

FED. ROAD DIST. NO.	STATE	STATE PROJ. NO.	CONTRACT NO.	SECTION NO.	TOTAL SHEETS
14	N.C.	8233		5	6
F.A. Proj. U-150(4)					

INDEX OF SHEETS

Sheet No. 1. Title Page

2. Estimate of Quantities

3. Typical Cross Section of Improvement

325 Standard # 303 "Width of Water Channels"

325 Standard # 305 "Slopes Drains Etc"

350 Standard # 311 "Road Shoulder Gravel"

4.5 Signs and Profile

6.8 Cross-sections

51.3 Structures

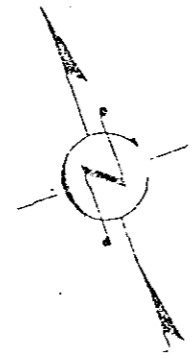
STATE OF NORTH CAROLINA
 STATE HIGHWAY AND PUBLIC WORKS COMMISSION
 PLAN AND PROFILE OF PROPOSED
 STATE HIGHWAY
 CLEVELAND COUNTY

Grading for Underpasses under Morgan Street, Southern Bell Road and Lafayette Street in Shelby, N.C. Beginning of Sta. 101+75 to 101+75 of old State Proj. 8233 and old F.A. Proj. U-150(3) and Running thence in a general South Easterly direction to Sta. 105+25 to 105+25 of old State Proj. 8233 and old F.A. Proj. U-150(3)

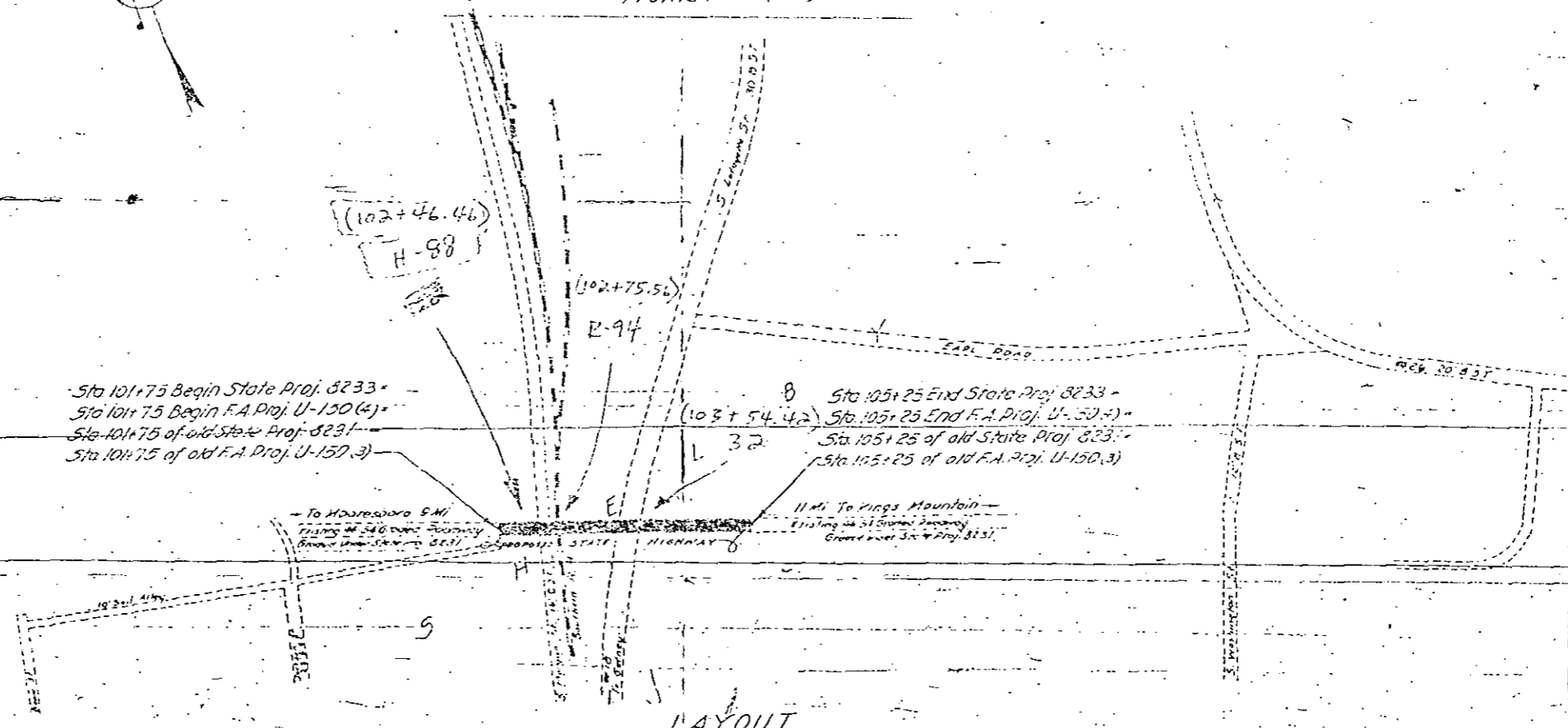
CONVENTIONAL SIGNS

County Line	_____
Township Line	_____
City or Town Line	_____
Right of Way Line	_____
Survey Line	_____
Property Line	_____
Wire Fence	_____
Board Fence	_____
Present Traveled Road	_____
Railroad	_____
Grade Elevation	Datum $\frac{5}{8}$
Ground Elevation	Datum $\frac{5}{8}$
Pipe Culvert	_____
Box Culvert	_____
Woods	_____
Telephone or Telegraph Pole	_____
Tower Pole and Line	_____
Power Pole	_____

SHIPPING POINT
 SHELBY, N.C.



SCALE S
 Plan 1"=100'
 Profile 1"=100' (Hor)
 Profile 1"=10' (Ver)



LAYOUT
 Scale 1"=100'
 Length Roadway F.A. Proj. U-150(4) - 0.066 Mi.

Prepared in Office of
 STATE HIGHWAY AND PUBLIC WORKS COMMISSION
 RALEIGH, N.C.

Reviewed by: Austin Thompson
 Date: 70-27-1949

1946
 State Standard Specifications
 Approved by: Hajjau Control
 Date: 11-18-47

Note: Right of Way on this project is 150 feet wide.

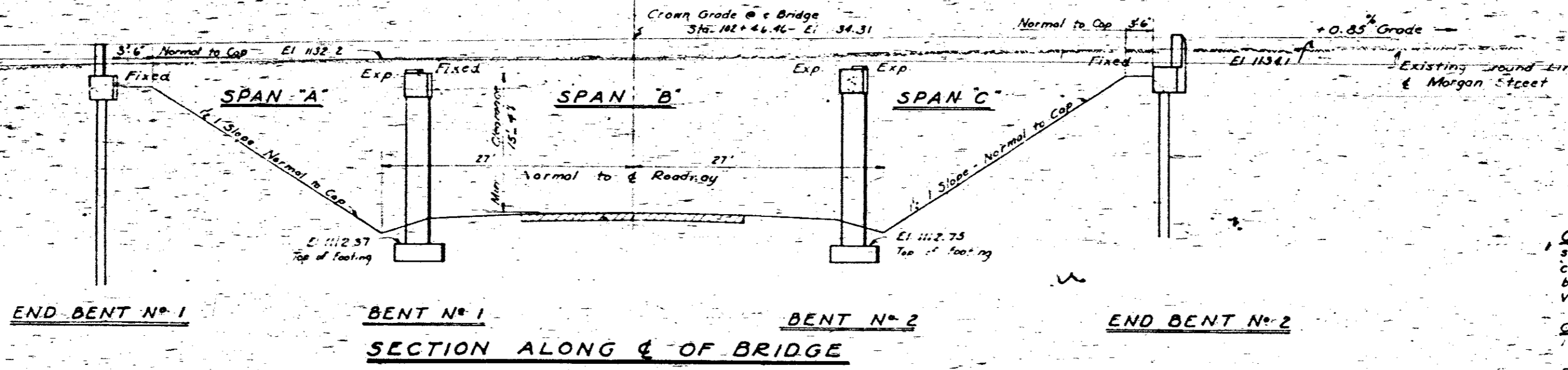
APPROVED: W.H. Perry

RECOMMENDED FOR APPROVAL _____ DATE _____
 DISTRICT ENGINEER
 PUBLIC ROADS ADMINISTRATION
 FEDERAL WORKS AGENCY

APPROVED _____ DATE _____
 DIVISION ENGINEER
 PUBLIC ROADS ADMINISTRATION
 FEDERAL WORKS AGENCY

NOTE: This bridge is to be built on a 0.85% grade. The handrails, slabs, and curbs shall conform to the grade. Handrail post to be built plumb. Elevations shown do not include any allowance for dead load deflections, which shall be provided for in addition to the elevations given. The finished structure shall have the elevations shown.

PROJECT NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
8233	N.C.	8233	1	1
R.A. Proj. U-150 (4)				

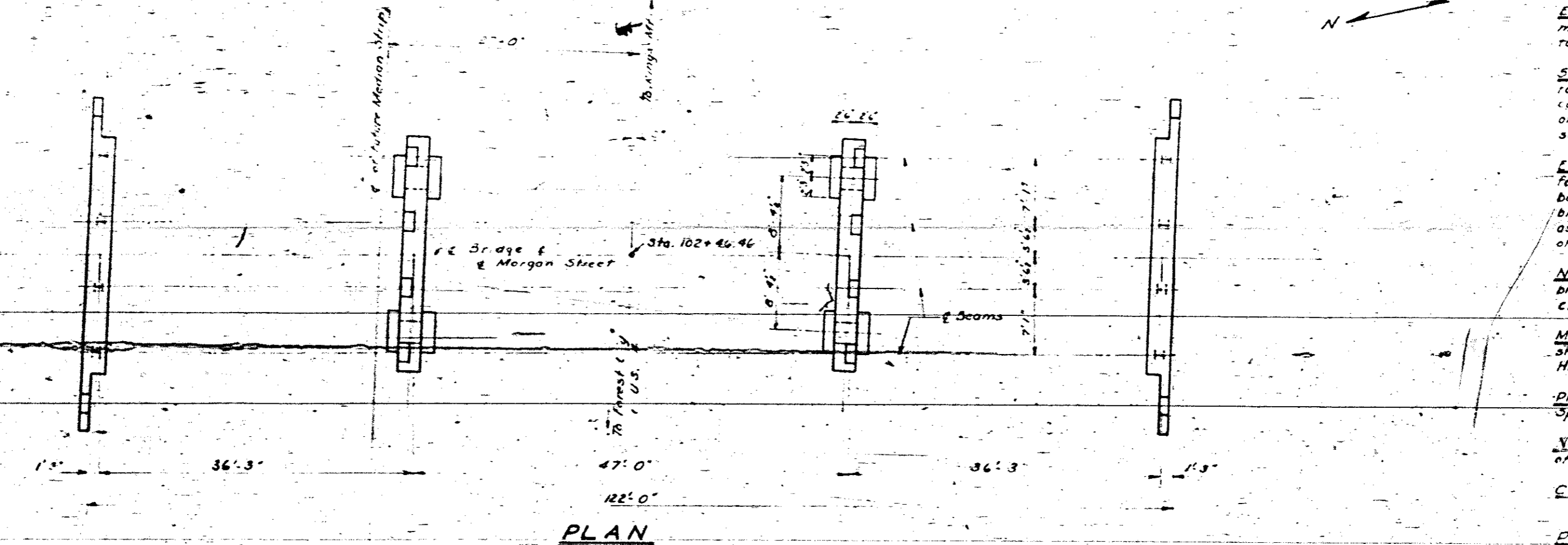


DESIGN DATA

- Specifications A.A.S.H.O. (1938)
- Assumed Live Load: HS-15
 - Impact Allowance: See Specifications
 - Stress in Extreme Fibre of Structural Steel: 18000 lbs per sq in.
 - Reinforcing Steel in Tension: 18000 lbs per sq in.
 - Concrete in Compression: 1000 lbs per sq in.
 - Concrete in Shear: 90 lbs per sq in.
 - Equivalent Fluid Pressure of Earth: 30 lbs per sq ft.

