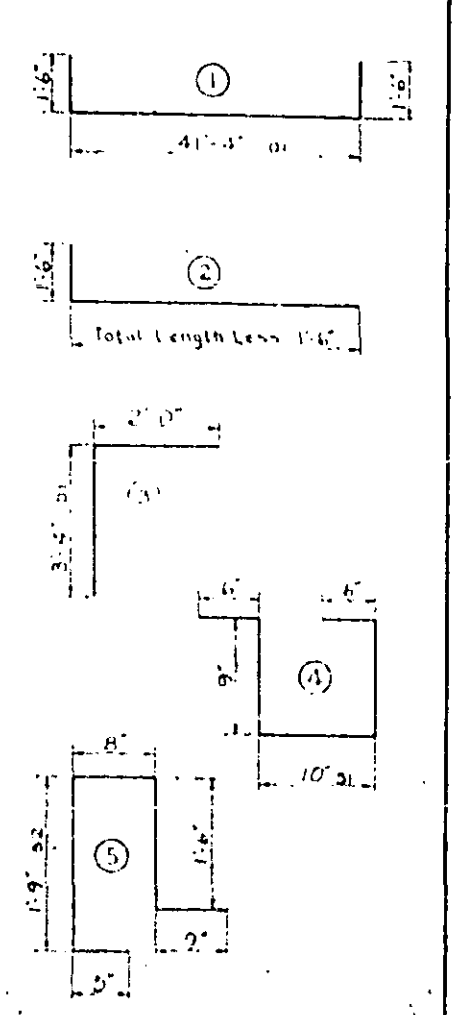


GUTTER OFFSETS FAR SIDE

BILL OF MATERIAL FOR SPAN A

BAR NO	SIZE	TYPE	LENGTH	WEIGHT
01	#6	1	44.4	4.395
02	#6	Str	41.8	4.068
03	#6	2	39.0	2.31
04	#6	2	35.10	2.15
05	#6	2	32.8	1.96
06	#6	2	29.6	1.77
07	#6	2	26.4	1.58
08	#6	2	23.3	1.40
09	#6	2	20.1	1.21
10	#6	2	17.0	1.02
11	#6	2	13.9	.83
12	#6	2	10.8	.64
13	#6	2	7.7	.45
14	#6	2	4.6	.26
15	#6	2	1.5	.07
16	#6	Str	38.5	2.31
17	#6	Str	35.5	2.12
18	#6	Str	32.5	1.93
19	#6	Str	29.5	1.74
20	#6	Str	26.5	1.55
21	#6	Str	23.5	1.36
22	#6	Str	20.5	1.17
23	#6	Str	17.5	.98
24	#6	Str	14.5	.79
25	#6	Str	11.5	.60
26	#6	Str	8.5	.41
27	#6	Str	5.5	.22
28	#6	Str	2.5	.03
29	#4	3	5.3	.164
30	#4	Str	21.5	.342
31	#4	Str	21.5	.342
32	#5	Str	31.4	3.160
33	#4	Str	4.6	.12
34	#4	Str	2.8	.21
35	#4	Str	3.0	.37
36	#6	Str	24.0	2.16
37	#4	Str	24.0	.14
38	#4	Str	23.0	.136
39	#4	Str	13.1	.13
40	#5	Str	3.10	.32
41	#5	Str	8.0	.83
42	#4	Str	3.4	.87
43	#5	Str	5.1	.647

BAR DETAILS



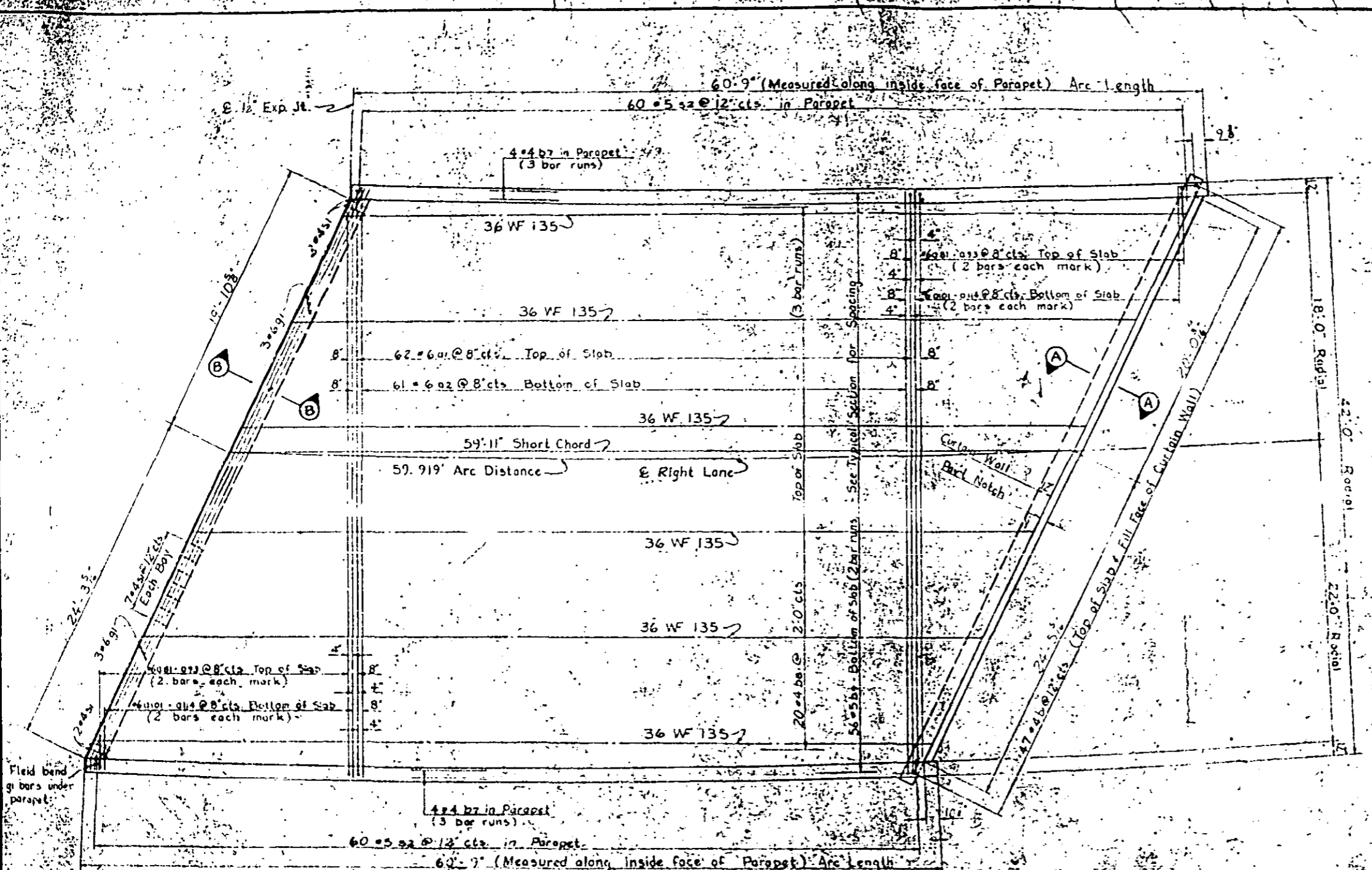
SUPERSTRUCTURE TOTALS

	Rein Steel Lbs.	Class AA Conc. Cu. Yds.	Struct. Steel Approx. Lbs.
Span A	17,780	77.0	57,800
Span B	21,024	85.8	83,200
Span C	17,777	78.0	58,300
Total	56,581	240.8	201,300

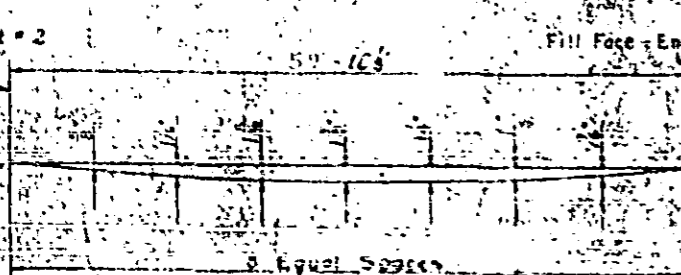
PROJECT No. 81869003
 POLK COUNTY
 STATION: 668 + 38.38 S. Med.
 RIGHT LANE

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 SUPERSTRUCTURE
 PLAN - SPAN A

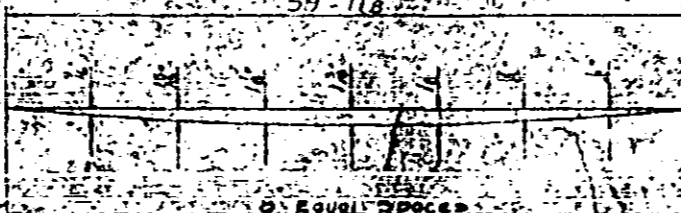
See Special Provisions for method of curing bridge deck and mixing and applying linsbed oil solution.



PLAN SPAN C



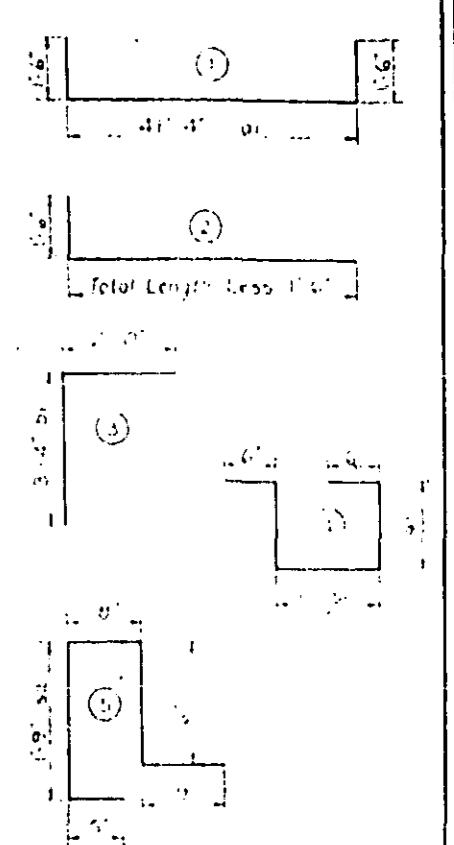
GUTTER OFFSETS
NEAR SIDE
22' Right of S Right Lane



GUTTER OFFSETS
FAR SIDE
18' Left of S Right Lane

BILL OF MATERIAL					
FOR SPAN C					
BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
01	62	#6	1	44'-4"	4,122
02	61	#6	Str.	41'-8"	3,810
001	4	#6	2	39'-4"	236
002				36'-6"	219
003				33'-9"	203
004				30'-11"	186
005				28'-2"	167
006				25'-4"	152
007				22'-7"	136
008				19'-9"	119
009				17'-0"	102
010				14'-3"	85
011				11'-5"	69
012				8'-7"	52
013				5'-10"	35
014	4	#6	Str.	2'-5"	15
015	47	#4	3	5'-4"	167
016	24	#4	Str.	2'-0"	357
017	60	#4	Str.	20'-9"	832
018	112	#5	Str.	30'-9"	3,532
019	4	#4	Str.	4'-6"	12
020	12	#4	Str.	2'-0"	21
021	16	#4	Str.	3'-0"	37
022	6	#6	Str.	24'-0"	216
023	4	#5	Str.	3'-0"	13
024	8	#5		3'-10"	52
025	10	#5		8'-0"	83
026	4	#6	1	24'-0"	147
027	8	#4	Str.	24'-0"	122
028	39	#4	4	3'-4"	87
029	120	#5	5	5'-1"	636

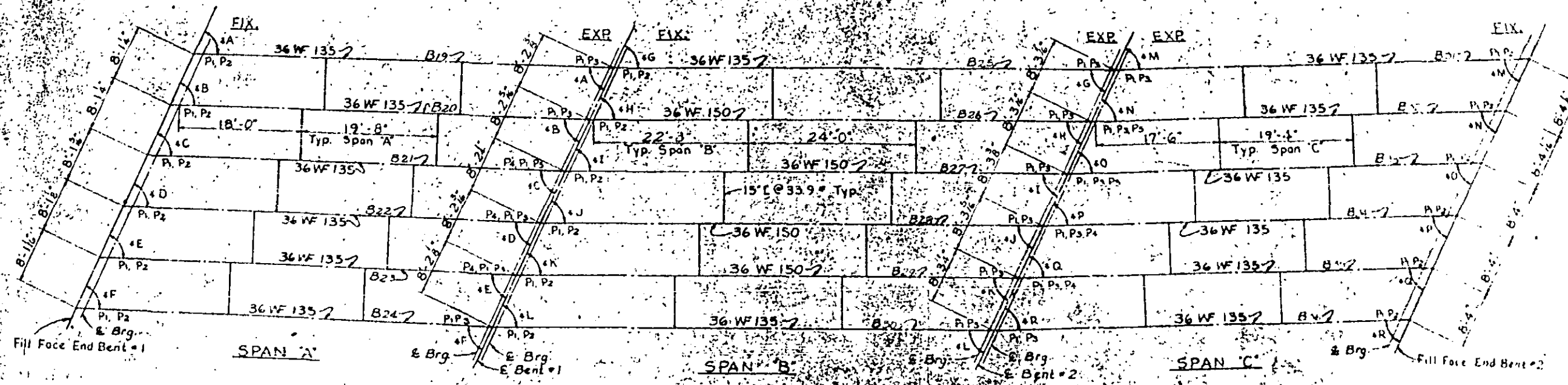
BAR DETAILS
All bar dimensions are out to out.



PROJECT No. 8.1869003
POLK COUNTY
STATION 668+38.38 & Mid
RIGHT LANE

STATE OF IOWA
STATE HIGHWAY COMMISSION
SUPERSTRUCTURE
PLAN SPAN C

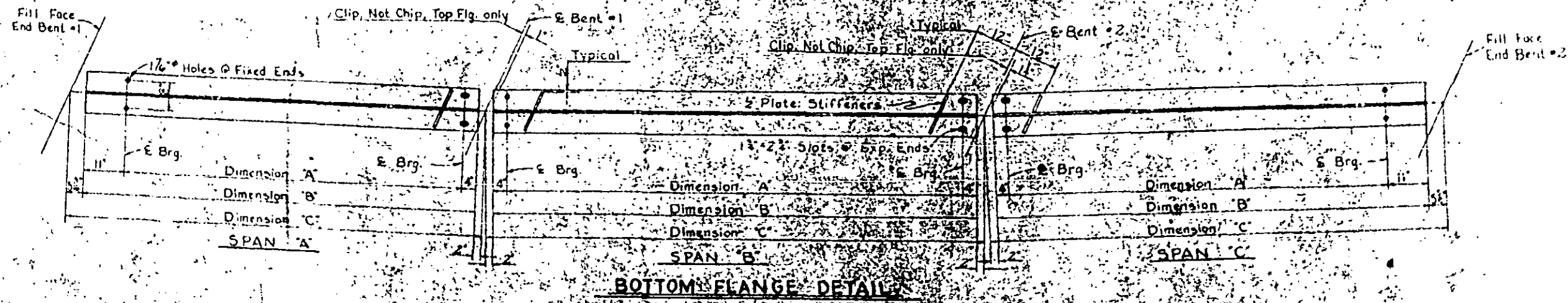
DATE	1967
BY	
CHECKED	
APPROVED	



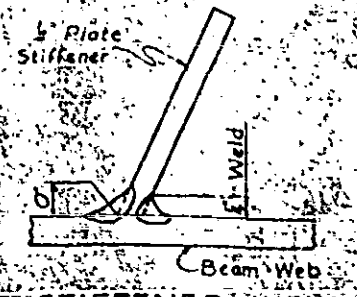
LAYOUT SKETCH
(Showing Location of Brg. R's & Steel Diaphragms)

ANGLES			
A	66° 54' 28.8"	J	65° 38' 07.4"
B	66° 59' 11.1"	K	65° 42' 13.1"
C	67° 03' 52.1"	L	65° 46' 22.3"
D	67° 08' 31.4"	M	64° 22' 26.9"
E	67° 13' 10.7"	N	64° 25' 13.3"
F	67° 17' 49.4"	O	64° 28' 03.7"
G	65° 38' 03.5"	P	64° 30' 57.4"
H	65° 30' 01.1"	Q	64° 33' 55.9"
I	65° 34' 01.9"	R	64° 36' 54.9"

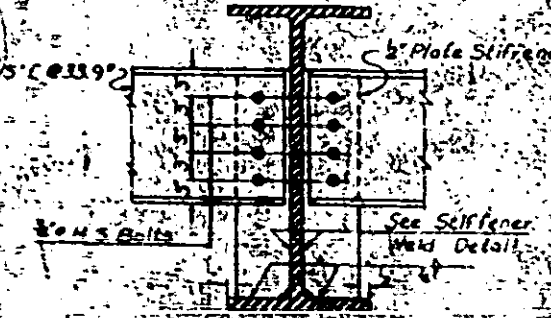
BEAM LENGTHS			
DIAM.	DIMEN. A	DIMEN. B	DIMEN. C
B19	59' 11"	60' 11"	60' 11"
B20	59' 08"	60' 08"	60' 10"
B21	59' 04"	60' 04"	60' 10"
B22	58' 11"	60' 04"	60' 08"
B23	59' 11"	60' 04"	60' 08"
B24	59' 11"	60' 04"	60' 08"
B25	70' 10"	71' 06"	71' 10"
B26	70' 10"	71' 06"	71' 10"
B27	70' 10"	71' 06"	71' 10"
B28	70' 10"	71' 06"	71' 10"
B29	70' 10"	71' 06"	71' 10"
B30	70' 10"	71' 06"	71' 10"
B31	58' 04"	59' 04"	59' 11"
B32	58' 04"	59' 04"	59' 11"
B33	58' 04"	59' 04"	59' 11"
B34	58' 04"	59' 04"	59' 11"
B35	57' 11"	58' 04"	59' 10"
B36	57' 11"	58' 04"	59' 10"



BOTTOM FLANGE DETAIL



STIFFENER WELD DETAIL



DIAPHRAGM CONNECTION DETAIL



BEARING PLATE DETAILS

	DEFLECTION TABLE					
	SPAN 'A'		SPAN 'B'		SPAN 'C'	
	INT.	EXT.	INT.	EXT.	INT.	EXT.
Deflection due to beam weight						
Deflection due to superimposed D.L.						
Total Deflection						
Curve Shift						
Camber Beams						

APPROX. STRUCTURAL STEEL WEIGHT	
Span A	23,200
Span B	23,200
Span C	23,200
Total	69,600

PROJECT No. 81869003
POLK COUNTY
STATION: 66.8+38.38
RIGHT LANE

Sheet 1 of 2

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
STRUCTURAL STEEL
DETAILS

JUNE 1967

Studs Per. Bm.