GENERAL NOTE

- CONCRETE:** Class "A" Concrete shall be used throughout. Standard size No. 3 coarse aggregate shall be used throughout. No construction joints other than those shown on the plans will be permitted. All concrete shall be compacted by Mechanical Vibration. See Specifications.
- CHAMFERS:** All exposed corners of concrete shall be chamfered 1" except expansion joint corners which shall be chamfered 5/8".
- REINFORCING STEEL:** All reinforcing steel shall be deformed bars. All dimensions relative to reinforcing steel are to center of bars. No splices other than those shown on plans will be permitted. All reinforcing steel shall be securely held in correct position.
- EXPANSION JOINT MATERIAL:** Expansion joint material may be either rubber compound or cork conforming to the requirements of A.A.S.H.O. Spec. M-58.
- STRUCTURAL STEEL:** Structural steel shall meet all the requirements of the specifications and shall be given one shop coat and one field coat of red lead and finally two field coats of aluminum paint. Detail drawings for structural steel shall be submitted for approval. No unchecked drawings will be accepted.
- EXCAVATION AND FOUNDATION DATA:** Excavation and foundation data, and all elevations of ground line given are believed to be correct and are furnished for the convenience of bidders, but the State Highway and Public Works Commission assumes no responsibility for nor guarantees as correct, any of the information given. See Specifications.
- NAME PLATES:** Two name plates shall be provided for the bridge. One shall be placed near the end of each right hand curb approaching the bridge.
- MATERIAL AND WORKMANSHIP:** All material and workmanship shall be in accordance with the Specifications of the N.C. State Highway and Public Works Commission.
- PILE SPLICES:** For payment for any necessary pile splices see Special Provisions.
- NOTE:** Piles to be driven to a min. bearing capacity of 22 tons.
- COMPUTED FOUNDATION LOAD:** Bents #1 & #2: 3; Tons per sq. ft.
- PILES:** Test piles will not be required. Order list for piles will be based on 8 Piles: 30 feet long.



PLAN

NOTE: Unclassified Structure Excavation to be measured from surface of cut.

NOTE: For Location Sketch see sheet S-10.

NOTE: Excavation for End Bent Caps will not be measured and paid for as a separate item. The entire cost of this work to be included in the contract unit price for Class "A" Concrete.

NOTE: Traffic on Morgan Street to be detoured during construction of this structure.

BILL OF MATERIAL

	Class "A" Concrete	Reinf. Steel	Structural Steel	Steel Piles	Method "A" Waterproofing	Unclass. Structure Excav.	Metal Railing
	Cu. Yds.	Lbs.	Lbs. (Approx)	No. Length	Sq. Yds.	Cu. Yds.	Lin. Ft.
Superstructure	95.0	20846	53,700		17		250
End Bent No. 1	7.5	1530		4	125		
Bent No. 1	7.2	3322				7	
Bent No. 2	7.2	3322				14	
End Bent No. 2	7.5	1530		4	125		
Total	115.4	30,550	53,700	8	240	35	250

Reel # 415
Pos # 2

PROJECT NO. 8233
CLEVELAND COUNTY
STATION: 102 + 46.46

H-88

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION

**GENERAL DRAWING
FOR BRIDGE
ON MORGAN STREET
OVER PROPOSED U.S. 74
OCTOBER 1948**

DESIGNED BY: J.P.H. [Signature]
APPROVED BY: W.H. [Signature]

D.M. Nail on base 10" black oak 102 + 47 - El. 1136.75

Top RS. P₁ P₂ P₃ P₄ P₅ P₆ P₇ P₈
 Bottom RS. P₁ P₂ P₃ P₄ P₅ P₆ P₇ P₈

SPAN A SPAN B SPAN C
 BEARING # LOCATION

COPPER FLASHING
 Make 2 Pieces - 10" x 25"-8"

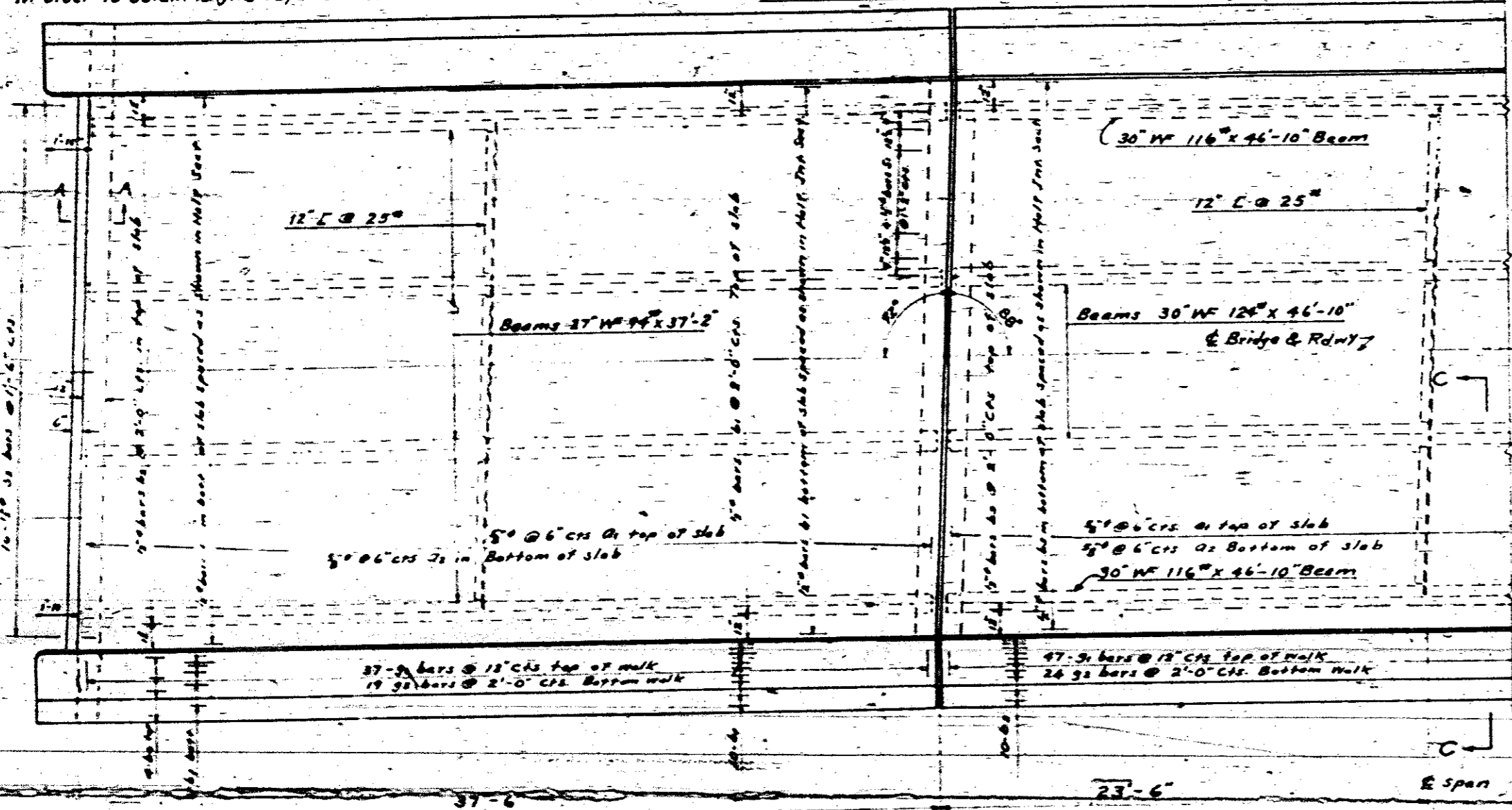
NOTE: Copper flashing shall be placed in Joints between Spans as shown. See Specs. Flashing may be spliced in order to obtain lengths required. Joints to be soldered. See Specs.

Make 12 each of P₁, P₂, P₃ & P₄
BEARING # DETAILS

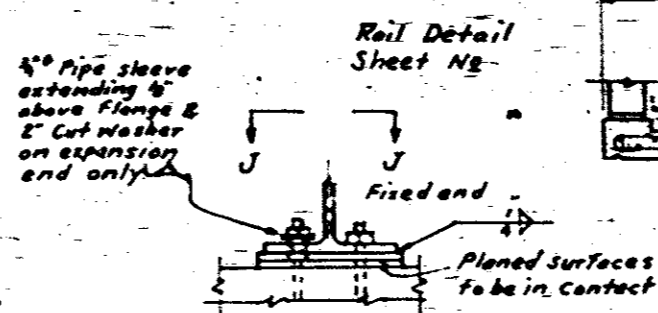
CROWN DIAGRAM

NOTE: All dimensions which are given in section and are affected by dead load deflections are dimensions at bearing. Roadway slab shall be blocked up over beams as shown to provide the required crown. Additional blocking shall be used between bearing points to compensate for dead load deflection.