448	30 Spa. @ 5' - 12" 6"	17 Spa. @ 7' - 9" 11"	8 Equal Spaces	6	Int. Bms. - Span A
312	19 Spa. @ 7' - 11" 1"	12 Spa. @ 10' - 10" 0"	7 Equal Spaces	6	Ext. Bms. - Span A
536	35 Spa. @ 5' - 14" 7"	21 Spa. @ 7' - 12" 3"	10 Equal Spaces	6	Int. Bms. - Span B
376	24 Spa. @ 7' - 14" 0"	14 Spa. @ 10' - 11" 8"	8 Equal Spaces	6	Ext. Bms. - Span B
440	29 Spa. @ 5' - 12" 1"	17 Spa. @ 7' - 9" 11"	8 Equal Spaces	6	Int. Bms. - Span C
304	18 Spa. @ 7' - 10" 6"	12 Spa. @ 10' - 10" 0"	7 Equal Spaces	6	Ext. Bms. - Span C

E Brg. z

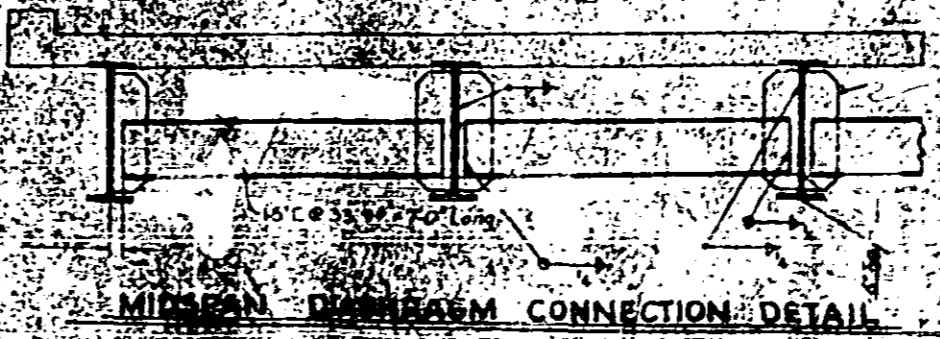
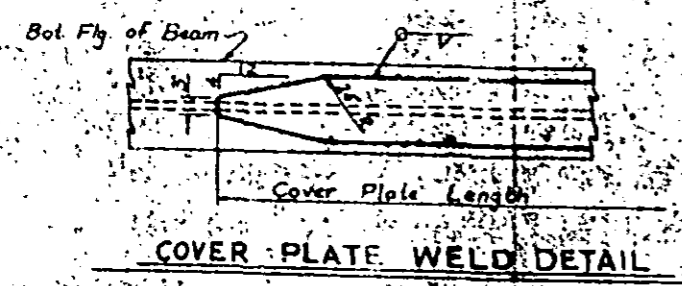
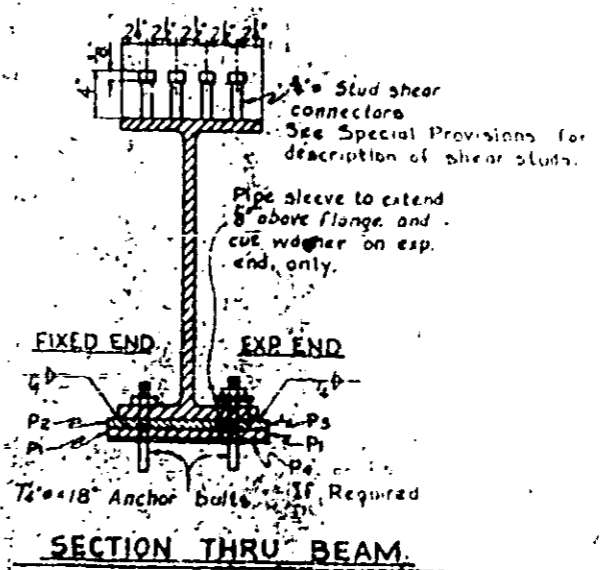
36 WF 135	Ext. & Int. Bms. - Span A or C
36 WF 135	Ext. Bms. - Span B
36 WF 150	Int. Bms. - Span B

Stud spacing symmetrical about E between bearings

19' 6"	Int. Bms. - Span A
18' 3"	Ext. Bms. - Span A
25' 3"	Int. Bms. - Span B
25' 9"	Ext. Bms. - Span B
18' 9"	Int. Bms. - Span C
17' 6"	Ext. Bms. - Span C
10' 4" x 37' 0"	Interior Bms. - Span A
8' 2" x 36' 6"	Exterior Bms. - Span A
10' 4" x 50' 6"	Interior Bms. - Span B
10' 2" x 51' 6"	Exterior Bms. - Span B
10' 5" x 57' 6"	Interior Bms. - Span C
6' 2" x 35' 0"	Exterior Bms. - Span C

NOTE: At the contractor's option he may substitute for the cover plates designated on the plans cover plates of equivalent area provided these plates are at least 3/16" in thickness and do not exceed a width equal to the flange width less 2" or a thickness equal to 1 1/2 times the flange thickness. The size of the weld for attaching these cover plates shall be in accordance with the AWS Specifications.

SHEAR STUD SPACING & COVER PLATE DETAILS



NOTE: In lieu of the welding procedure for shop and field welds indicated for the intermediate diaphragm connections, the contractor may, at his option, shop weld the connector plates to the beam webs and field weld the channel to the connector plates. Special care is to be observed in handling the beam webs.

NOTES

All beams and cover plates shall be of ASTM A-36 grade structural steel. See S-N Sheet.

No web stiffeners are required on outside of exterior beams or at End Brnts. Stiffeners are to be parallel to ends of beams.

The contractor may at his option but without change in the contract price of structural steel, use split IAWF 50 connections bolted to the web of beam and welded to the channel diaphragm in lieu of the welded plate intermediate diaphragm connections shown.

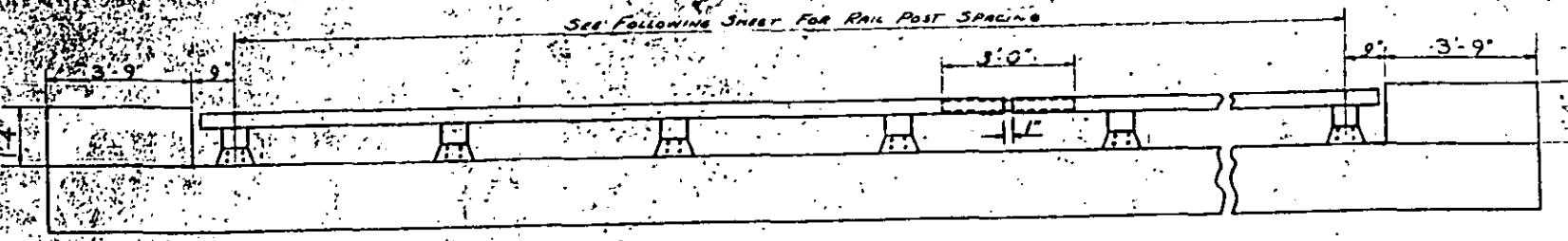
At contractor's option fill plates, when used, may be combined with masonry plate.

PROJECT No. 81869003
 POLK COUNTY
 STATION 668+38.38
 RIGHT LANE

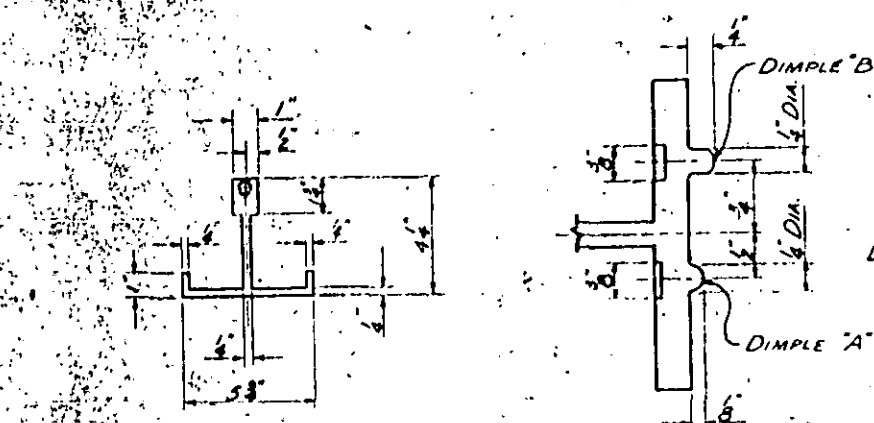
Sheet 2 of 2

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
 STRUCTURAL STEEL
 DETAILS

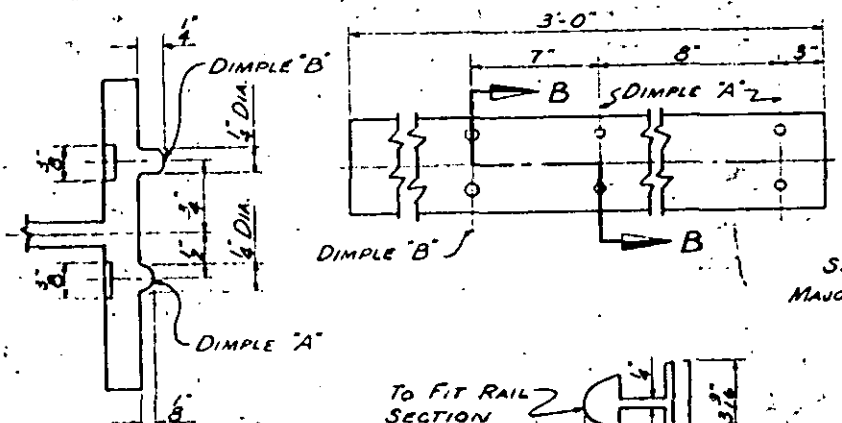
JUNE 1967



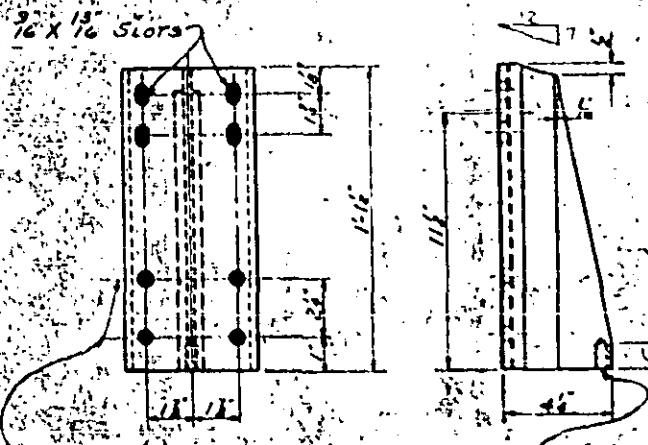
ELEVATION



PLAN

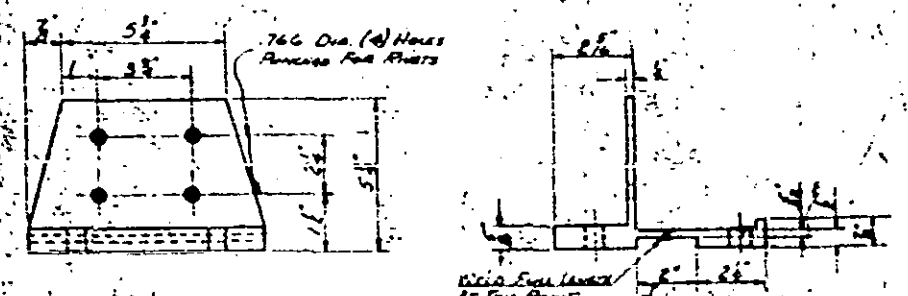


SECTION B-B



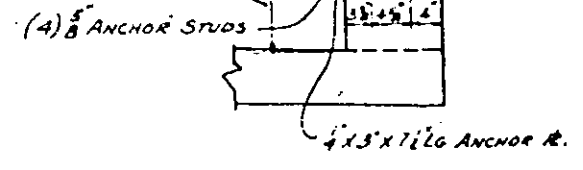
FRONT ELEVATION SIDE ELEVATION

DETAILS OF POST

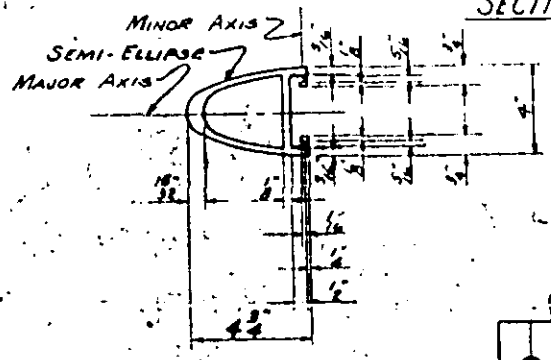


FRONT ELEVATION SIDE ELEVATION

POST BASE DETAILS

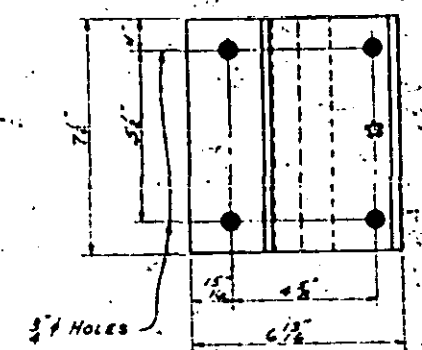


SECTION THRU PARAPET & RAIL

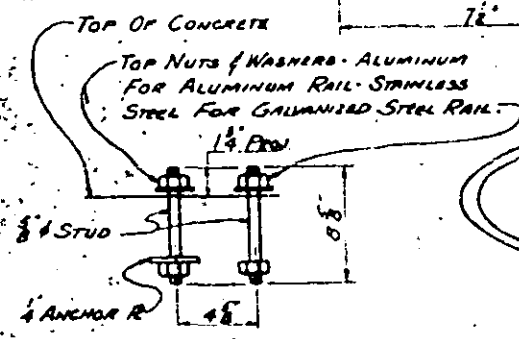


RAIL SECTION

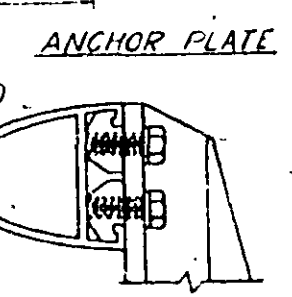
BAR SECTION EXPANSION BAR DETAILS



PLAN

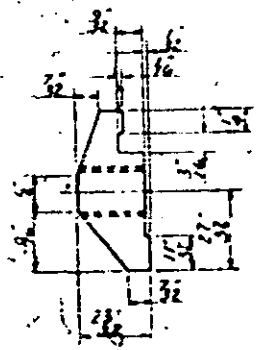


ANCHOR ASSEMBLY

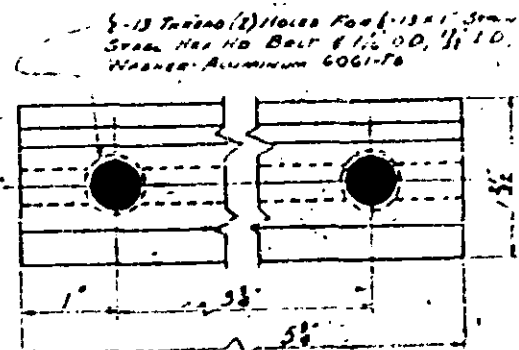


ANCHOR PLATE

CLAMP & RAIL ASSEMBLY



CLAMP BAR DETAIL (2 REQUIRED PER POST)



CLAMP BAR DETAIL (2 REQUIRED PER POST)

AT THE CONTRACTOR'S OPTION METAL RAIL MAY BE EITHER ALUMINUM OR GALVANIZED STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL NOTES AND THE FOLLOWING SPECIFICATIONS FOR THE ALTERNATE MATERIALS; HOWEVER, THE CONTRACTOR SHALL BE REQUIRED TO USE THE SAME RAIL MATERIAL ON ALL STRUCTURES ON THE PROJECT FOR WHICH METAL RAIL IS DESIGNATED:

ALUMINUM RAILS

MATERIAL FOR POSTS, BASE, RAILS, EXPANSION BARS, CLAMP BARS SHALL BE A.S.T.M. B 221 ALLOY 6061 OR 6062-T6.
 MATERIAL FOR ALUMINUM WASHER SHALL BE A.S.T.M. B 209 ALLOY 6061 ALCLAD 2024-T3.
 MATERIAL FOR RIVETS SHALL BE A.S.T.M. B 316 OR 6062-T6. RIVETS SHALL BE SHIP BOTTOM HEAD OF CONE POINT COLD DRAWN AS PER DRAWING.
 MATERIAL FOR ALUMINUM NUTS SHALL BE A.S.T.M. B 211 ALLOY 6061 OR 6062-T6. THE BASE OF RAIL POSTS OR ANY OTHER ALUMINUM SURFACE IN CONTACT WITH CONCRETE SHALL BE THOROUGHLY COATED WITH AN ALUMINUM IMPREGNATED PAINTING COMPOUND OF APPROVED QUALITY.