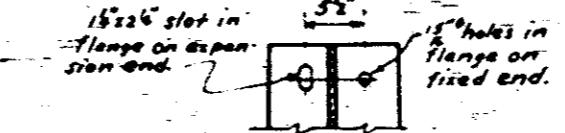
Max. D.L. Deflection poured: { Span A-C (Interior) Exterior }
 { Span B (Interior) Exterior }



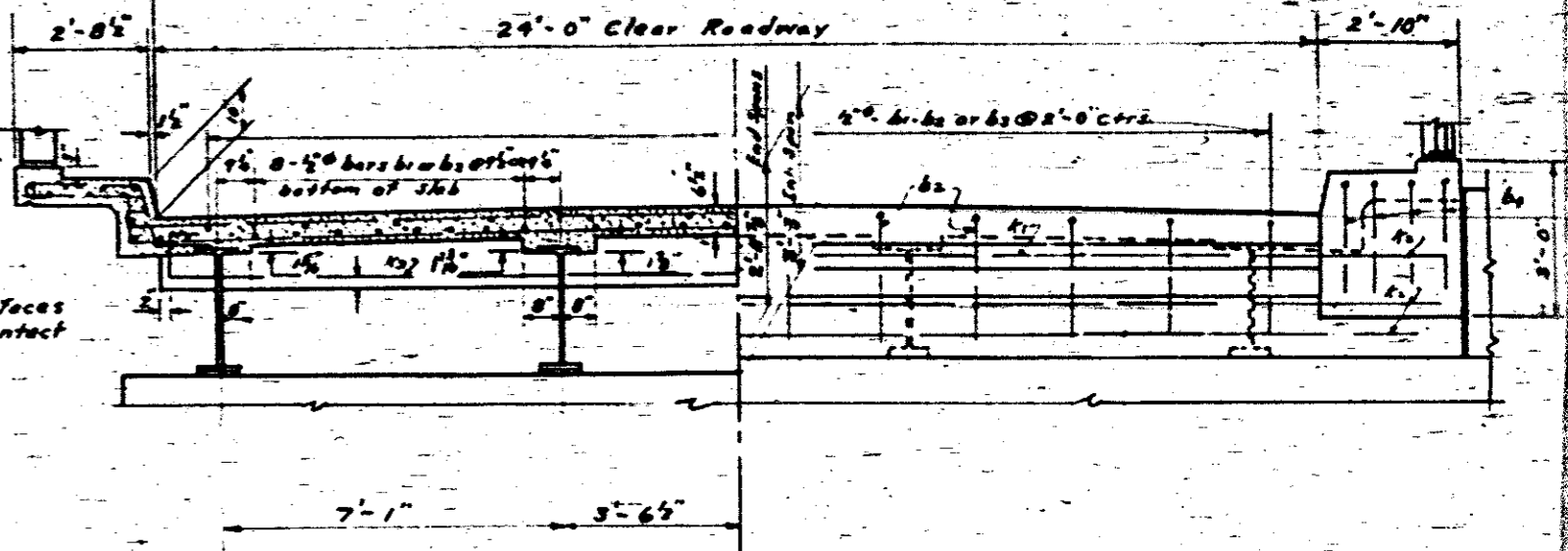
PART PLAN



SECTION THRU BEAM

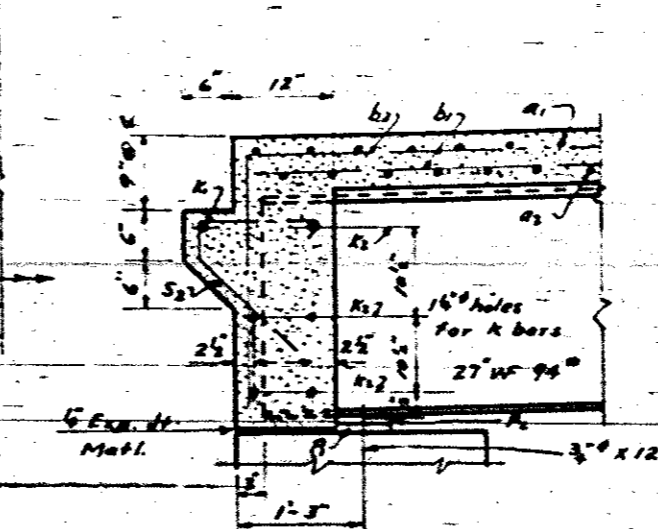


SECTION J-J

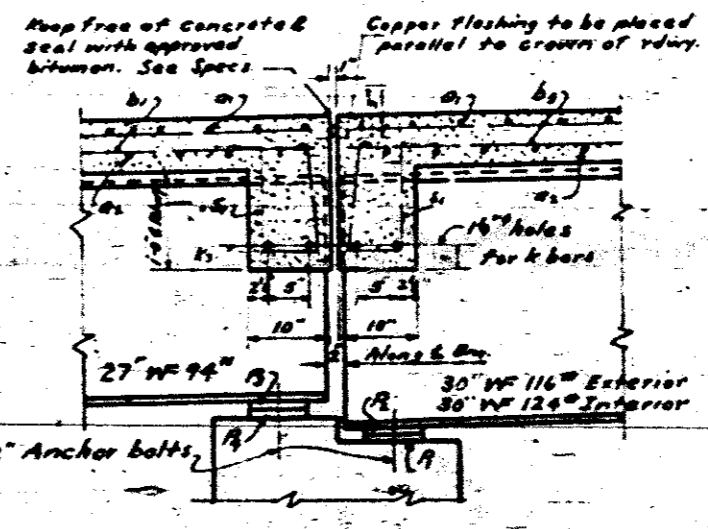


HALF INTERIOR SECT.

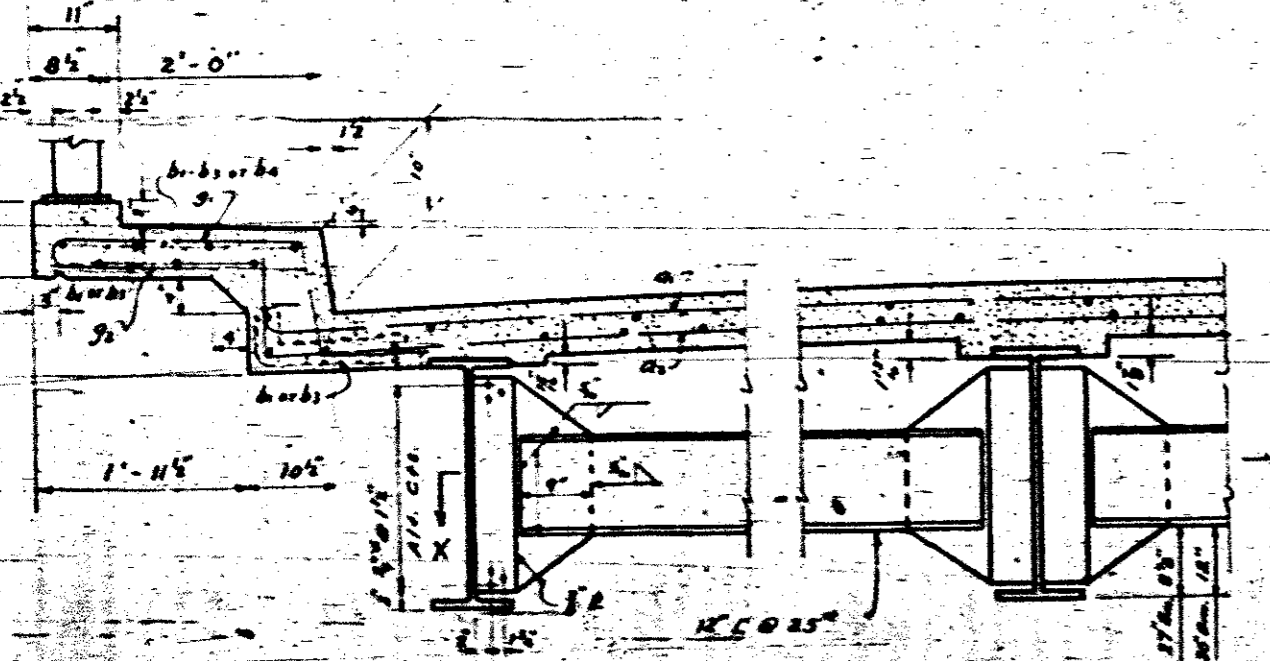
HALF END VIEW



SECTION A-A

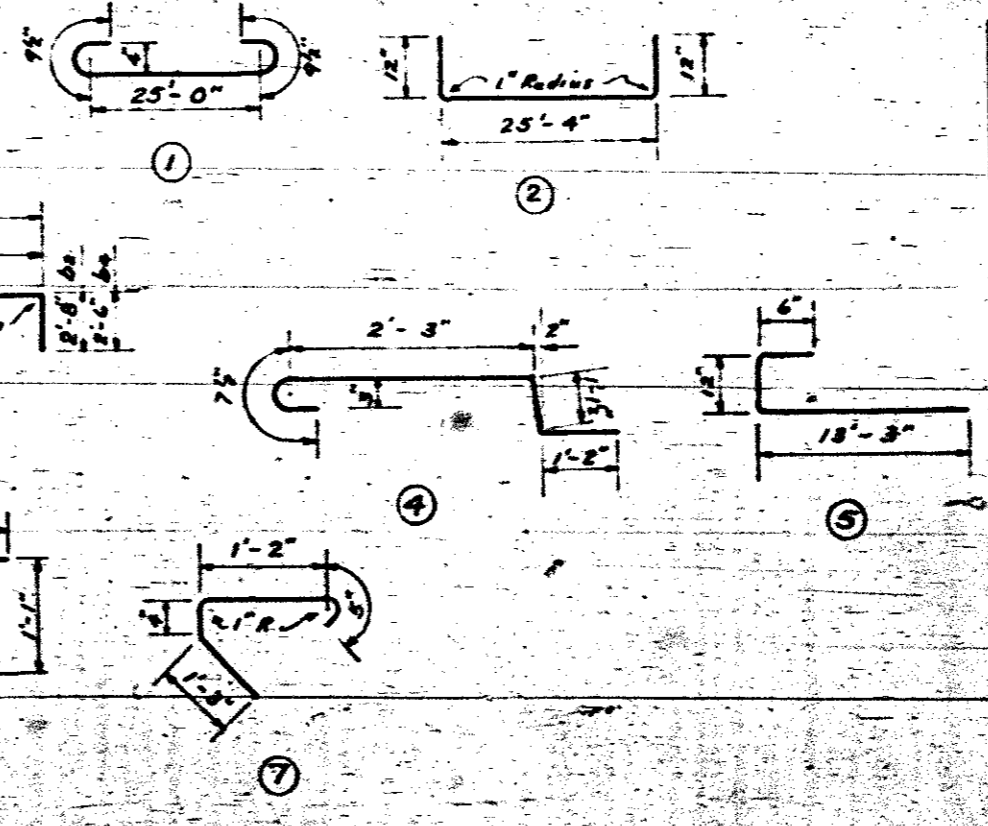


SECTION B-B



Field connection of diaphragm to stiffener shall be bolted using 3/4" turned bolts, Dardelot bolts or an approved equal.

SECTION X-X



BAR TYPES

BILL OF MATERIAL FOR THREE SPANS

Bar No.	Size	Type	Length	Weight
a1	244	4"	26'-7"	6765
a2	241	4"	27'-4"	6871
b1	192	4"	19'-8"	2522
b2	84	4"	22'-4"	358
b3	116	4"	24'-5"	1872
b4	16	4"	24'-0"	237
c1	242	4"	5'-2"	633
c2	124	4"	2'-6"	207
d1	4	4"	12'-0"	37
d2	20	4"	16'-6"	495
d3	14	4"	14'-9"	354
e1	72	4"	3'-10"	185
e2	32	4"	3'-2"	68

Reinforcing Steel Lbs. 20846
 Class A Concrete Cu.Yds. 150
 Structural Steel (Approx.) Lbs. 53700
 Method A waterproofing sq.Yds. 17

PROJECT NO. 8233
 CLEVELAND COUNTY
 STATION: 102 + 46.46

STATE OF NORTH CAROLINA
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION

SUPERSTRUCTURE

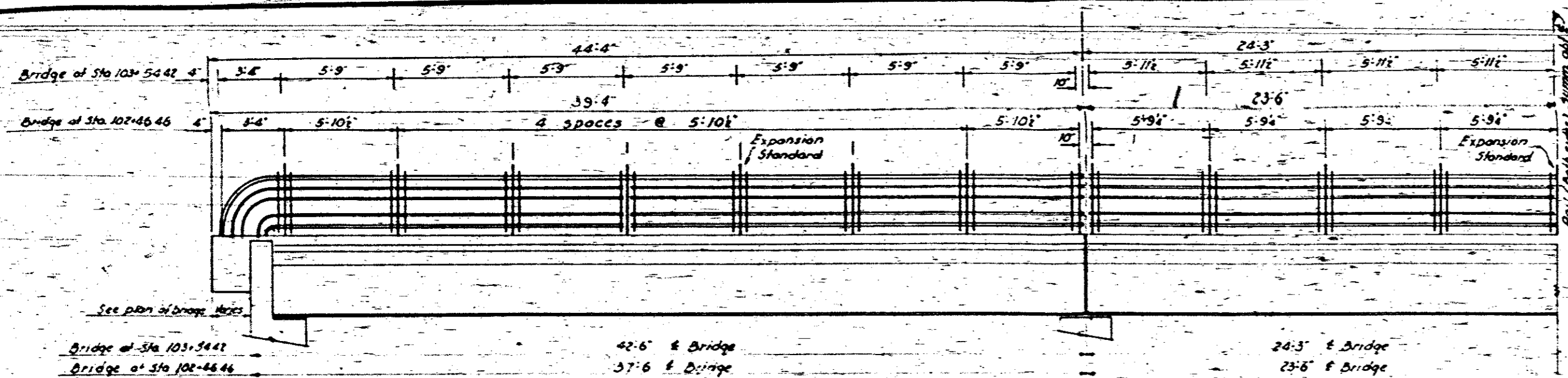
OCTOBER 1949

DESIGNED BY J.P.H.
 DRAWN BY W.H.R.

DATE	BY
Oct. 1949	J.P.H.
Nov. 1949	W.H.R.
Dec. 1949	W.H.R.
Jan. 1950	W.H.R.

Revision: Stew changed from 2" Right to 2" Left
 March 10, 1950 R.A.S.

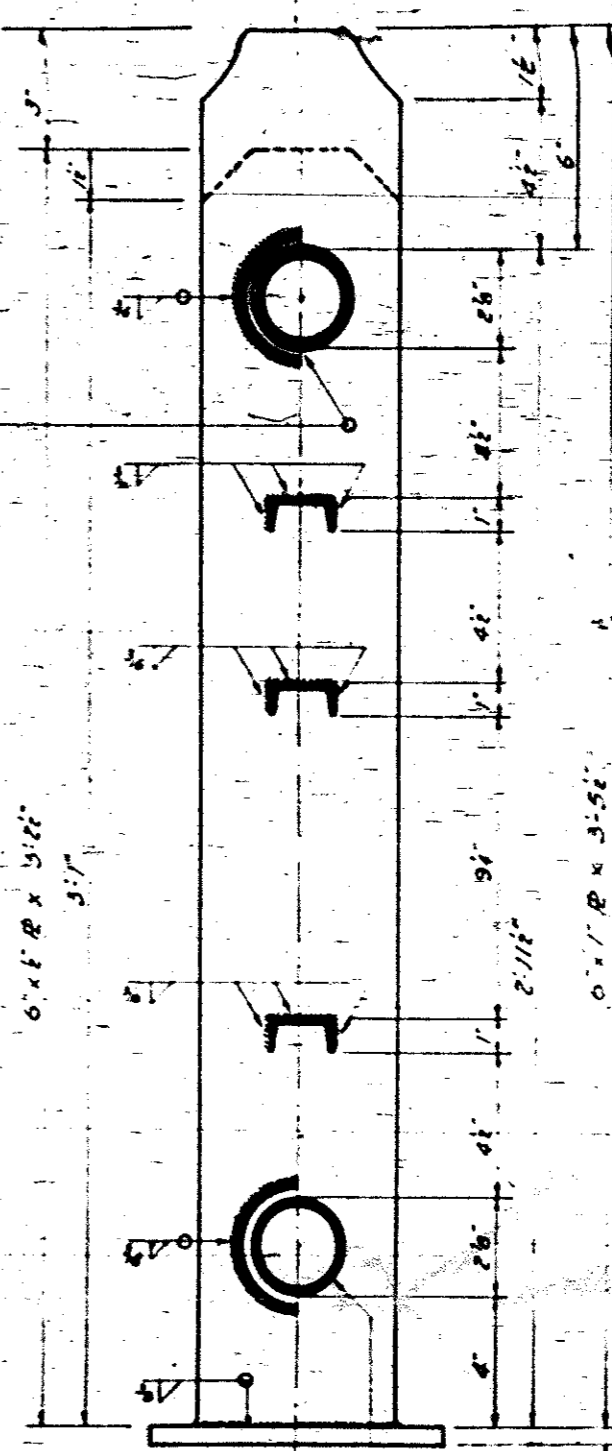
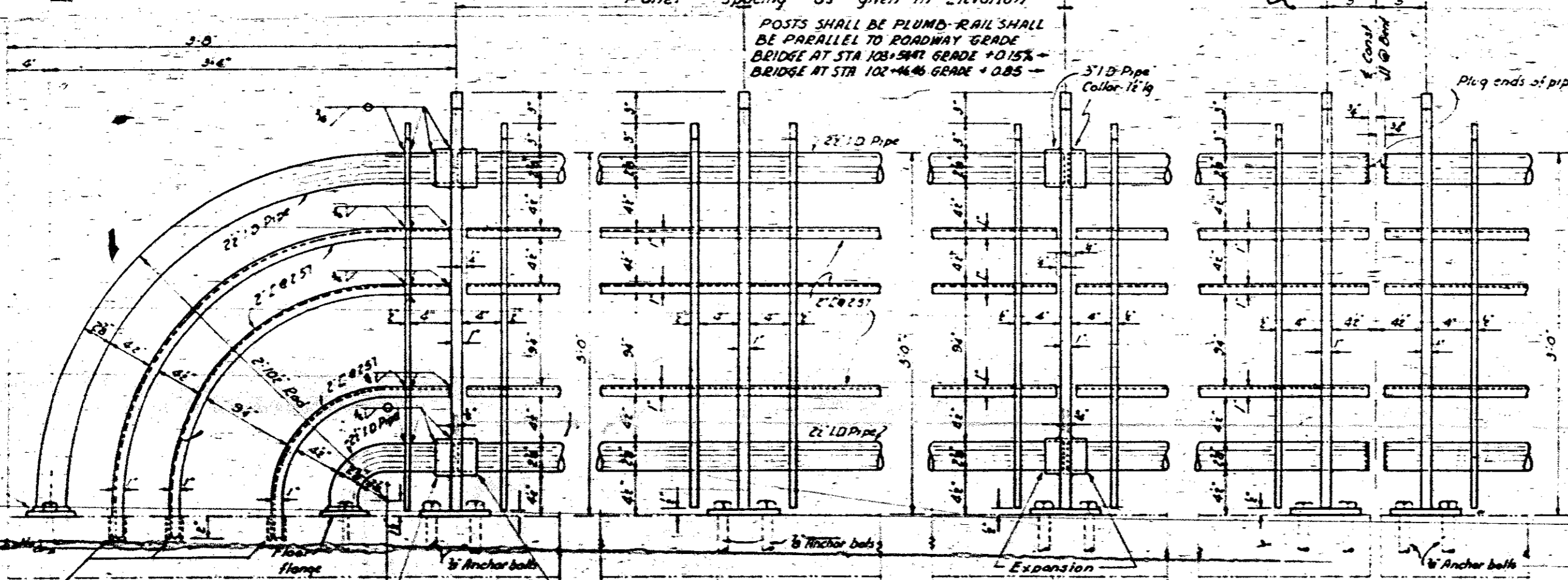
F.A. Proj U-150(4)



ELEVATION

Panel Spacing as given in Elevation

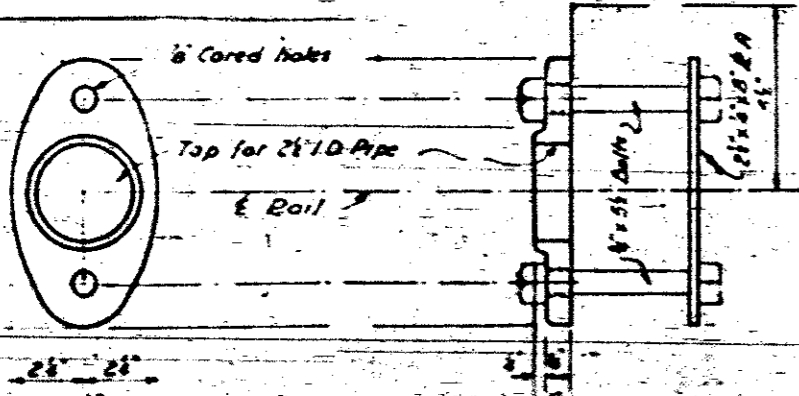
POSTS SHALL BE PLUMB - RAIL SHALL BE PARALLEL TO ROADWAY GRADE
BRIDGE AT STA 103+54.42 GRADE +0.15%
BRIDGE AT STA 102+46.46 GRADE +0.85%



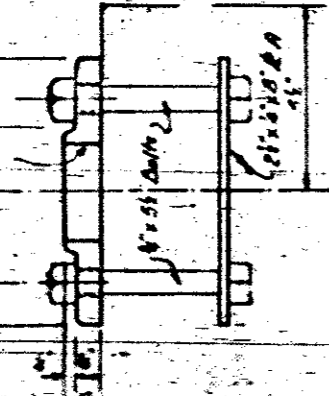
NOTE

All pipe used in railing shall be standard weight black steel pipe, 6" I.D.
All other material unless otherwise noted shall be structural steel.
Channels-bar size to be 2"x 3 1/2" @ 25#
Pipe and channel rails shall be in one length between expansion points.
Bolt ends shall be cut off with top of nut and ends peened.
Welding shall be continuous and reasonably smooth in accordance with the Specifications.
Grinding will not be required.
Shop plans for Railing shall be submitted for approval. No unchecked drawing will be accepted.
The rail and exposed plates shall be given one shop and one field coat of red lead and finally two field coats of dark green (mass or battle green) paint.