GENERAL NOTES

1. RAILING SHALL BE CONTINUOUS FROM END POST TO END POST OF BRIDGE EACH JOINT IN RAIL LENGTH SHALL BE SPICED AS DETAIL. PANEL LENGTHS OF RAIL SHALL BE ATTACHED TO A MINIMUM OF FOUR POSTS.
2. END OF RAIL TO CLEAR FACE OF CONCRETE END POST BY 18".
3. MATERIAL FOR ANCHOR STUDS SHALL BE TYPE 430 STAINLESS STEEL WITH MINIMUM 70,000 P.S.I. ULTIMATE STRENGTH. THREADS TO BE FULLED & NOT CUT. STUDS TO BE EMBEDDED 7" IN CONCRETE. NUTS SHALL BE AMERICAN STANDARD FINISHED HEAVEN THREADED NUTS, CLASS 2B THREAD. ANCHOR PLATE SHALL BE A.S.T.M. A7 OR A36. MACHINE SCREWS FOR RAIL ATTACHMENT SHALL BE STAINLESS STEEL.
4. CERTIFIED MILL REPORTS ARE REQUIRED FOR RAILS & POSTS. SHOP INSPECTION IS NOT REQUIRED.
5. METAL RAIL POSTS TO BE SET NORMAL TO CURB GRADE.
6. METHOD OF MEASUREMENT FOR RAIL SHALL UNLESS OTHERWISE STATED THE LENGTH OF METAL RAILS TO BE PAID FOR SHALL BE THE CONTINUOUS HORIZONTAL LENGTH MEASURED FROM INSIDE TO INSIDE OF CONCRETE POSTS.
7. CURVED RAIL UNLESS OTHERWISE STATED TO BE USED ON BRIDGES OR 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. IN EITHER CASE THE RAIL SHALL CONFORM WITHOUT BUCKLING OR KINKING TO THE REQUIRED CURVATURE IN A UNIFORM MANNER ACCEPTABLE TO THE ENGINEER.

GALVANIZED STEEL RAILS

MATERIALS AND GALVANIZING ARE TO CONFORM TO THE FOLLOWING SPECIFICATIONS:
 RAIL POST & POST BASE: A.S.T.M. A36 GRADE STRUCTURAL STEEL GALVANIZED TO A.S.T.M. A123.
 RAIL & EXPANSION BAR: A.S.T.M. A36 GRADE STRUCTURAL STEEL GALVANIZED TO A.S.T.M. A123.
 CLOSURE PLATE & SMALL STEEL ANCHOR GRADE: C GALVANIZED TO A.S.T.M. A123.
 NUTS & WASHERS FOR TOP END OF ANCHOR ASSEMBLY FOR STEEL RAIL SHALL BE TYPE 430 STAINLESS STEEL.
 THE CUT ENDS OF GALVANIZED STEEL RAILING, AFTER GRINDING SMOOTH, SHALL BE GIVEN TWO COATS OF ZINC PAINT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION MIL-P-26915 USAF TYPE 1.

REV. LENGTH: 373.71 LIN. FT.

PROJECT NO. 8-186900-3
 POLK COUNTY
 STATION: 668+38.38
 RIGHT LANE

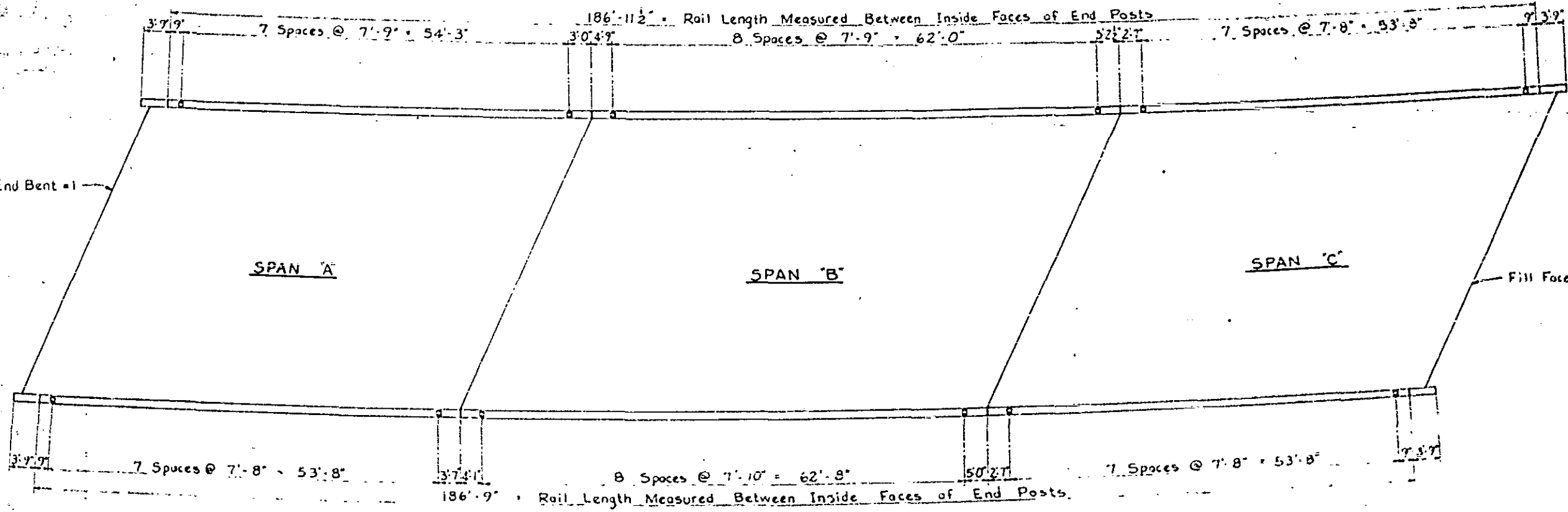
Sheet 1 of 2

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

STANDARD
 1 BAR
 METAL RAIL

JULY 1967
 1967
 5-27
 4518

Revised to show Anchor Stud location in parapet section. By: C.L.K. (5-27-65) J.B.: N.L.D.

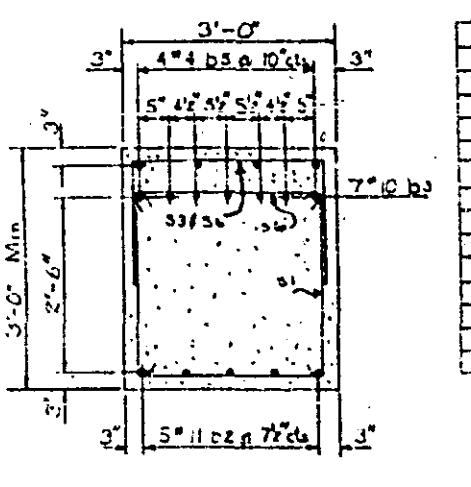
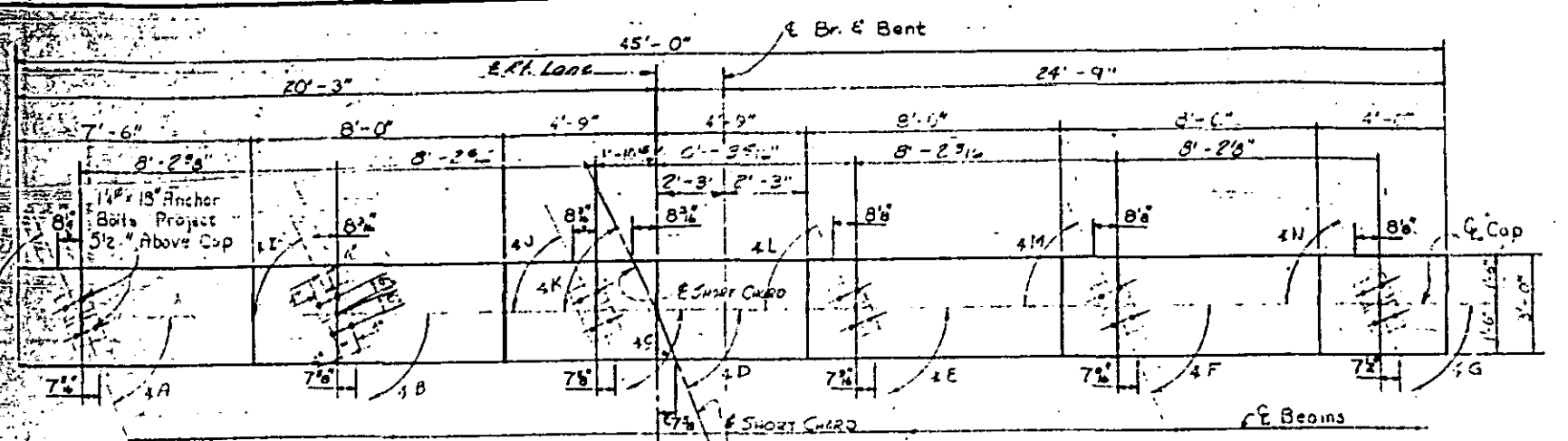


PLAN
SHOWING RAIL POST SPACING

PROJECT No. 8.186903
 POLK COUNTY
 STATION 668+38.38 E. Med
 RIGHT LANE

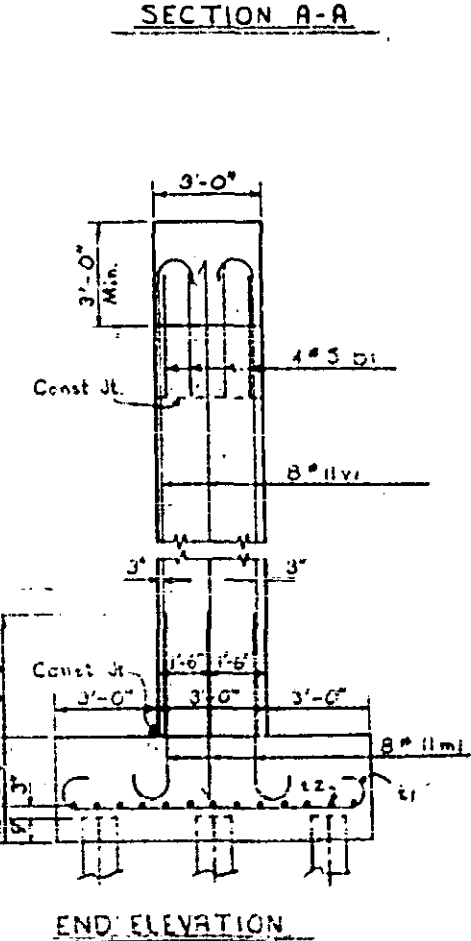
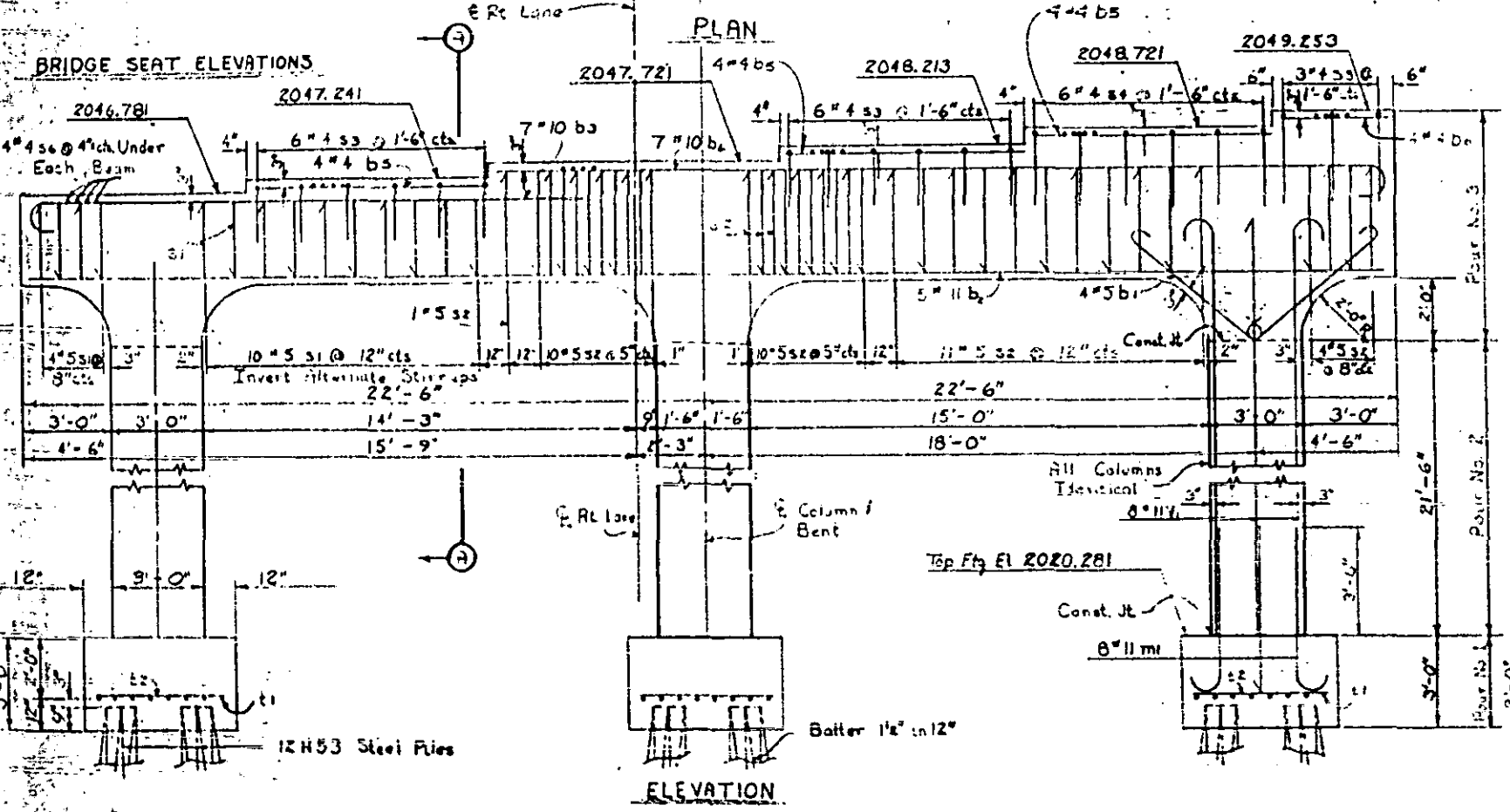
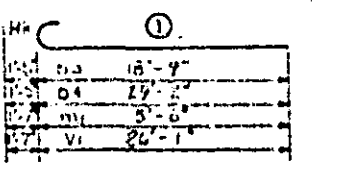
Sheet 2 of 2

STATE OF NORTH CAROLINA	
STATE HIGHWAY COMMISSION	
RAILROAD	
SUPERSTRUCTURE	
RAIL POST SPACING	
JULY	1967
DATE	BY



ANGLES	
I	65°-26'-03.7°
J	65°-30'-01.7°
K	65°-34'-02.9°
L	65°-34'-39.8°
M	65°-38'-07.1°
N	65°-42'-13.1°
A	65°-46'-22.3°
B	66°-34'-28.8°
C	66°-39'-11.1°
D	67°-03'-32.1°
E	67°-08'-31.4°
F	67°-13'-10.5°
G	67°-17'-47.6°

BAR DETAILS
All bar dimensions are cut to out



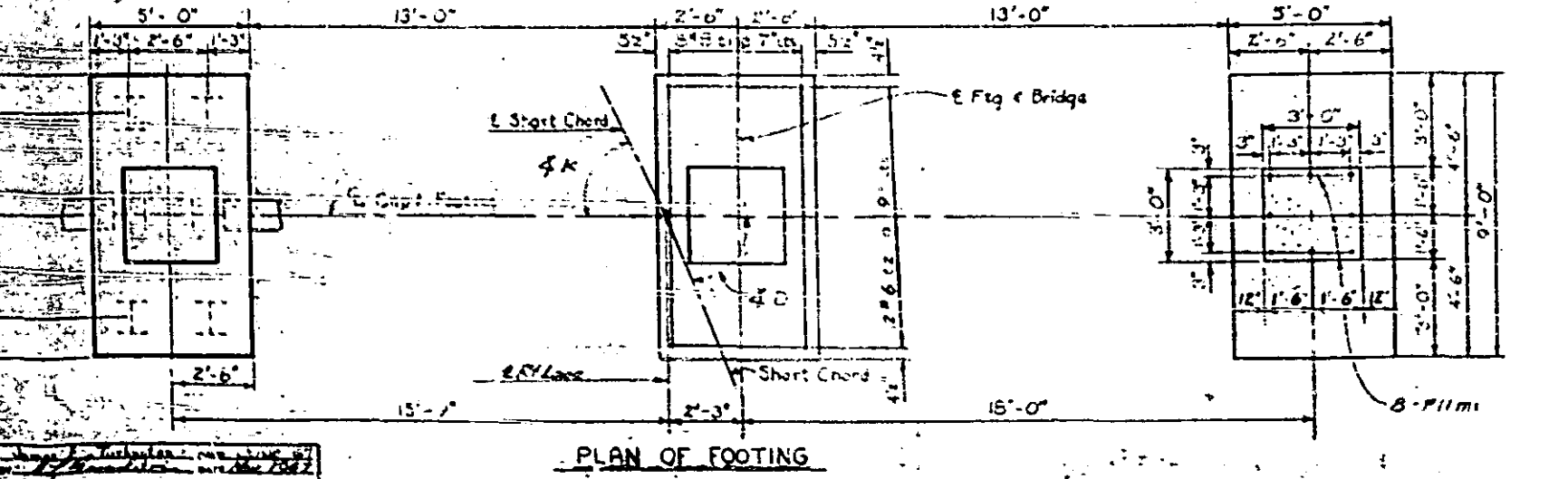
DIVISION OF CONCRETE	
BENT NO. 1	
POUR NO.	CU. YDS.
1. FOOTING	15.0
2. COLUMNS	21.3
3. CAP	23.1
TOTAL	59.6

NOTE: If pile splice is required see detail bent #1 at left lane station 668+38.39

BILL OF MATERIAL					
Bent No. 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
b1	24	#8	S	6'-0"	163
b2	5	#11	S	4'-6"	118
b3	7	#10	S	20'-2"	60
b4	7	#10	S	30'-7"	92
b5	12	#4	S	7'-0"	63
b6	4	#4	S	3'-0"	10
m1	24	#11	S	7'-1"	903
b7	11	#8	S	4'-10"	127
b8	36	#8	S	10'-0"	401
b9	12	#4	S	6'-1"	49
b10	6	#4	S	7'-2"	29
b11	3	#4	S	8'-2"	16
b12	24	#4	S	3'-2"	85
b13	24	#8	S	10'-6"	684
b14	36	#8	S	4'-4"	293
v1	24	#11	S	27'-5"	3525

Reinforcing Steel, Inc. - 9.999
Class B Concrete, cu yds 59.6
12#53 Steel Piles, No. 18
Lin. Ft. 450
56.85
See Appendix B, Page 24A

PROJECT NO. B.869003
POLK COUNTY
STATION 668+38.38 & Med.



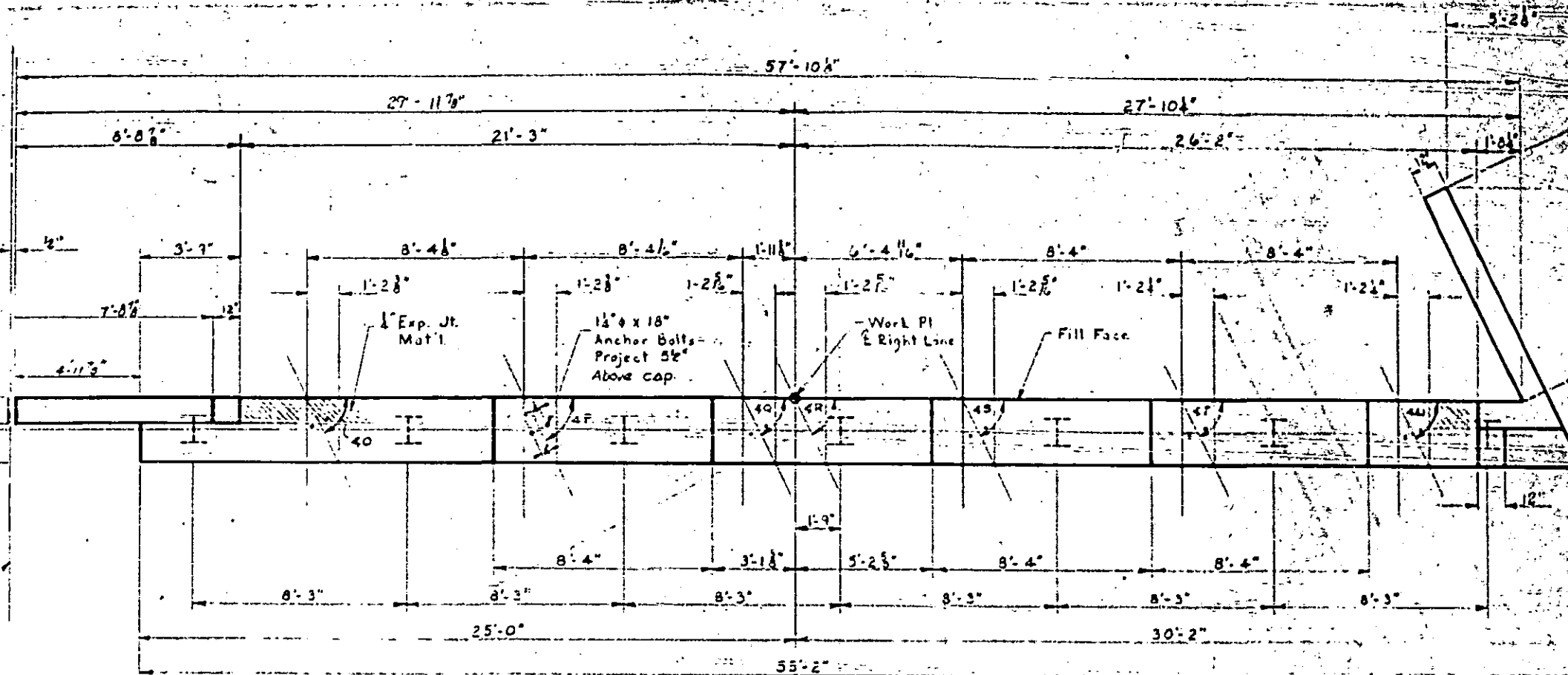
STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION

BENT NO. 1
RIGHT-WAY

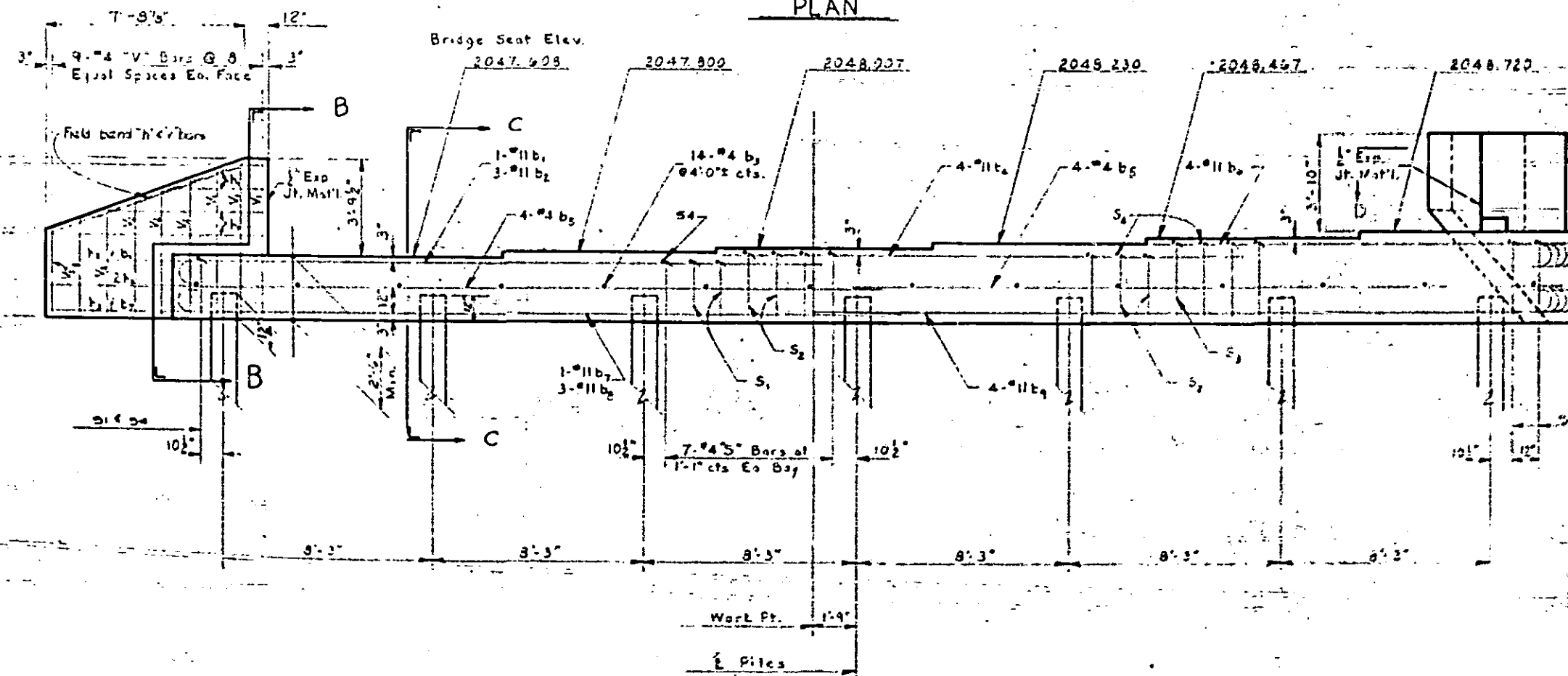
June 1967

NO.	DATE	BY	CHKD.
1	5-11-67		
2	5-11-67		
3	5-11-67		

Angle	Degrees
O	64° 22' 26"
P	64° 25' 13"
Q	64° 26' 03"
R	64° 28' 44"
S	64° 30' 54"
T	64° 33' 55"
U	64° 36' 56"



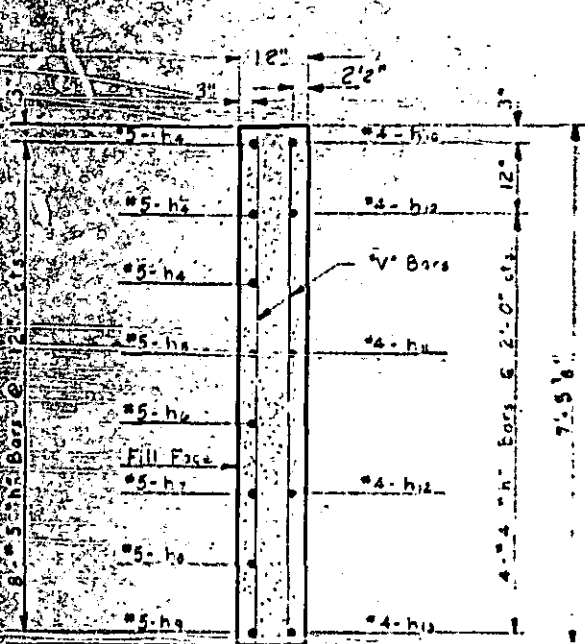
PLAN



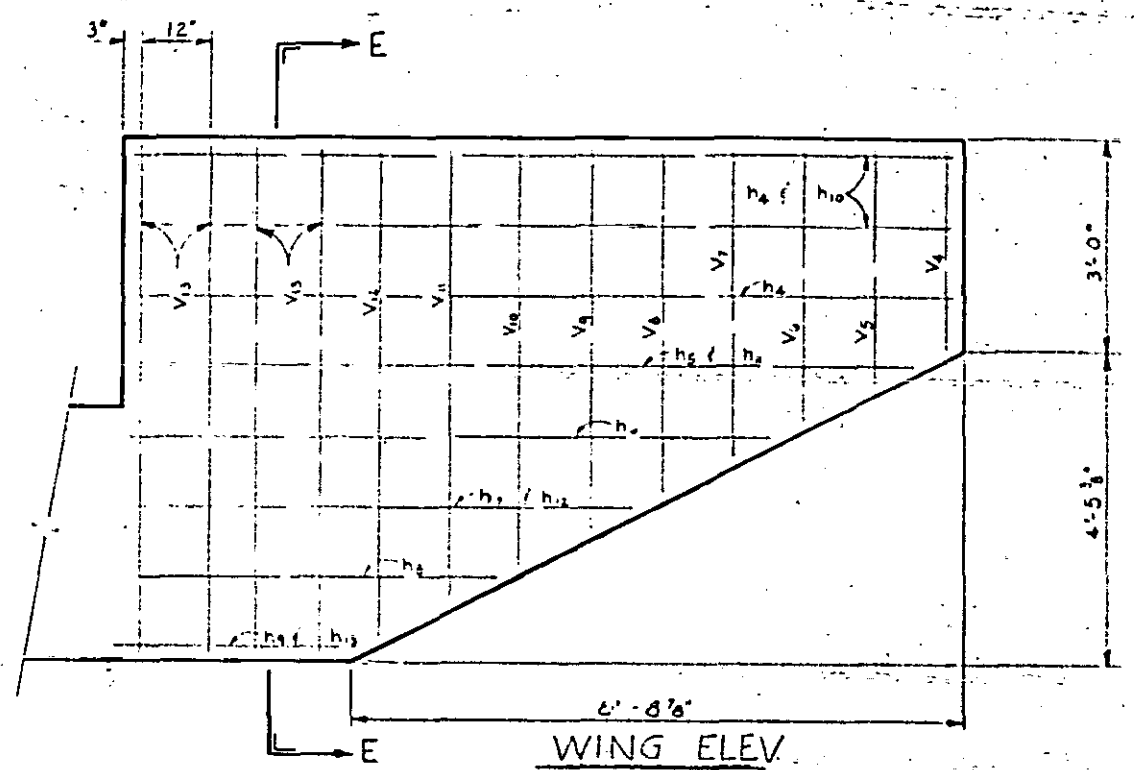
ELEVATION

PROJECT No. 8-1869003
 POLK COUNTY
 STATION 668+38.38
 Sheet 1 of 2 - J. L. Med.