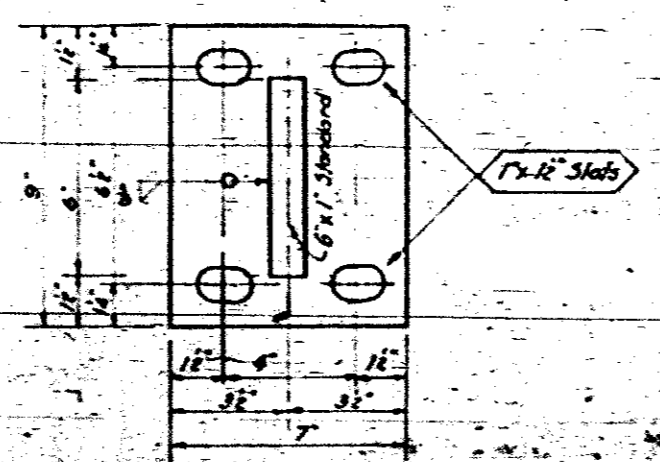
END PANEL **FIXED STANDARD** **INTERMEDIATE EXPANSION STANDARD** **DOUBLE STANDARD INTERIOR BENTS** **TYPICAL SECTION**



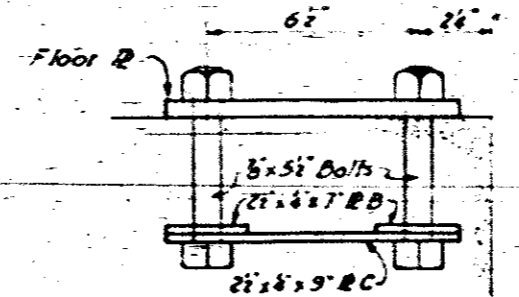
STANDARD C.I. FLOOR FLANGE



FLOOR FLANGE ANCHOR BOLT ASSEMBLY



FLOOR PLATE 7x12x9" P



FLOOR PLATE ANCHOR BOLT ASSEMBLY

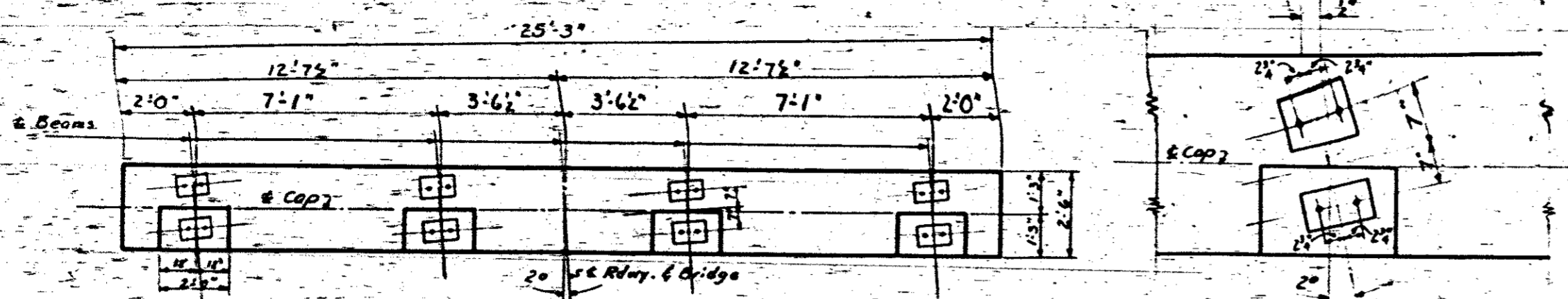


PLATE A-B-C

PROJECT NO. 8233
CLEVELAND COUNTY
STATION: 103+54.42
102+46.46

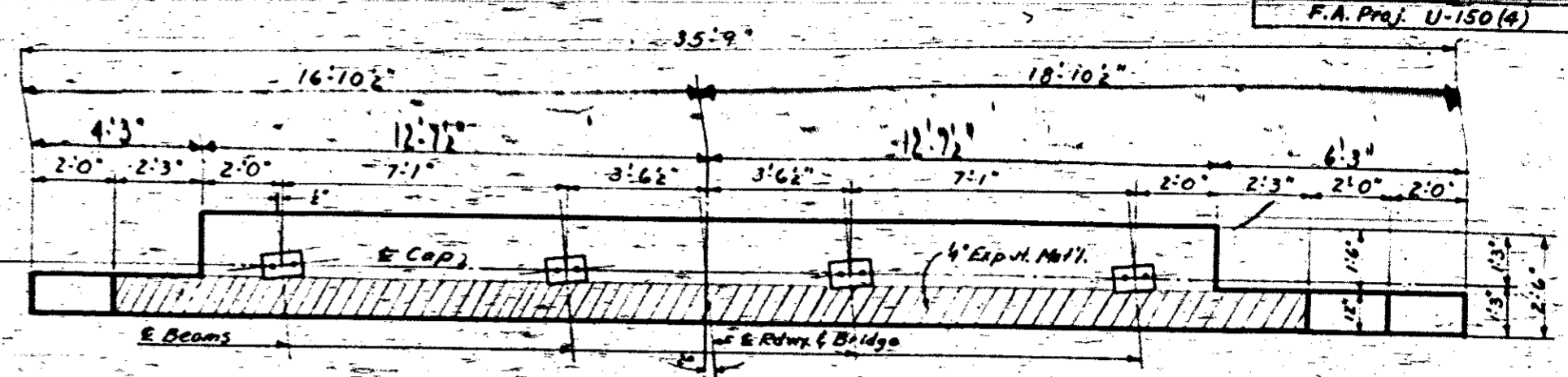
STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION
RAILROAD
DETAIL HAND RAIL
SEPT. 1949
SUBMITTED BY: J.P. [Signature]
APPROVED BY: W.H. [Signature]

SPECIAL	DESIGNED BY: [Signature]	DATE: [Date]
STANDARD	CHECKED BY: [Signature]	DATE: [Date]

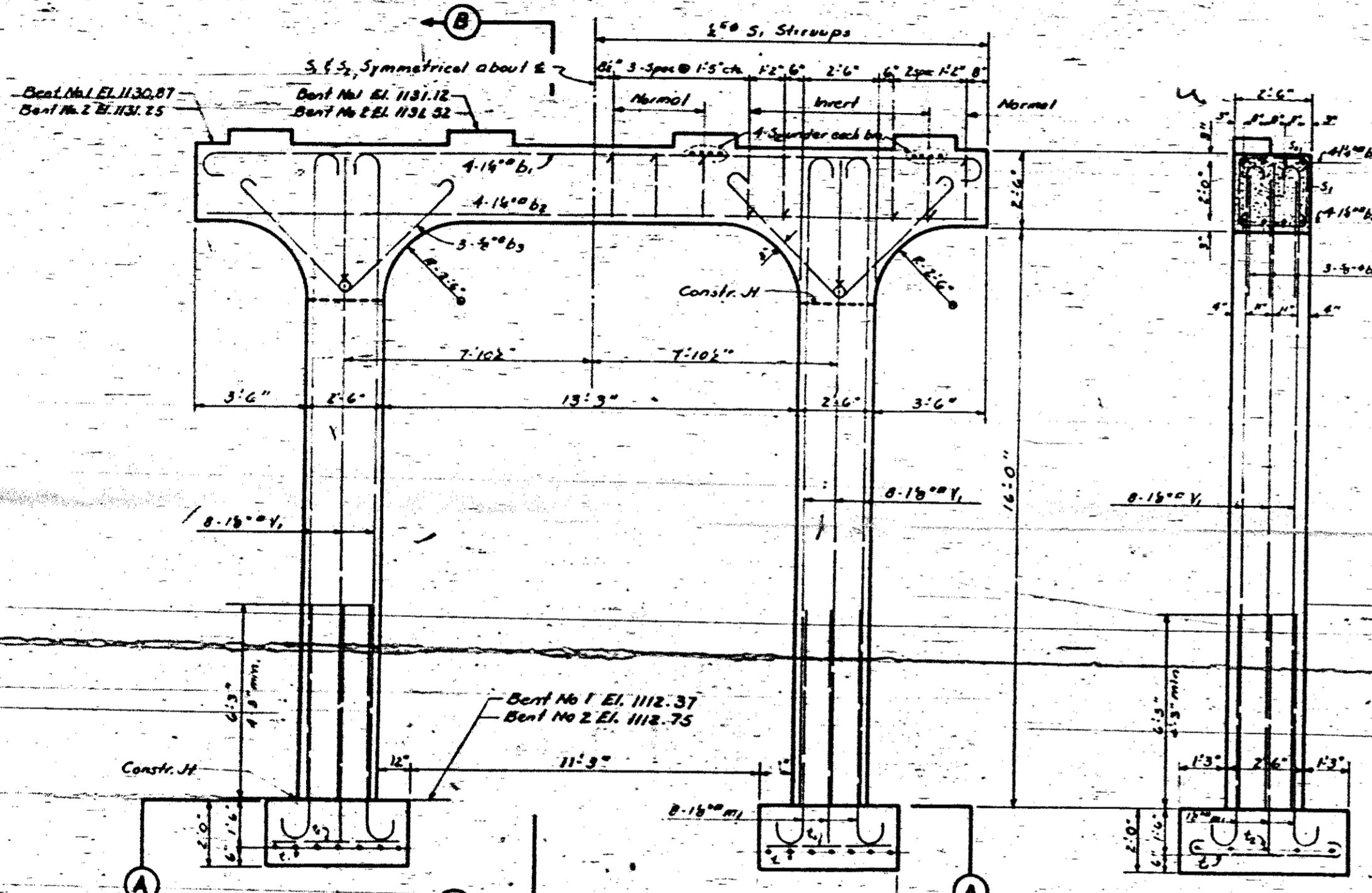


CAP PLAN BENT No 1
CAP PLAN BENT No 2 SIMILAR

ANCHOR BOLT DETAIL

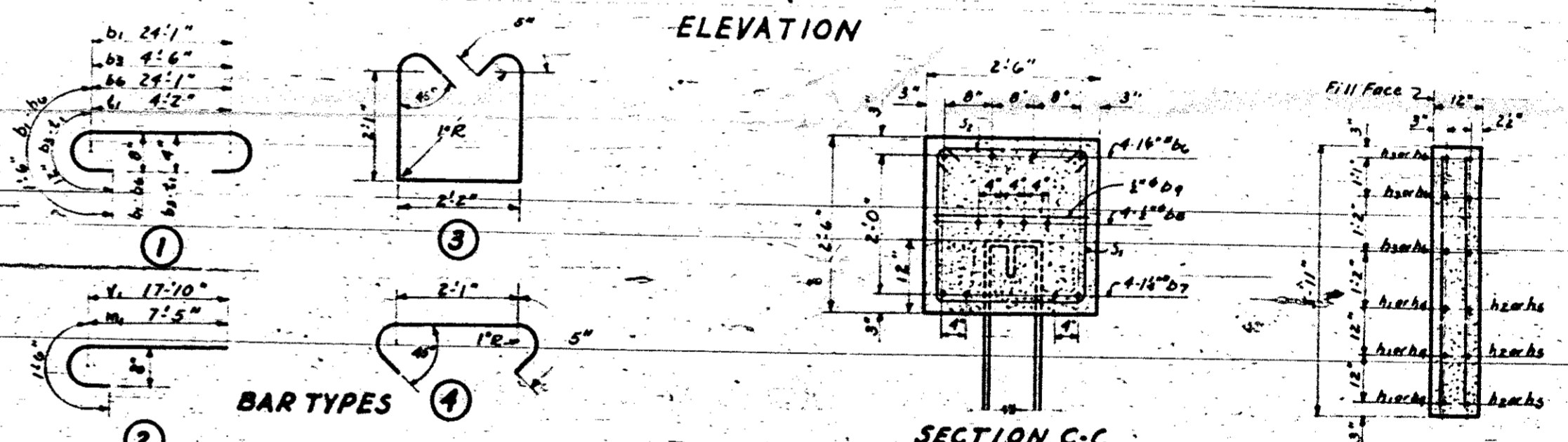


CAP PLAN END BENT No 1
END BENT No 2 SAME EXCEPT OPPOSITE HAND



SECTION B-B

ELEVATION

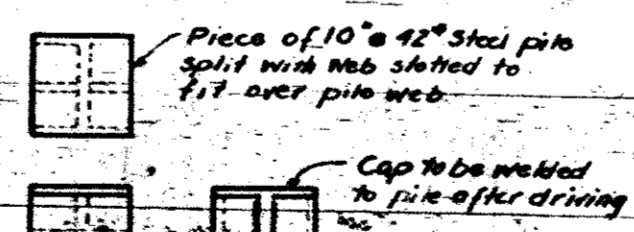


ELEVATION

SECTION C-C

SECTION D-D

BAR TYPES



PILE CAPS

Note: Cost of pile caps complete in place to be included in the unit price bid for 10" x 42" steel piles. Pile caps may be obtained from pile cut-offs and each linear foot of pile cut-offs not good for pile caps. This to be paid for as prescribed in Special Provisions.