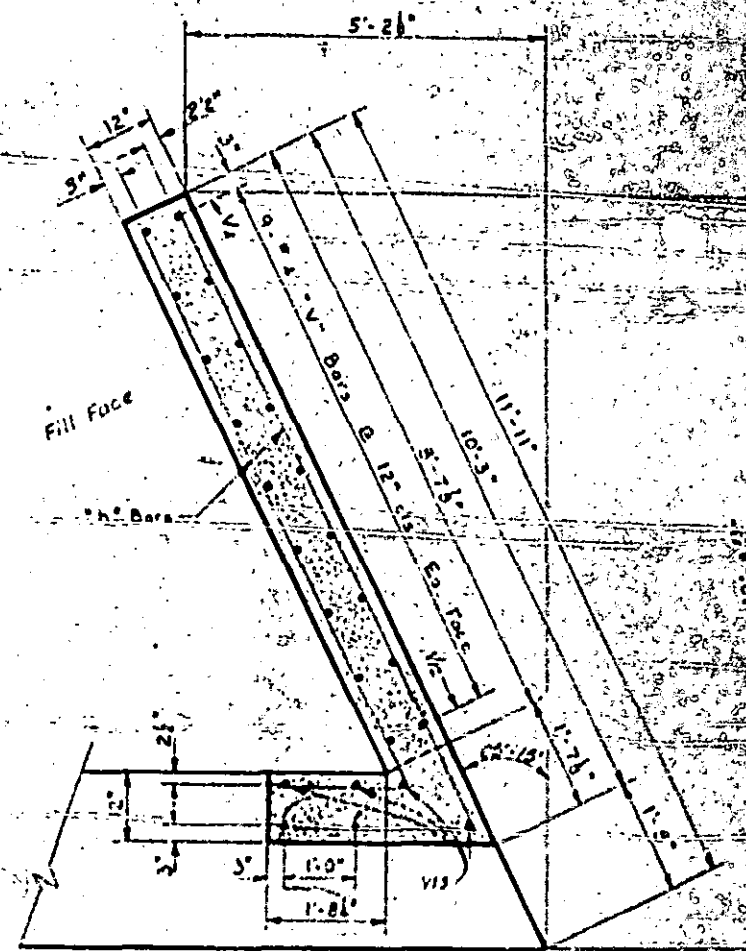
STATE OF NORTH CAROLINA	
STATE HIGHWAY COMMISSION	
SUBSTRUCTURE	
END RENT NO. 2	
P. C. PLANE	
REVISION	DATE



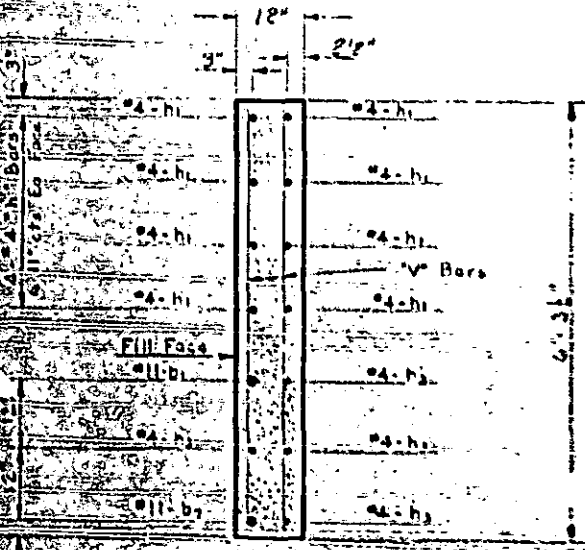
SECTION E-E



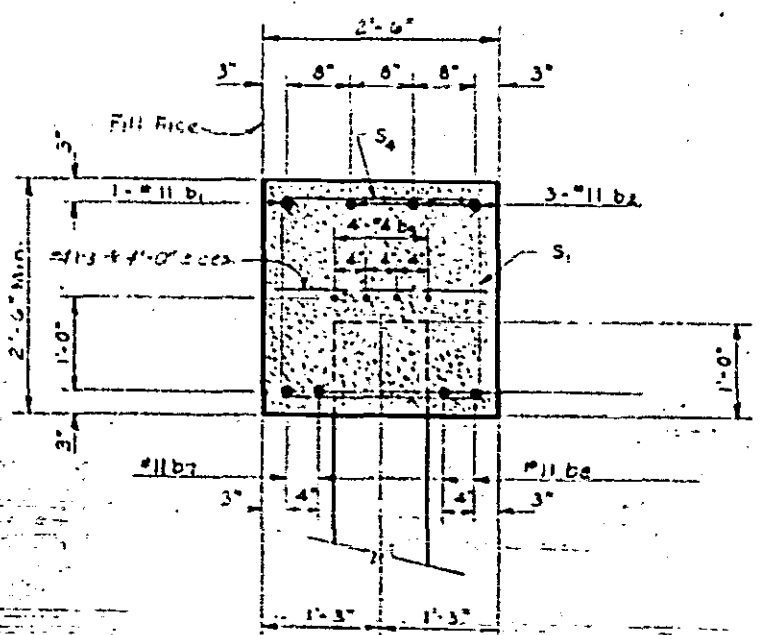
WING ELEV



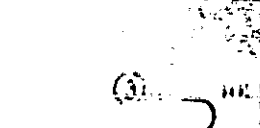
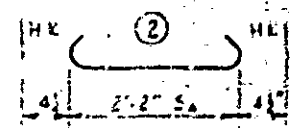
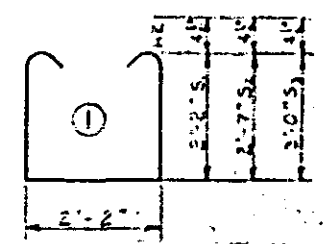
SECTION D-D



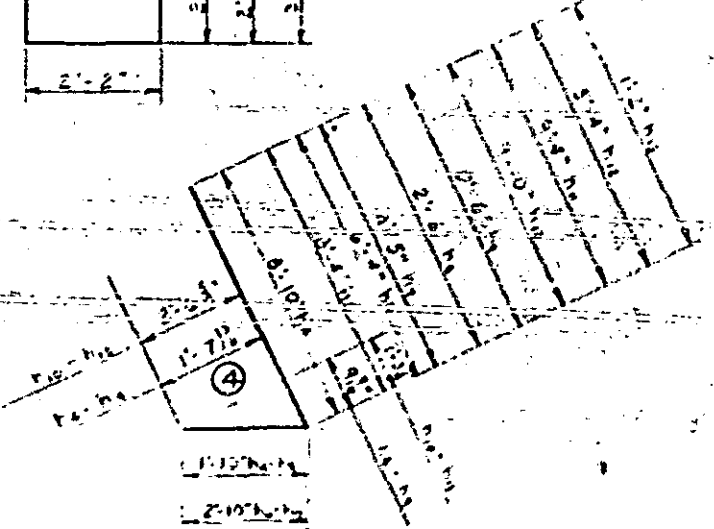
SECTION B-B



SECTION C-C



Bar Details
All dimensions are out to out.



BILL OF MATERIAL									
END BENTON									
NO.	QTY	TYPE	LENGTH	WEIGHT	NO.	QTY	TYPE	LENGTH	WEIGHT
1	1	4	12.0	1.10	1	1	4	12.0	1.10
2	1	4	12.0	1.10	2	1	4	12.0	1.10
3	1	4	12.0	1.10	3	1	4	12.0	1.10
4	1	4	12.0	1.10	4	1	4	12.0	1.10
5	1	4	12.0	1.10	5	1	4	12.0	1.10
6	1	4	12.0	1.10	6	1	4	12.0	1.10
7	1	4	12.0	1.10	7	1	4	12.0	1.10
8	1	4	12.0	1.10	8	1	4	12.0	1.10
9	1	4	12.0	1.10	9	1	4	12.0	1.10
10	1	4	12.0	1.10	10	1	4	12.0	1.10
11	1	4	12.0	1.10	11	1	4	12.0	1.10
12	1	4	12.0	1.10	12	1	4	12.0	1.10
13	1	4	12.0	1.10	13	1	4	12.0	1.10
14	1	4	12.0	1.10	14	1	4	12.0	1.10
15	1	4	12.0	1.10	15	1	4	12.0	1.10
16	1	4	12.0	1.10	16	1	4	12.0	1.10
17	1	4	12.0	1.10	17	1	4	12.0	1.10
18	1	4	12.0	1.10	18	1	4	12.0	1.10
19	1	4	12.0	1.10	19	1	4	12.0	1.10
20	1	4	12.0	1.10	20	1	4	12.0	1.10
21	1	4	12.0	1.10	21	1	4	12.0	1.10
22	1	4	12.0	1.10	22	1	4	12.0	1.10
23	1	4	12.0	1.10	23	1	4	12.0	1.10
24	1	4	12.0	1.10	24	1	4	12.0	1.10
25	1	4	12.0	1.10	25	1	4	12.0	1.10
26	1	4	12.0	1.10	26	1	4	12.0	1.10
27	1	4	12.0	1.10	27	1	4	12.0	1.10
28	1	4	12.0	1.10	28	1	4	12.0	1.10
29	1	4	12.0	1.10	29	1	4	12.0	1.10
30	1	4	12.0	1.10	30	1	4	12.0	1.10
31	1	4	12.0	1.10	31	1	4	12.0	1.10
32	1	4	12.0	1.10	32	1	4	12.0	1.10
33	1	4	12.0	1.10	33	1	4	12.0	1.10
34	1	4	12.0	1.10	34	1	4	12.0	1.10
35	1	4	12.0	1.10	35	1	4	12.0	1.10
36	1	4	12.0	1.10	36	1	4	12.0	1.10
37	1	4	12.0	1.10	37	1	4	12.0	1.10
38	1	4	12.0	1.10	38	1	4	12.0	1.10
39	1	4	12.0	1.10	39	1	4	12.0	1.10
40	1	4	12.0	1.10	40	1	4	12.0	1.10
41	1	4	12.0	1.10	41	1	4	12.0	1.10
42	1	4	12.0	1.10	42	1	4	12.0	1.10
43	1	4	12.0	1.10	43	1	4	12.0	1.10
44	1	4	12.0	1.10	44	1	4	12.0	1.10
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49	1	4	12.0	1.10	49	1	4	12.0	1.10
50	1	4	12.0	1.10	50	1	4	12.0	1.10
51	1	4	12.0	1.10	51	1	4	12.0	1.10
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55	1	4	12.0	1.10	55	1	4	12.0	1.10
56	1	4	12.0	1.10	56	1	4	12.0	1.10
57	1	4	12.0	1.10	57	1	4	12.0	1.10
58	1	4	12.0	1.10	58	1	4	12.0	1.10
59	1	4	12.0	1.10	59	1	4	12.0	1.10
60	1	4	12.0	1.10	60	1	4	12.0	1.10
61	1	4	12.0	1.10	61	1	4	12.0	1.10
62	1	4	12.0	1.10	62	1	4	12.0	1.10
63	1	4	12.0	1.10	63	1	4	12.0	1.10
64	1	4	12.0	1.10	64	1	4	12.0	1.10
65	1	4	12.0	1.10	65	1	4	12.0	1.10
66	1	4	12.0	1.10	66	1	4	12.0	1.10
67	1	4	12.0	1.10	67	1	4	12.0	1.10
68	1	4	12.0	1.10	68	1	4	12.0	1.10
69	1	4	12.0	1.10	69	1	4	12.0	1.10
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72	1	4	12.0	1.10	72	1	4	12.0	1.10
73	1	4	12.0	1.10	73	1	4	12.0	1.10
74	1	4	12.0	1.10	74	1	4	12.0	1.10
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76	1	4	12.0	1.10	76	1	4	12.0	1.10
77	1	4	12.0	1.10	77	1	4	12.0	1.10
78	1	4	12.0	1.10	78	1	4	12.0	1.10
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80	1	4	12.0	1.10	80	1	4	12.0	1.10
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84	1	4	12.0	1.10	84	1	4	12.0	1.10
85	1	4	12.0	1.10	85	1	4	12.0	1.10
86	1	4	12.0	1.10	86	1	4	12.0	1.10
87	1	4	12.0	1.10	87	1	4	12.0	1.10
88	1	4	12.0	1.10	88	1	4	12.0	1.10
89	1	4	12.0	1.10	89	1	4	12.0	1.10
90	1	4	12.0	1.10	90	1	4	12.0	1.10
91	1	4	12.0	1.10	91	1	4	12.0	1.10
92	1	4	12.0	1.10	92	1	4	12.0	1.10
93	1	4	12.0	1.10	93	1	4	12.0	1.10
94	1	4	12.0	1.10	94	1	4	12.0	1.10
95	1	4	12.0	1.10	95	1	4	12.0	1.10
96	1	4	12.0	1.10	96	1	4	12.0	1.10
97	1	4	12.0	1.10	97	1	4	12.0	1.10
98	1	4	12.0	1.10	98	1	4	12.0	1.10
99	1	4	12.0	1.10	99	1	4	12.0	1.10
100	1	4	12.0	1.10	100	1	4	12.0	1.10

PROJECT No. 81869003
POLK COUNTY
STATION 668 + 38.98
2 MED

STATE OF NORTH CAROLINA
STATE HIGHWAY COMMISSION
SUBSTRUCTURE
END RIGHT-LANE

Reel 927

Pos ①

POIK#98

2 copies of the original...
and copies to the...
[Signature]

RIGHT LANE
Project No 8-1068
POLK Co
Station 668-1068
10-27-58

GENERAL INFORMATION	
Project No	8-1068
Station	668-1068
Date	10-27-58
Drawn by	[Signature]
Checked by	[Signature]
Scale	1" = 100'
Notes	

STATE HIGHWAY COMMISSION	
Project No	8-1068
Station	668-1068
Date	10-27-58
Drawn by	[Signature]
Checked by	[Signature]
Scale	1" = 100'
Notes	

Begin Bridge

5% Side

END BENT - 1

2016.0'
2017.0'
2018.0'
2019.0'
2020.0'
2021.0'
2022.0'
2023.0'
2024.0'
2025.0'
2026.0'
2027.0'
2028.0'
2029.0'
2030.0'
2031.0'
2032.0'
2033.0'
2034.0'
2035.0'
2036.0'
2037.0'
2038.0'
2039.0'
2040.0'
2041.0'
2042.0'
2043.0'
2044.0'
2045.0'
2046.0'
2047.0'
2048.0'
2049.0'
2050.0'

EXISTING Ground Line

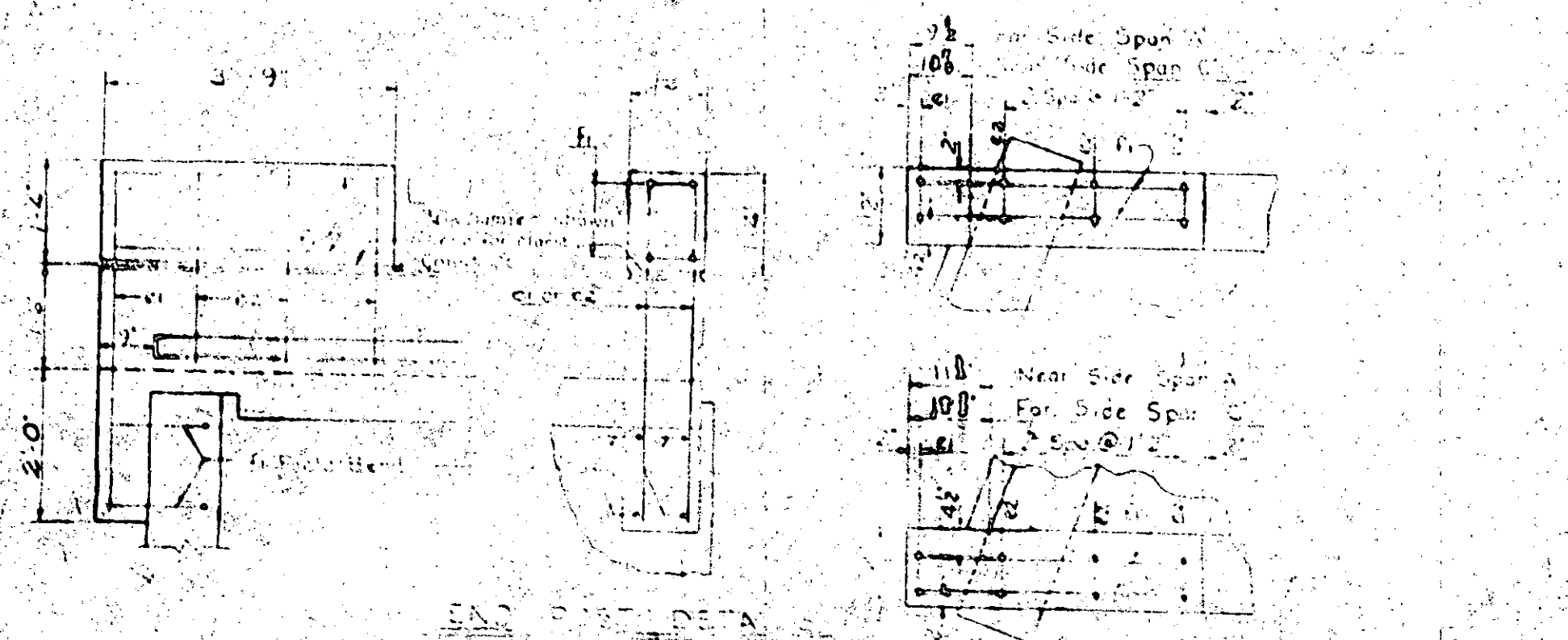
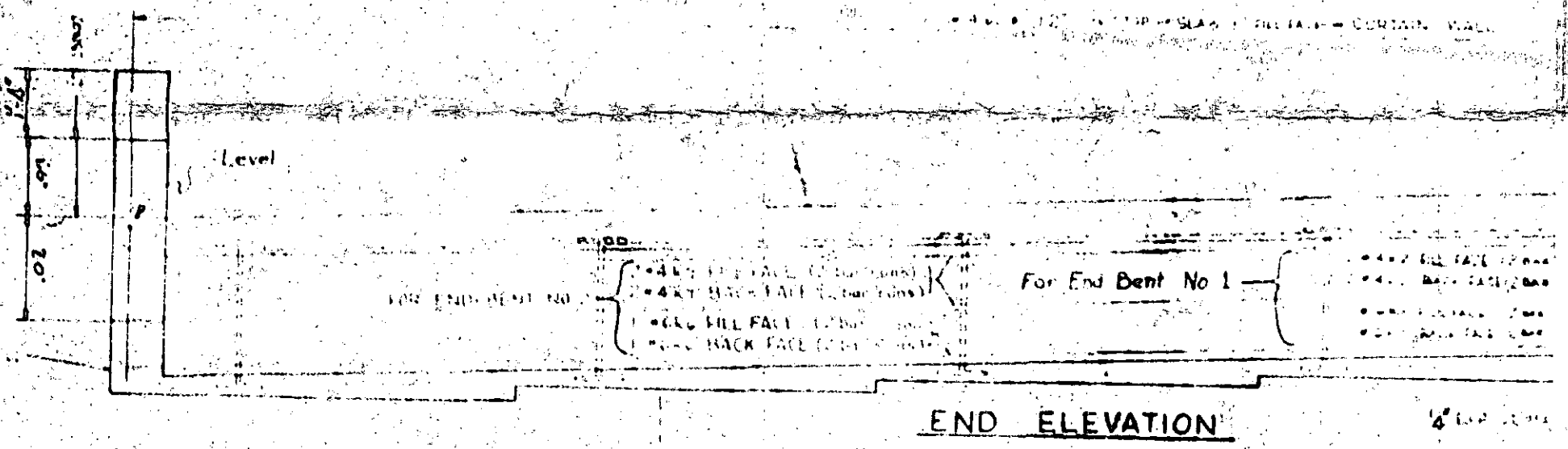
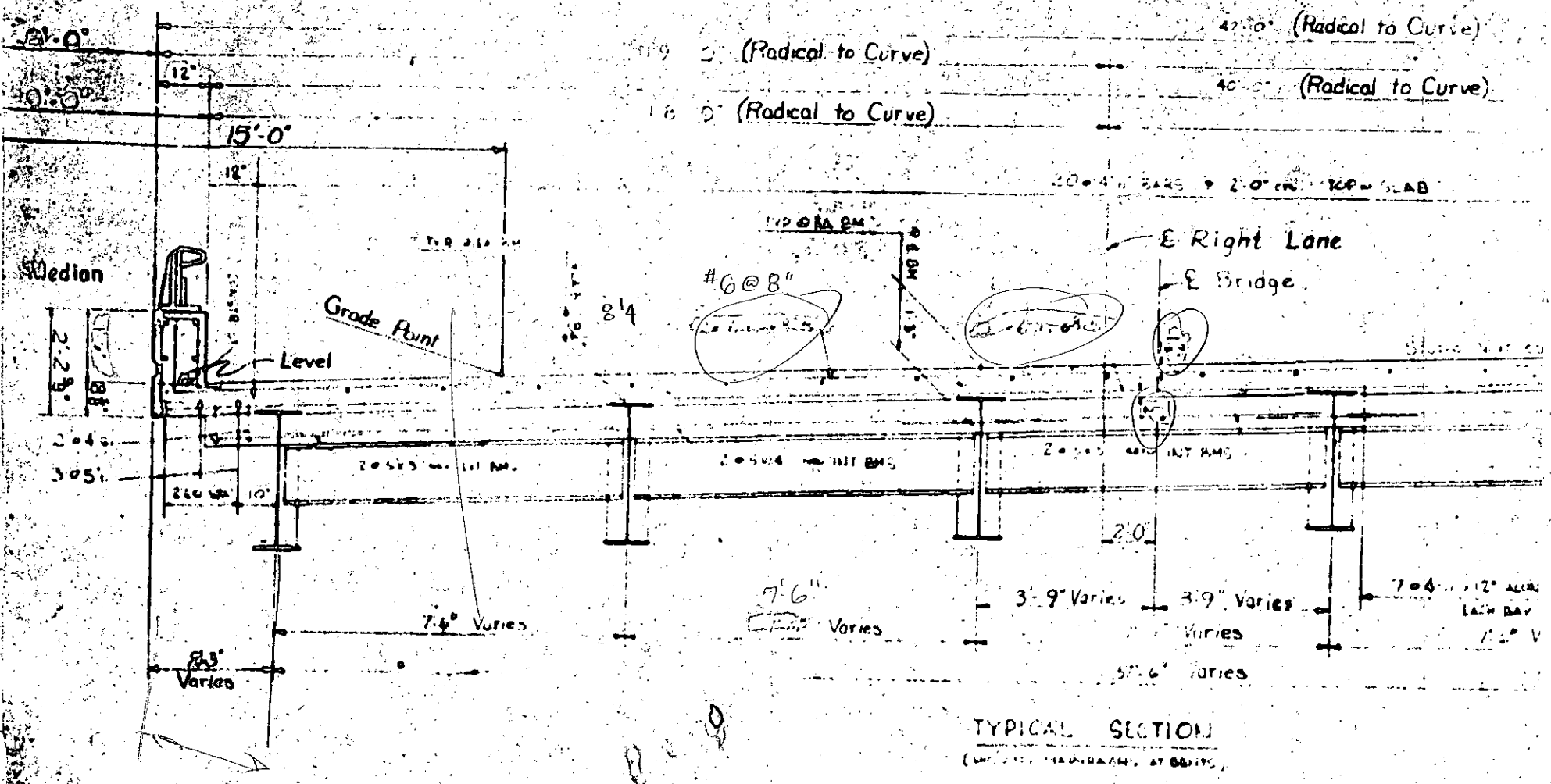
2046.0'
2047.0'
2048.0'
2049.0'
2050.0'

2035.0'

2030

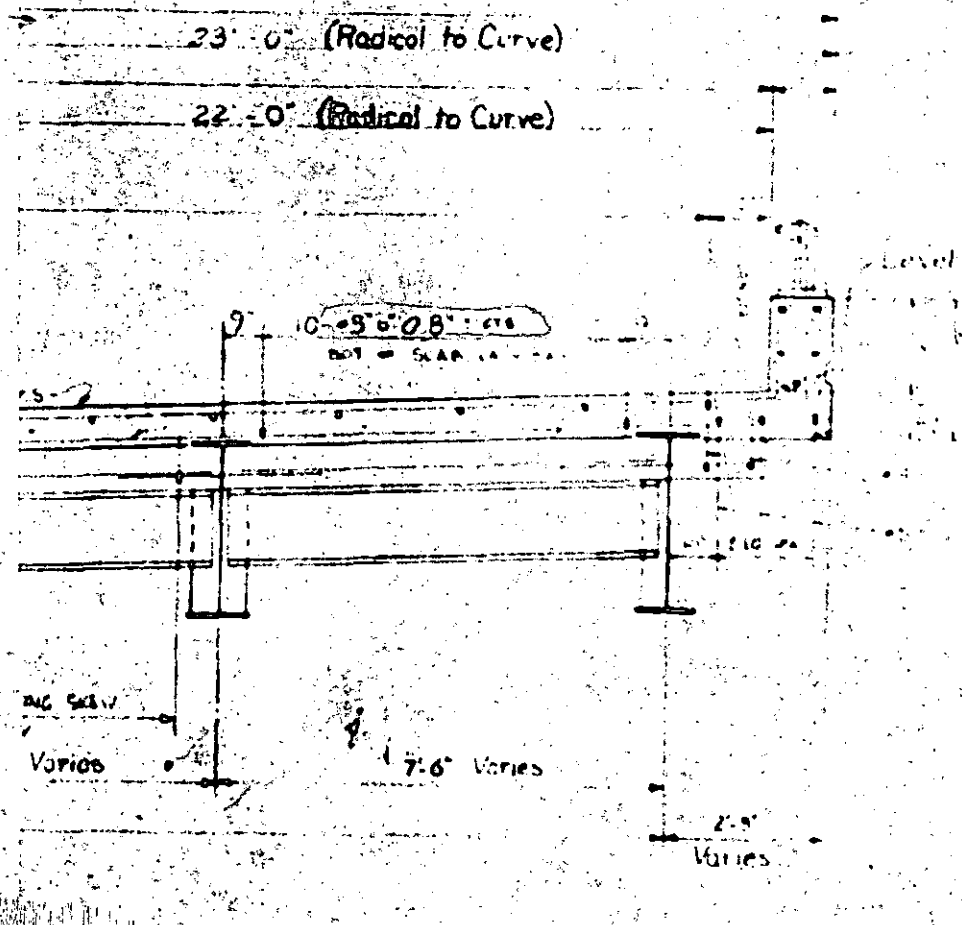
N.B.

SEE POLK THRS
FOR CLEARER
SET OF PLANS

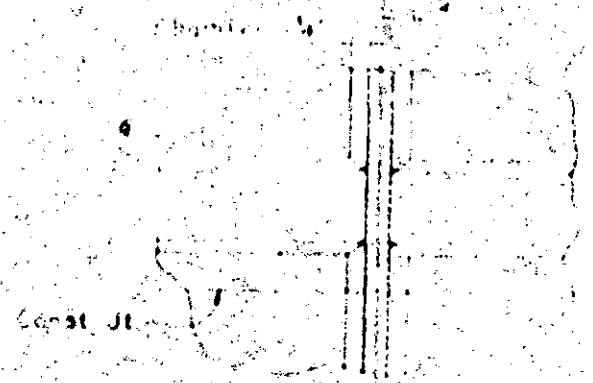
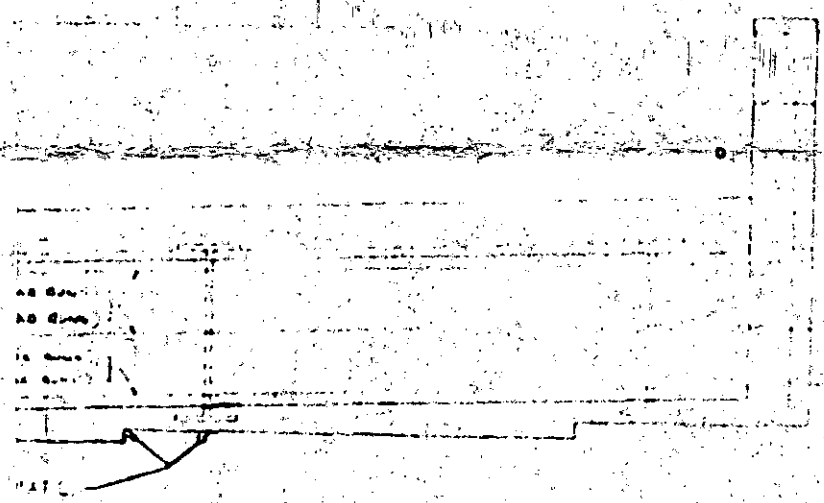


NO. 65

Assumed Live Load
Concrete
Reinforcing steel
For other details refer to
For bars shown in the
Expansion joints to be
filled with asphalt material.



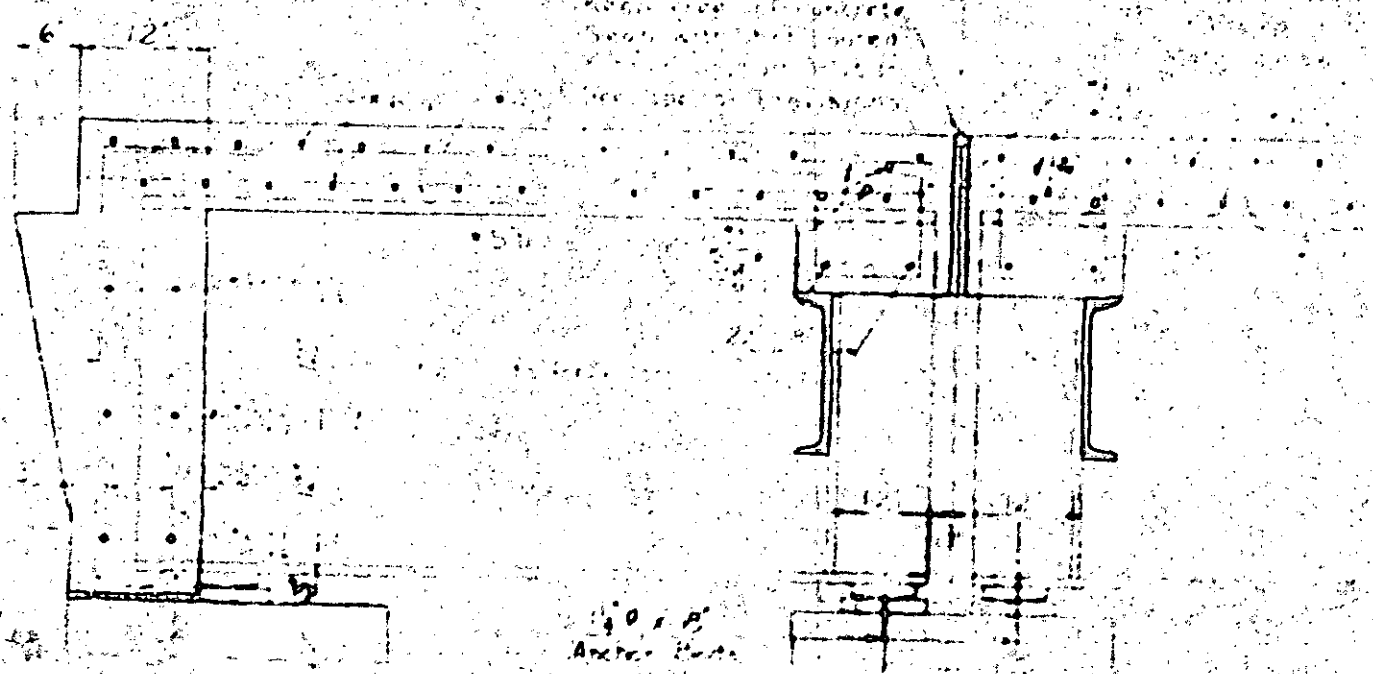
SECTION THRU PARAPET



PARAPET GROOVE

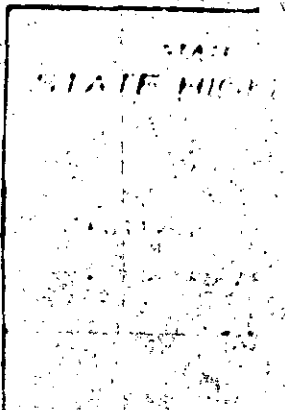
Bent #2 12' Exp J Mat'l
Bent #1 6' Exp J Mat'l