BILL OF MATERIAL FOR ONE INTERIOR BENT

Bar No	Size	Type	Length	Weight
b1	4 1/4"	1	27'-11"	576
b2	4 1/4"	Str.	24'-9"	526
b3	12 5/8"	1	6'-6"	81
S1	16 5/8"	3	7'-2"	77
S2	16 5/8"	4	2'-11"	31
T1	14 3/8"	1	6'-2"	58
T2	10 3/8"	Str.	4'-2"	28
V1	16 1/8"	2	19'-4"	1331
M1	16 1/8"	2	8'-11"	614
Reinforcing Steel Lbs.			5322	
Class "A" Concrete Cu Yds.			172	

BILL OF MATERIAL FOR ONE END BENT

Bar No	Size	Type	Length	Weight
b6	4 1/4"	1	27'-1"	576
b7	4 1/4"	Str.	24'-9"	526
b8	4 1/4"	Str.	24'-9"	66
b9	7 5/8"	Str.	2'-5"	71
b11	3 5/8"	Str.	7'-0"	32
b12	3 5/8"	Str.	6'-3"	13
b13	6 5/8"	Str.	1'-9"	7
b14	5 1/8"	Str.	10'-0"	80
b15	3 5/8"	Str.	8'-3"	17
b16	6 5/8"	Str.	3'-9"	15
S1	19 5/8"	3	7'-2"	91
S2	19 5/8"	4	2'-11"	37
V4	12 5/8"	Str.	5'-8"	46
V5	2 5/8"	Str.	5'-0"	7
V6	2 5/8"	Str.	4'-4"	6
Reinforcing Steel Lbs.			1530	
Class "A" Concrete Cu Yds.			75	
10" x 42" Steel Pile Lbs.			4	
10" x 42" Steel Pile Lin Ft.			120	

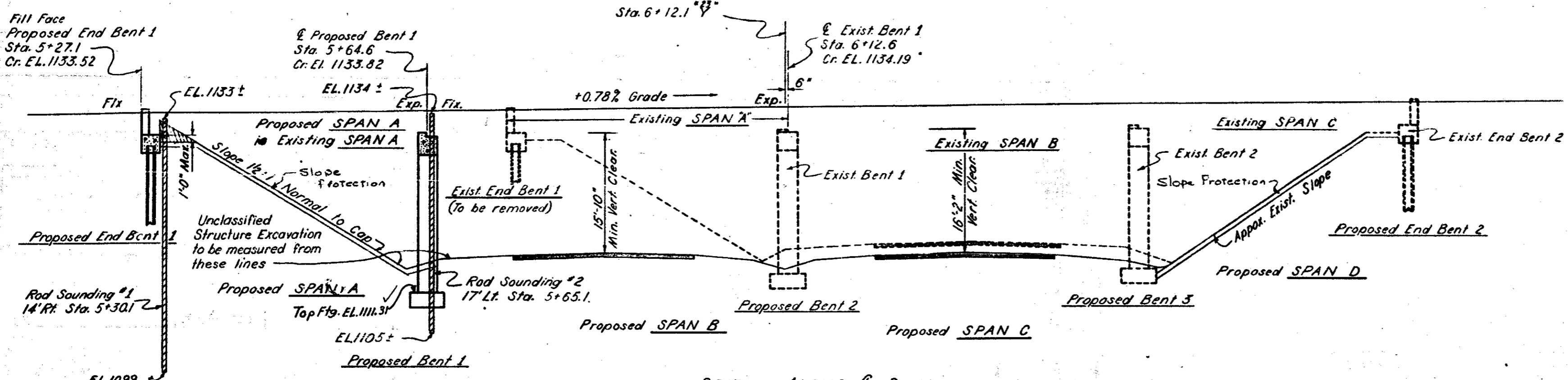
PROJECT NO. 8233
CLEVELAND COUNTY
STATION: 102+46.46

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION

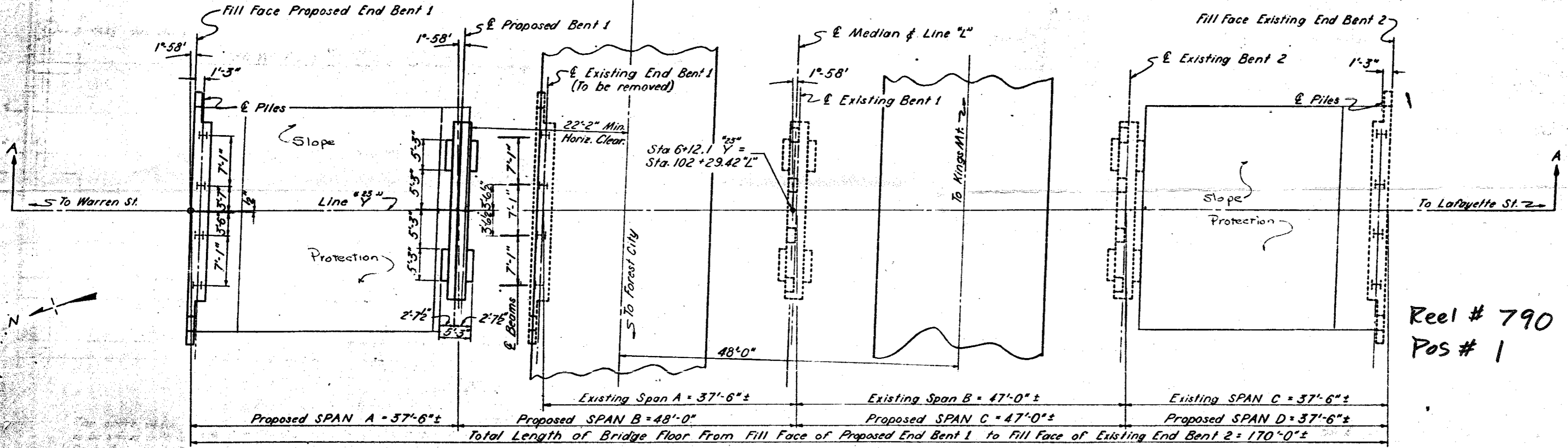
SUBSTRUCTURE

OCTOBER 1949

Checked by: [Signature]
Date: [Date]
Approved by: [Signature]
Date: [Date]



SECTION ALONG Q Bridge
 Bents & End Bents on Section A-A



Reel # 790
 Pos # 1

Assumed Live Load H15
 For other design data and general notes, see sheet S-N.

Computed foundation load for Proposed Bent 1 equals 2 1/2 tons per sq. ft.

No test piles are required. Order length shall be 40 ft. for Proposed End Bent 1.

Piles for Proposed End Bent 1 to be driven to a minimum bearing capacity of 22 tons each.

Chairs, surface finish, etc., to be like that on the existing spans.

Work is not to be started on Proposed Bent 1 until Proposed Left Lane has been excavated. Unclassified structure excavation for Proposed Bent 1 to be measured from surface of cut.

Shaded area to be excavated by the structure contractor. See Special Provisions.

Traffic on U.S. 74 to be maintained.

Traffic on Morgan St. to be detoured during construction of the structure.

For method of moving existing Span A to proposed Span A, see Special Provisions. At no time will the Contractor interfere with the movement of trains on the tracks adjacent to this structure.

For painting of existing structural steel & steel handrail, see Special Provisions.

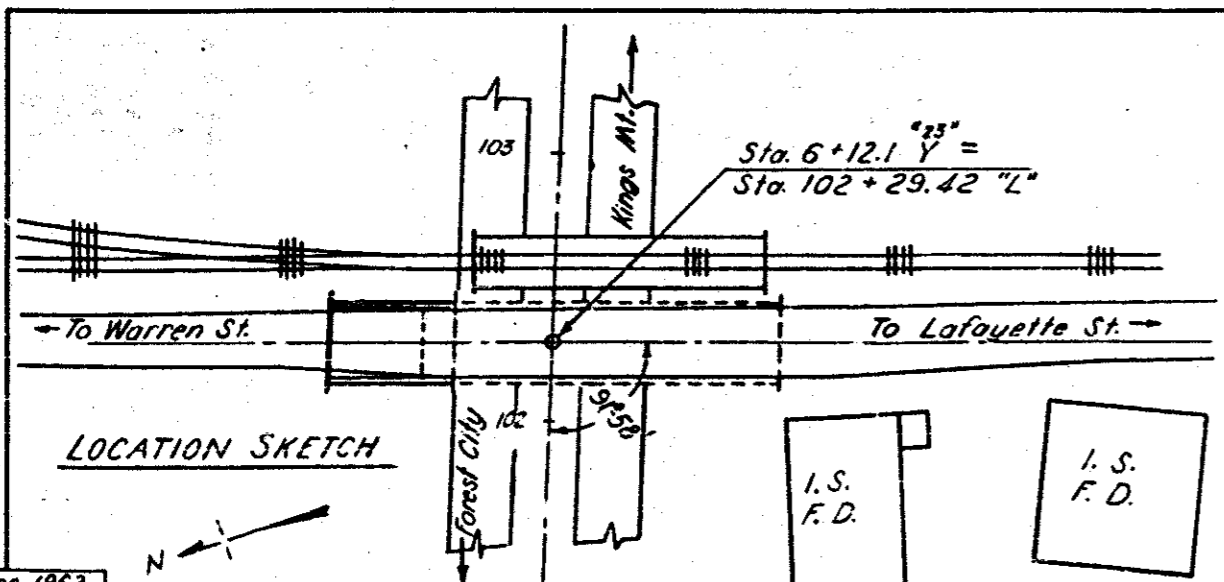
Bridge Seats on Bent 2 (Existing Bent 1) to be removed flush with top of cap.

Bench Mark No. 1 - Nail in base of 36" Red Oak - 148' Lt. of Sta. 103+40 El. 1136.36.

The entire cost of removing existing End Bent 1 to be included in "The Lump Sum Contract Price Bid for Moving of Existing Span A."