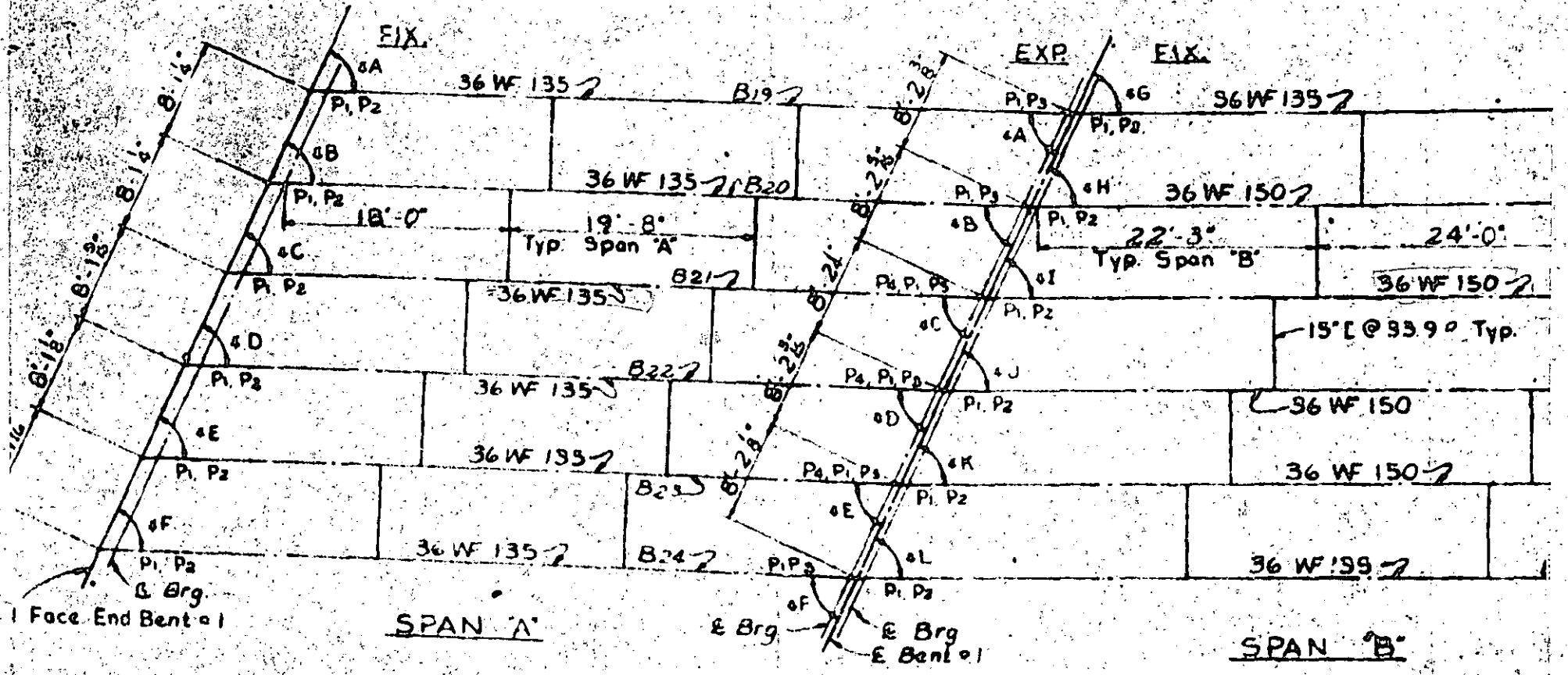
Reinforce concrete
Seal with bitumen



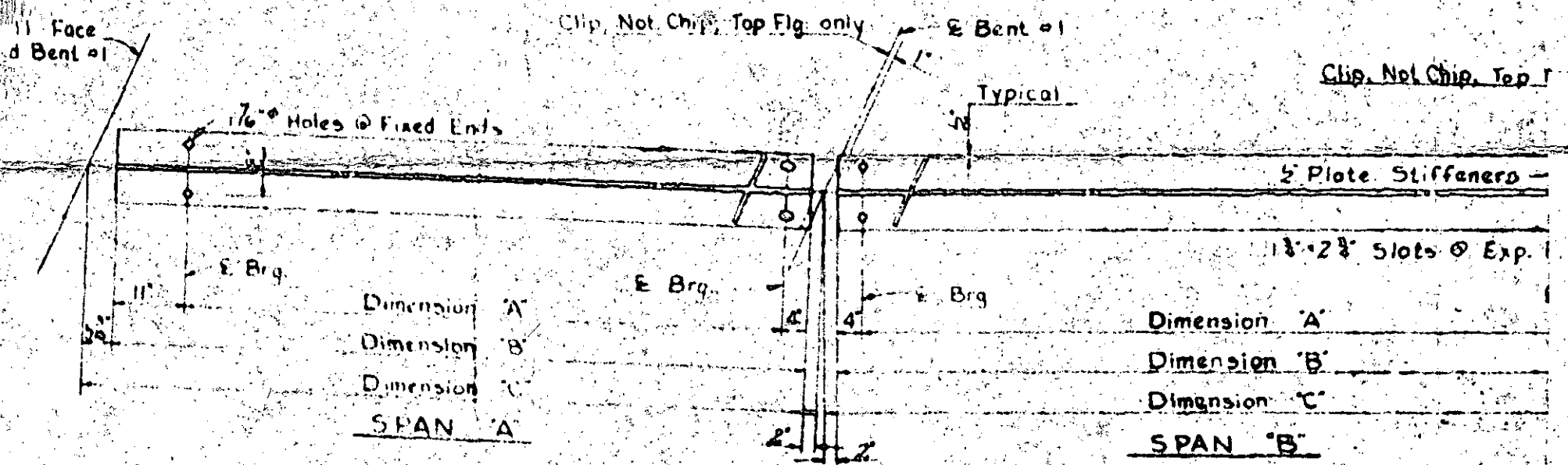
SECTION A-A

PROJE
WORK
STATIC

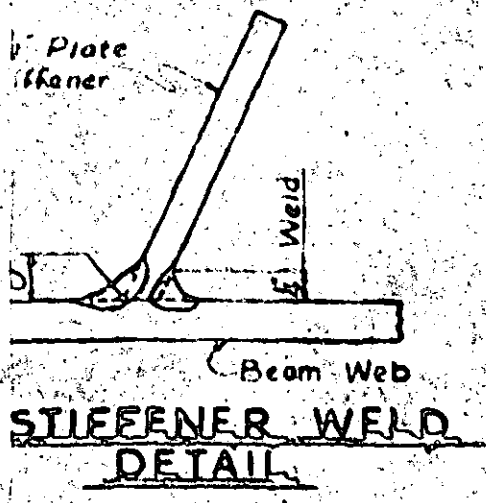




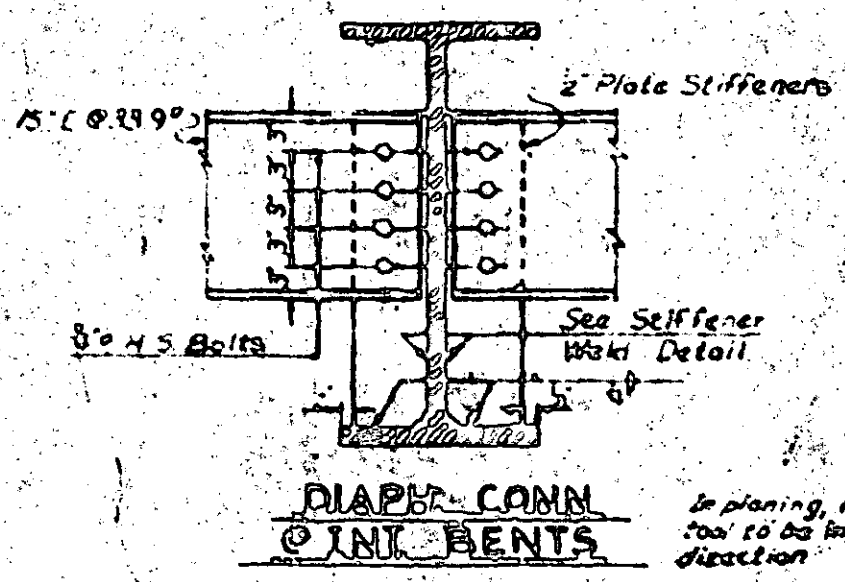
LAYOUT SKETCH
 (Showing Location of Brg. R's & Steel Diaphragm)



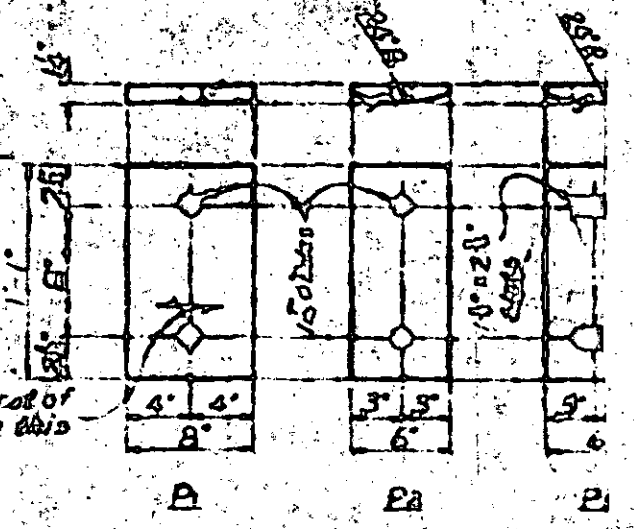
BOTTOM FLANGE DETAIL



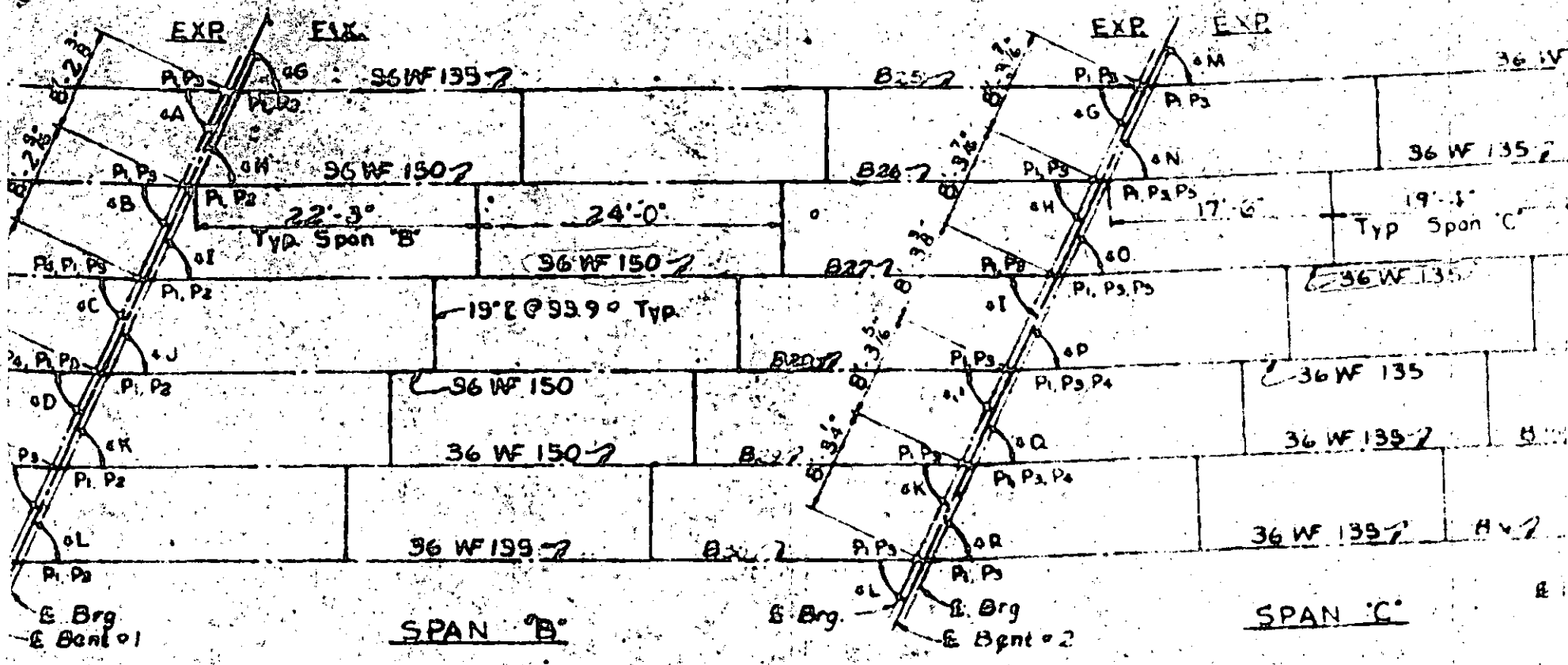
STIFFENER WELD DETAIL



DIAPHRAGM CONN @ INT. BENTS

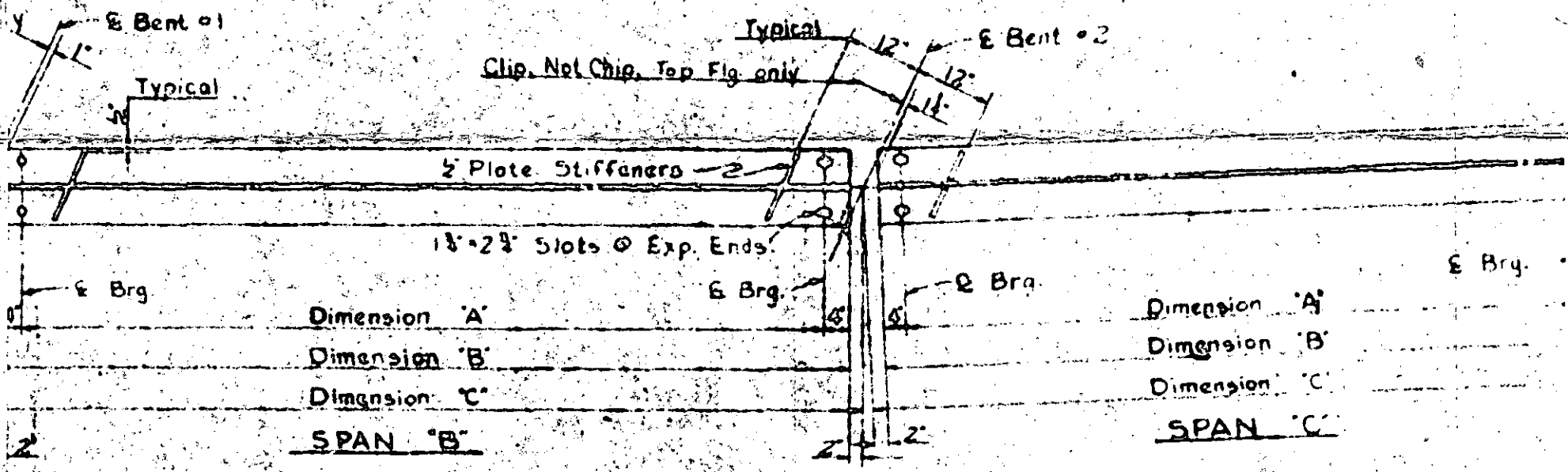


BEARING PLATE
 Required: 36 P, 18 Pa, 18



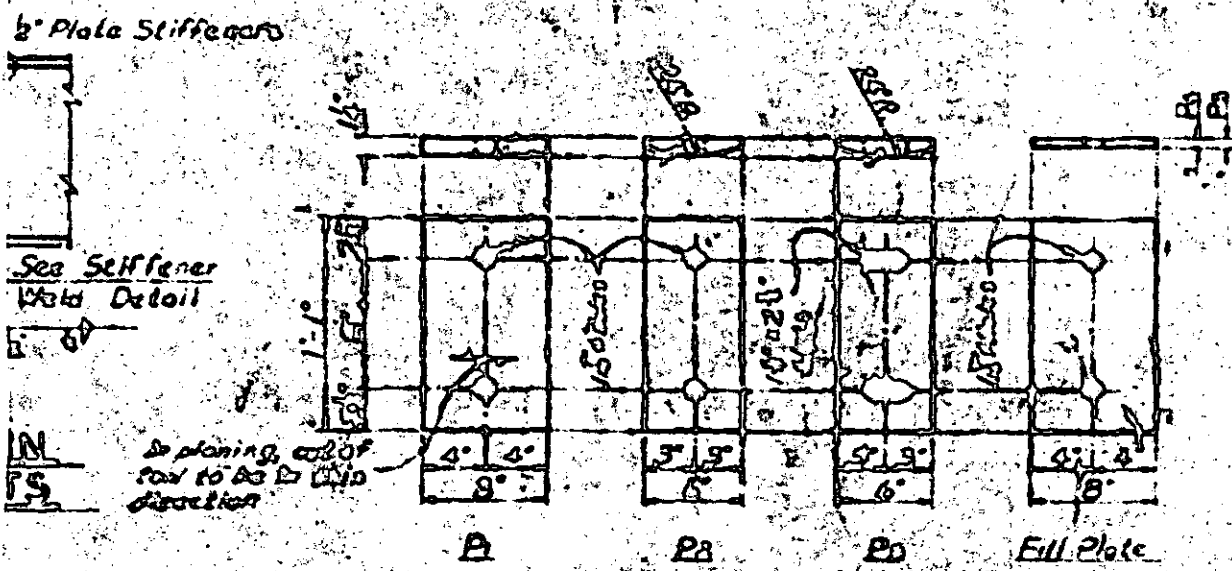
LAYOUT SKETCH

(Showing Location of Brg. R's & Steel Diaphragms)