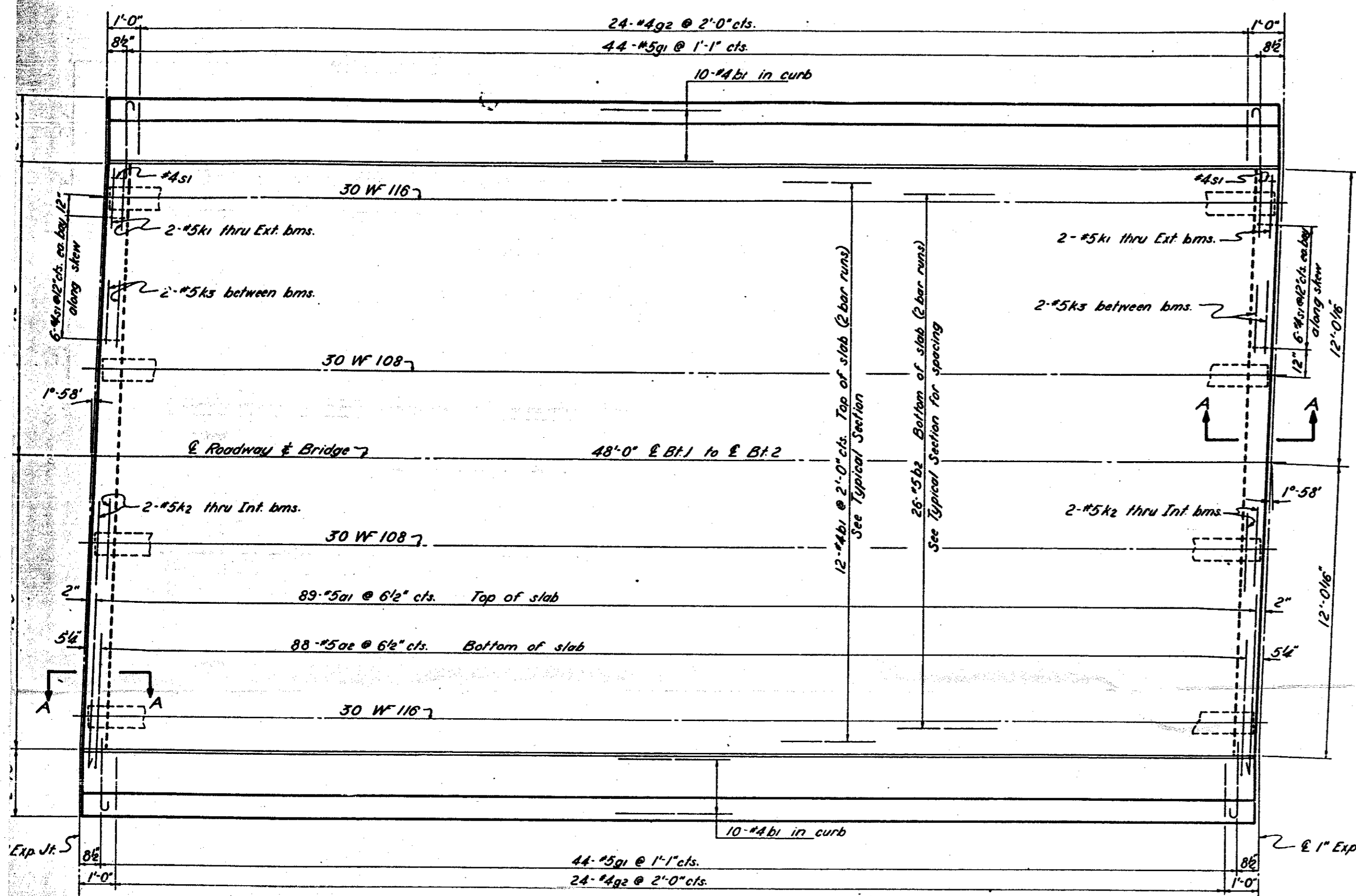
NOTE: THIS STRUCTURE BUILT ACCORDING TO THIS PLAN EXCEPT AS NOTED.

H-88
 PROJECT NO. 818246
 CLEVELAND COUNTY
 STATION: 102 + 29.42 'L' = 6 + 12.1 'V'

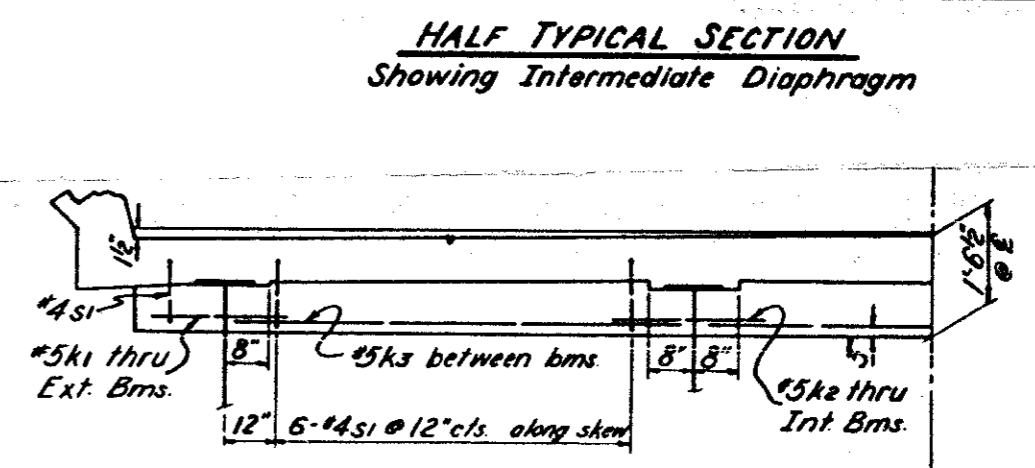
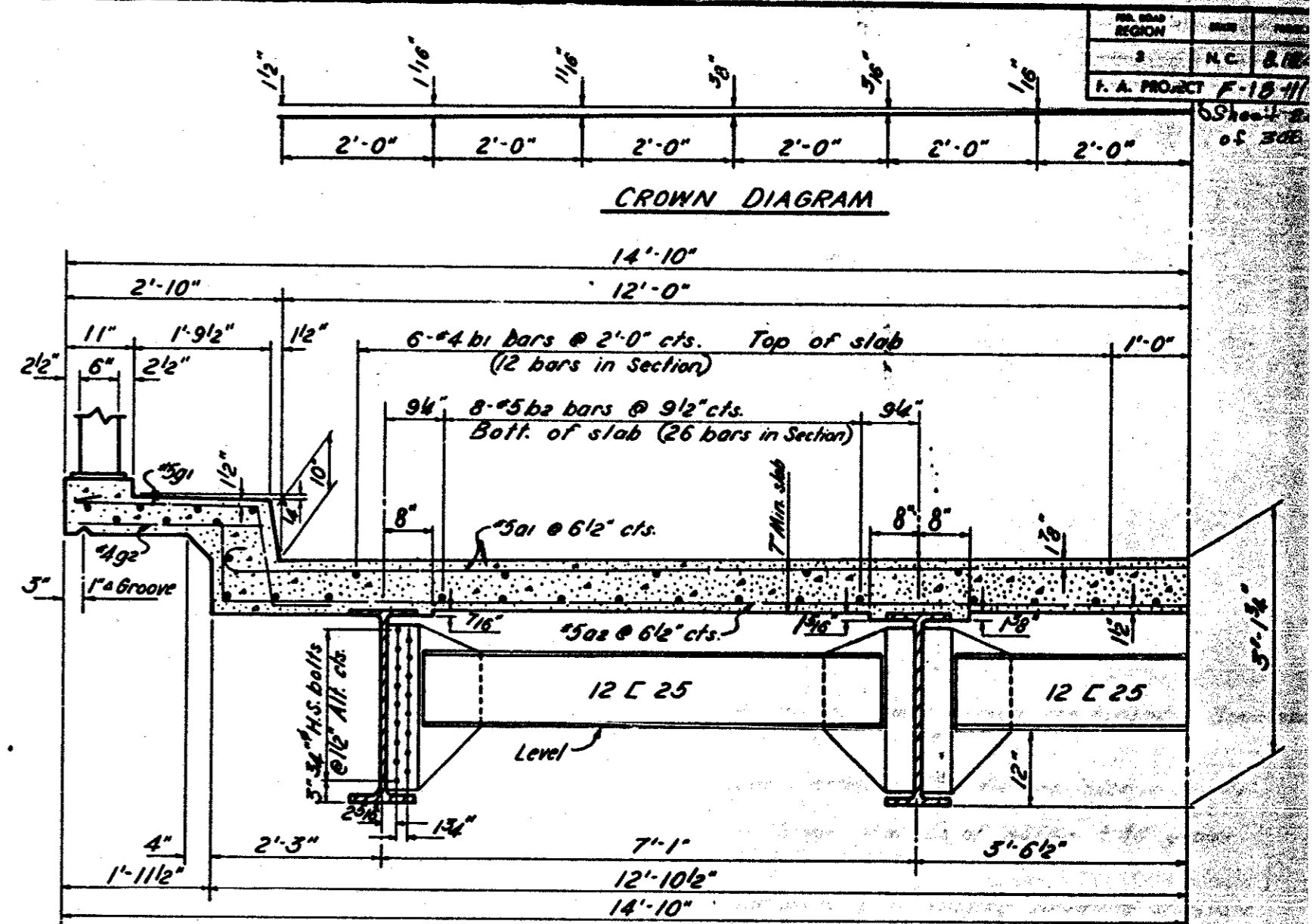


	TOTAL BILL OF MATERIAL							CUT-OFF	
	Class "A" Concrete Cu. Yds.	Reinforcing Steel Lbs.	Structural Steel Approx. Lbs.	12 H.S. Piles NO. L.F.	Unclassified Structure Excavation Cu. Yds.	Moving of Existing Span A Lump Sum	4" Conc. Slope Prot. Sq. Yds.		4" Conc. Block Slope Prot. Sq. Yds.
Superstructure	37.6	8176	22,750	-	-	-	-	-	96.00
End Bent 1	7.4	1584	-	4	143.00	6.80	140.17	-	17.00
End Bent #2 Bent 1	18.5	3470	-	-	2523.20	-	76.00	-	17.00
TOTAL	63.5	13,230	22,750	4	2625.20	Lump Sum	417.17	326.89	17.00

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION
 GENERAL DRAWING
 EXTENSION OF BRIDGE OVER U.S. 74 ON MORGAN ST. BETWEEN LAFAYETTE ST. & WARREN ST. IN SHELBY
 June, 1962
 SUBMITTED BY: T. L. Hinson, ASSISTING CHIEF ENGINEER
 APPROVED BY: W. D. [Signature], CHIEF ENGINEER