BOTTOM FLANGE DETAIL

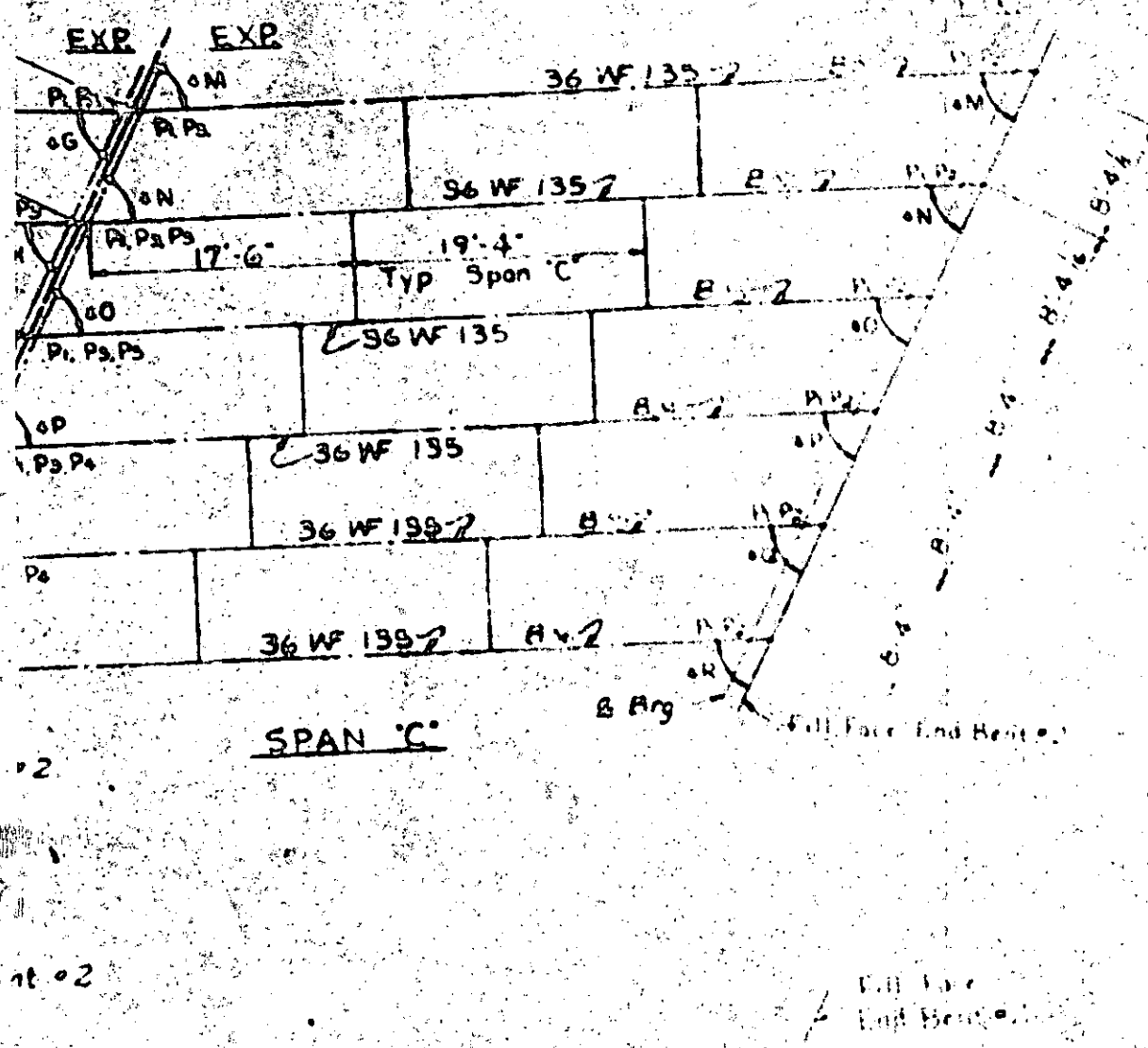
DEFLECTION TA	
	SPAN
Deflection due to beam weight	INT. E
Deflection due to superimposed DL	6"
Total Deflection	16"
Curve shift	16"
Comber Beams	7"



BEARING PLATE DETAILS

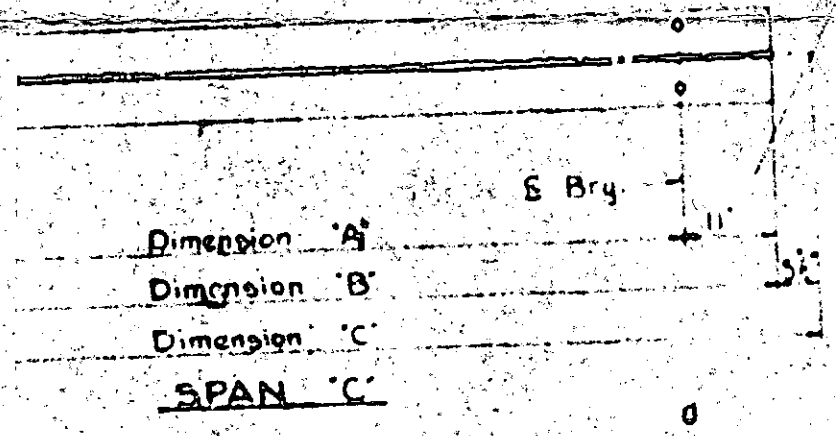
Required 36 P1, 10 P2, 19 P3, 5 P4, 2 P5

APPROX STRUCTURAL S	
Span A	5'
Span B	8'
Span C	5'
Total	18'



Point	Angle 1	Angle 2	Angle 3
A	64:28:28	J	65:38:07
B	66:59:11	K	65:42:13
C	67:03:52	L	65:46:22
D	67:04:33	M	64:32:26
E	67:04:33	N	64:35:13
F	67:04:33	O	64:28:03
G	67:04:33	P	64:30:57
H	67:04:33	Q	64:35:59
I	67:04:33	R	64:36:56

Beam	Dimen A	Dimen B	Dimen C
B19	59	60	118
B20	59	60	118
B21	59	60	118
B22	58	60	118
B23	58	60	118
B24	58	60	118
B25	70	71	141
B26	70	71	141
B27	70	71	141
B28	70	71	141
B29	70	71	141
B30	70	71	141
B31	70	71	141
B32	58	59	117



	SPAN 'A'		SPAN 'B'		SPAN 'C'	
	INT.	EXT.	INT.	EXT.	INT.	EXT.
Deflection due to beam weight	5/8	3/8	7/8	3/8	1 1/8	3/8
Deflection due to superimposed DL	6	2 1/2	1 1/8	1 1/8	1 1/8	1 1/8
Total Deflection	1 1/8	3 1/8	1 1/8	1 1/8	1 1/8	1 1/8
Curve shift	3/8	3/8	3/8	3/8	3/8	3/8
Comber Beams	3/8	3/8	3/8	3/8	3/8	3/8

PROJECT NO 81869003
 POLK COUNTY
 STATION 668 + 38.38 P.C.
 RIGHT LANE

Span A	59	00
Span B	18	00
Span C	5	00
Total	82	00

STATE HIGHWAY COMMISSION
 STRUCTURAL STEEL
 DETAILS

Studs Per Bm

448	30 Spa @ 5' - 12'-6"	17 Spa @ 7' - 9'-11"	8 Equal Sp
312	19 Spa @ 7' - 11'-1"	12 Spa @ 10' - 10'-0"	7 Equal Sp
536	35 Spa @ 5' - 14'-7"	21 Spa @ 7' - 12'-3"	10 Equal Sp
376	24 Spa @ 7' - 14'-0"	14 Spa @ 10' - 11'-8"	8 Equal Sp
440	29 Spa @ 5' - 12'-1"	17 Spa @ 7' - 9'-11"	8 Equal Sp
304	18 Spa @ 7' - 10'-6"	12 Spa @ 10' - 10'-0"	7 Equal Sp

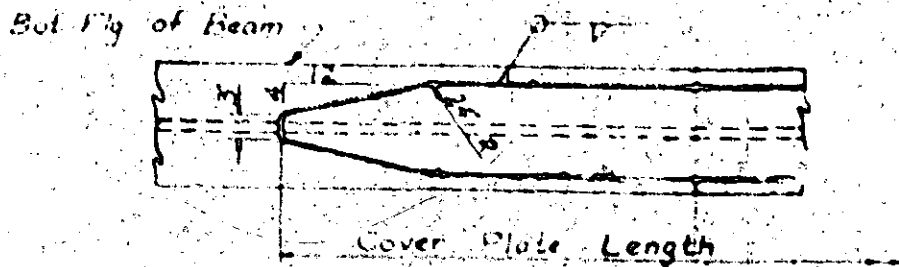
£ Brg

36 W 135	Ext. & Int. Bms - Span 'A' or 'C'
36 W 135	Ext. Bms - Span 'B'
36 W 150	Int. Bms - Span 'B'

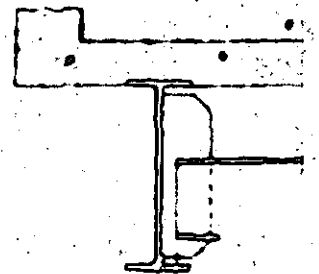
NOTE: At the contractor's option he may substitute for the cover plates designated on the plans cover plates of equivalent area provided these plates are at least 3/8" in thickness and do not exceed a width equal to the flange width less 2" or a thickness equal to 1 1/2 times the flange thickness. The size of the weld for attaching these cover plates shall be in accordance with the AWS Specifications.

19'-6"	Int. Bms - Span 'A'
18'-3"	Ext. Bms - Span 'A'
25'-3"	Int. Bms - Span 'B'
25'-9"	Ext. Bms - Span 'B'
18'-9"	Int. Bms - Span 'C'
17'-6"	Ext. Bms - Span 'C'
10' x 1/2" x 39'-0"	Interior Bms
8' x 1/2" x 36'-6"	Exterior Bms
10' x 1/8" x 50'-6"	Interior Bms
10' x 1/8" x 51'-6"	Exterior Bms
10' x 1/2" x 37'-6"	Interior Bms
6' x 1/2" x 35'-0"	Exterior Bms

SHEAR STUD SPACING & COVER PLATE DET.



COVER PLATE WELD DETAIL



MIDSE

NOTE: 11

Spaces	6'	Int Bms	Span A
Spaces	6'	Ext Bms	Span A
Spaces	6'	Int Bms	Span B
Spaces	6'	Ext Bms	Span B
Spaces	6'	Int Bms	Span C
Spaces	6'	Ext Bms	Span C

Stud spacing
symmetrical about
E between bearings

Span A	-----
Span B	-----
Span C	-----

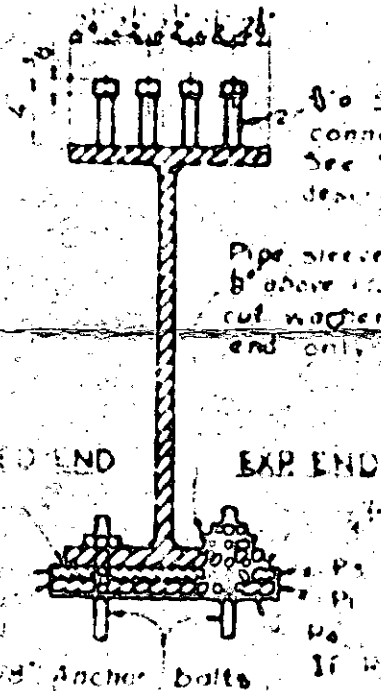
NOTES

All beams and cover plates shall be grade structural steel unless otherwise specified.

No web stiffeners are required on all beams, except at and between intermediate points to ends of beams.

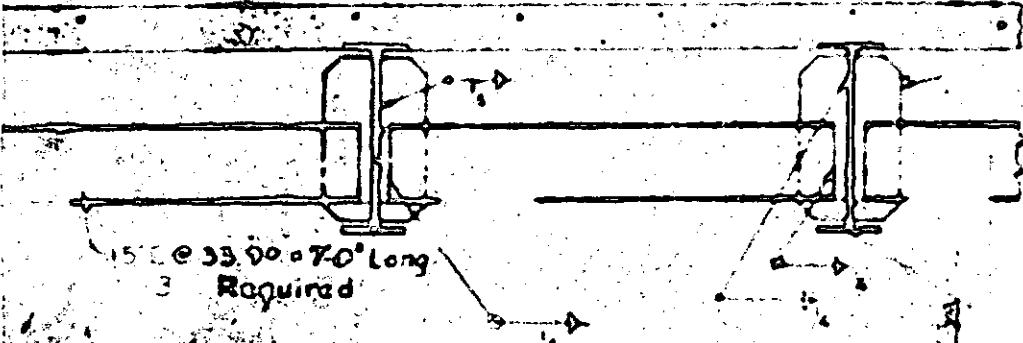
The contractor shall at all times comply with the contract provisions for structural steel connections detailed in the web of the channels, diaphragm and intermediate diaphragm connections.

All connections shall be made in accordance with the specifications for steel.



SECTION THRU BEAM

TAILS



BEAM DIAPHRAGM CONNECTION DETAIL

In lieu of the welding procedure for snap and field welds indicated for the intermediate diaphragm connections, the contractor may, at his option, shop weld the connector plates to the beam web and field weld the channels to the connector plates. Special care in handling the beams must be observed if connector plates are shop welded to the beam web.

PROJECT 1
POLK
STATION

STATE HIGHWAY
STRUCTURE
DET

W 12 x 22	1/2"	1/2"
•	1/2"	0.1059205
I-23 • 1/10/27		

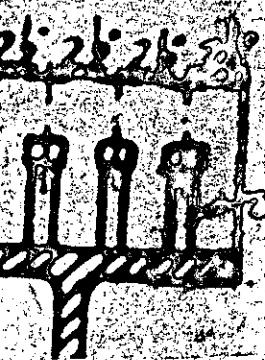
NOTES

All beams and cover plates shall be of ASTM A-36 grade structural steel. See S-N Sheet.

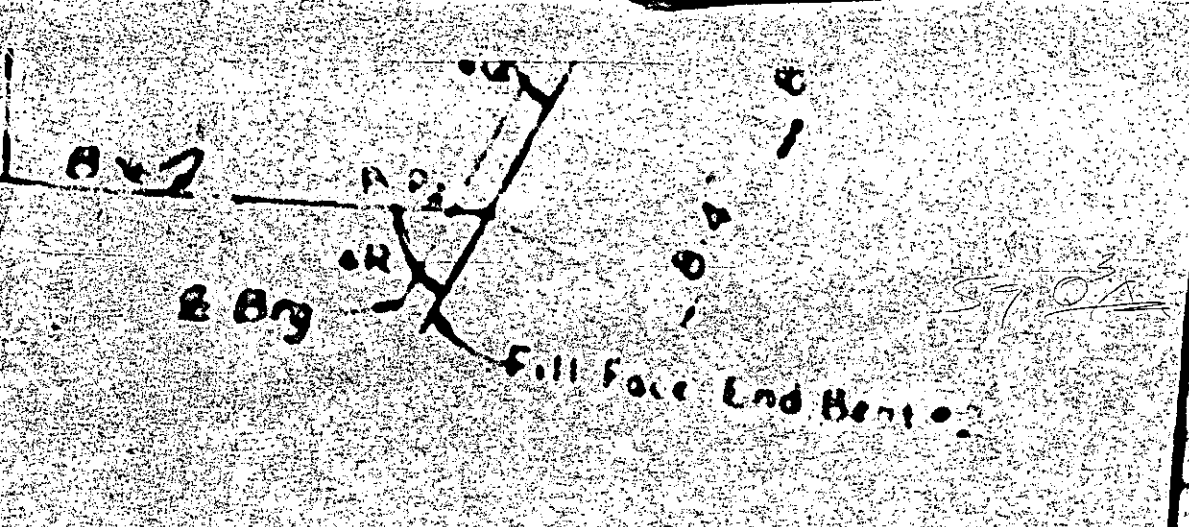
No web stiffeners are required on outside of exterior beams or at End Bents. Stiffeners are to be parallel to ends of beams.

The contractor may at his option but without change in the contract price of structural steel, use split IAWF 50 connections bolted to the web of beam and welded to the channel diaphragm in lieu of the welded plate intermediate diaphragm connections shown.

At contractor's option fill plates, when used, may be combined with masonry plate.

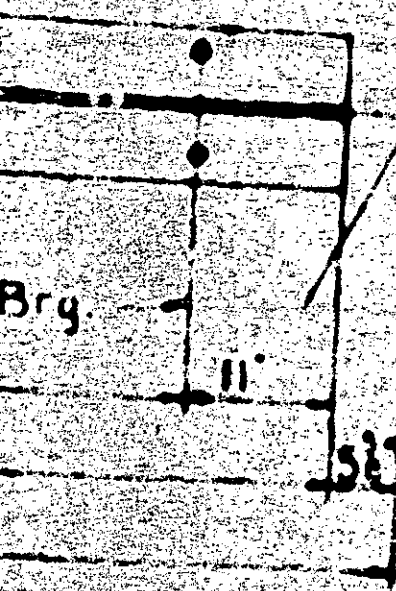


3" Stud shear
connectors
See Special Provisions for
description of all



70.10

Full Face End Bent



BEAM LENGTHS			
BEAM	DIMEN A	DIMEN B	DIMEN C
B19	59' 1"	60' 3"	60' 11 1/2"
B20	59' 0"	60' 3"	60' 10 1/2"
B21	59' 0"	60' 3"	60' 10 1/2"
B22	58' 11"	60' 3"	60' 10 1/2"
B23	58' 11"	60' 3"	60' 10 1/2"
B24	58' 11"	60' 3"	60' 9 1/2"
B25	70' 11"	71' 7"	71' 11 1/2"
B26	70' 10 1/2"	71' 6 1/2"	71' 10 1/2"
B27	70' 10 1/2"	71' 6 1/2"	71' 10 1/2"
B28	70' 10 1/2"	71' 6"	71' 10 1/2"
B29	70' 9 1/2"	71' 5 1/2"	71' 9 1/2"
B30	70' 9 1/2"	71' 5 1/2"	71' 9 1/2"
B31	58' 1"	59' 4"	59' 11 1/2"
B32	58' 0 1/2"	59' 3 1/2"	59' 11 1/2"
B33	58' 0 1/2"	59' 3 1/2"	59' 11 1/2"
B34	58' 0 1/2"	59' 3 1/2"	59' 11 1/2"
B35	57' 11"	59' 2 1/2"	59' 10 1/2"
B36	57' 11"	59' 2 1/2"	59' 10 1/2"

TABLE		
SPAN 'A'	SPAN 'B'	SPAN 'C'