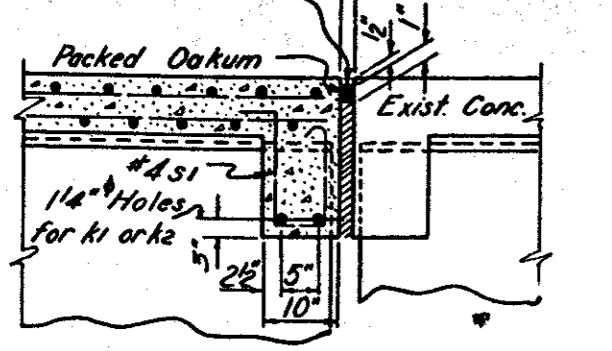
PLAN



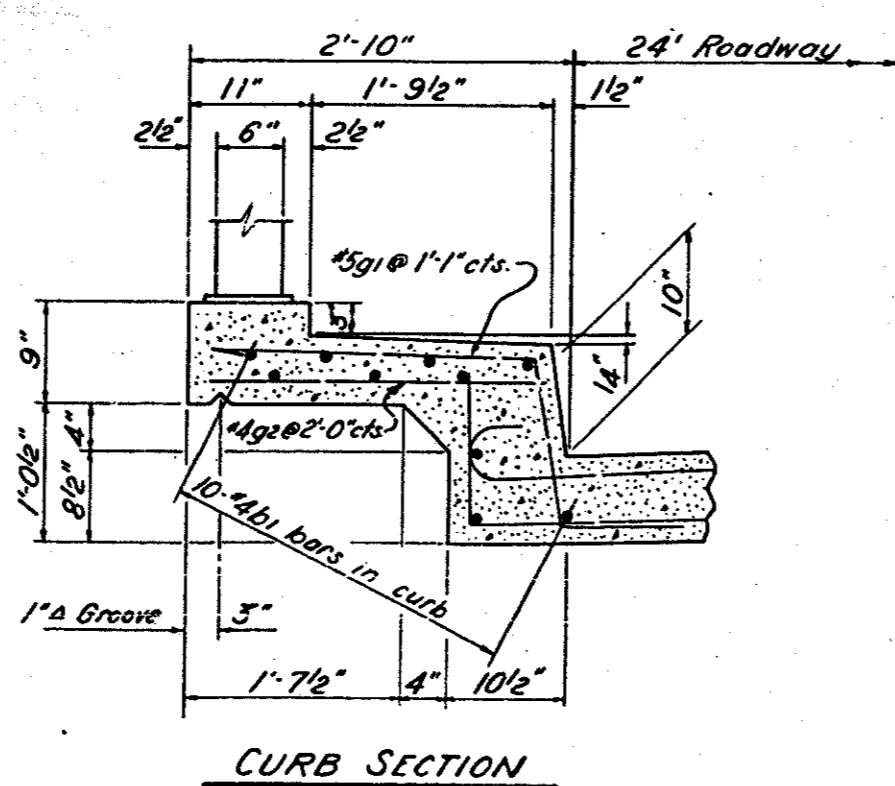
Notes
 Concrete in compression - 1,000 lbs.
 Reinforcing steel in tension - 20,000 lbs.
 Stress in extreme fiber of Structural steel - 20,000 lbs.
 for other design data and general notes, see Sheet S-N.
 For Rail Details, see Bridge at Station 102+58.57.

DEAD LOAD DEFLECTIONS
 Deflection due to weight of beam 1/8"
 Deflection due to superimposed D.L. 5/8"
 Total dead load deflection 3/4"

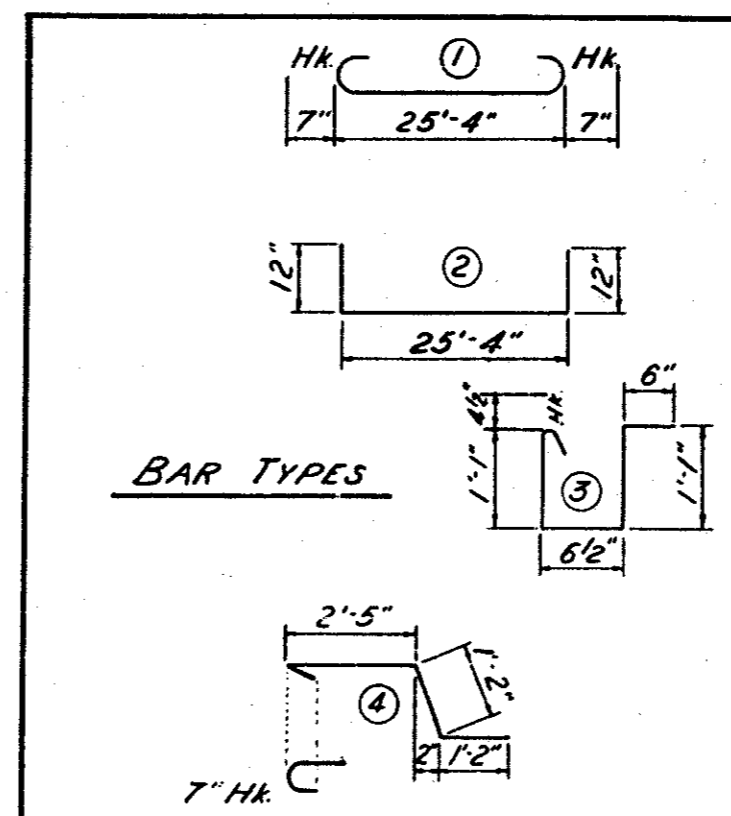
The space above oakum to be sealed with 1/2" APS Asphalt Cement. See Specifications



SECTION - A-A



CURB SECTION



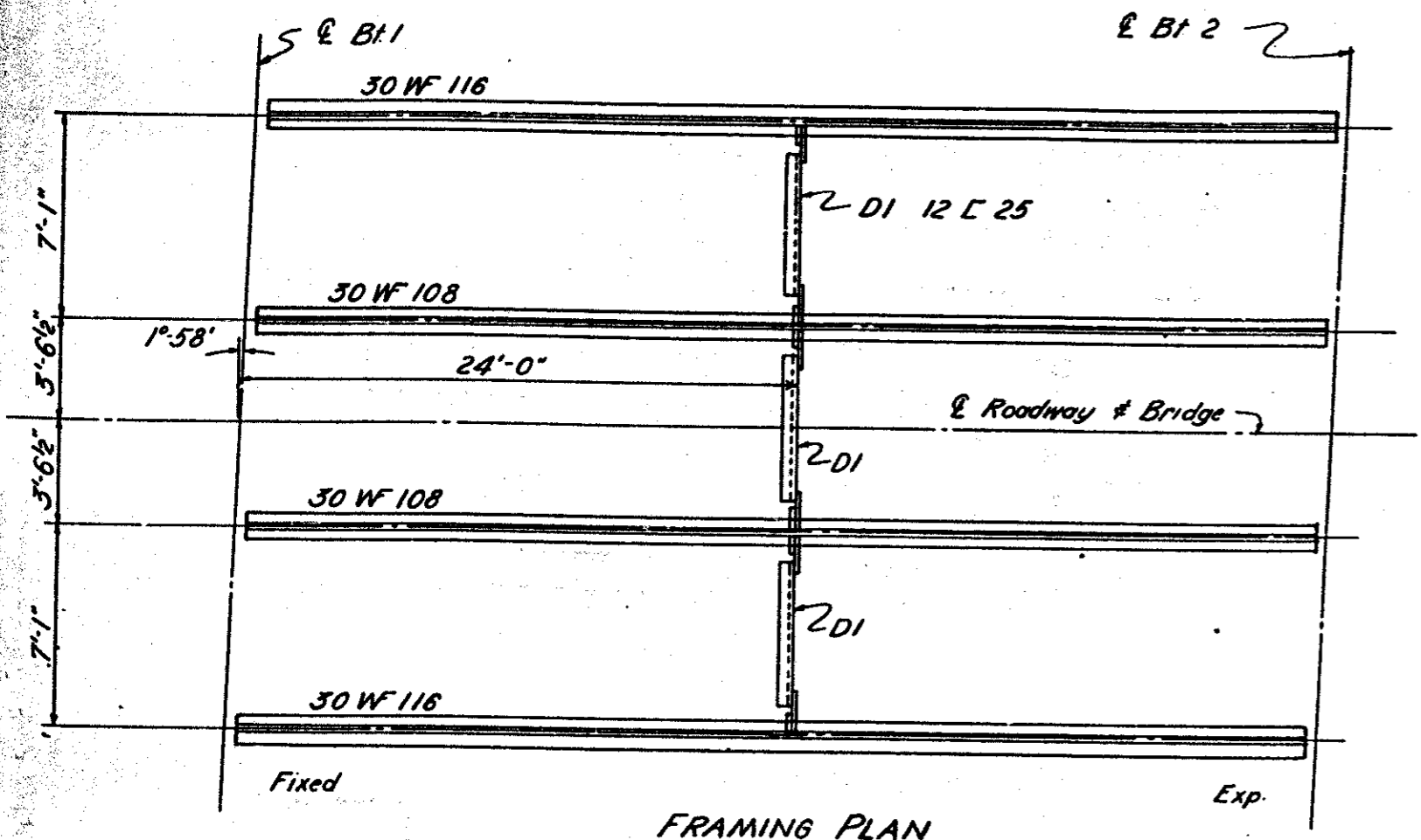
All bar dimensions are out to out

BILL OF MATERIAL					
SPAN B					
BAR NO	SIZE	TYPE	LENGTH	WEIGHT	
a1	89	#5	1	26'-6"	2460
a2	88	#5	2	27'-4"	2509
g1	88	#5	4	5'-4"	490
g2	48	#4	Str.	2'-6"	80
k1	8	#5	Str.	3'-2"	26
k2	8	#5	Str.	4'-0"	33
k3	12	#5	Str.	6'-9"	84
s1	40	#4	3	3'-7"	96
b1	64	#4	Str.	24'-7"	1051
b2	52	#5	Str.	24'-10"	1347
				Reinforcing Steel - lbs.	8176
				Class A Concrete - cu yds.	37.6
				Structural Steel - Approx lbs.	22,750

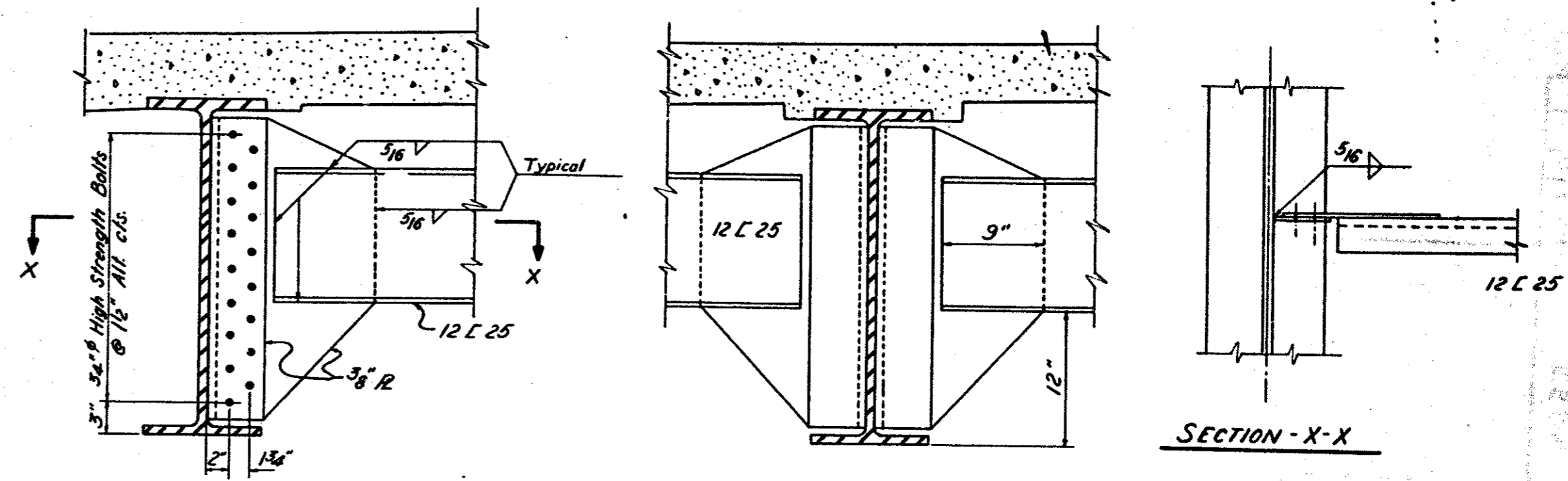
PROJECT No. 818246
 CLEVELAND COUNTY
 STATION: 102+29.42

STATE OF NORTH CAROLINA
 STATE HIGHWAY COMMISSION

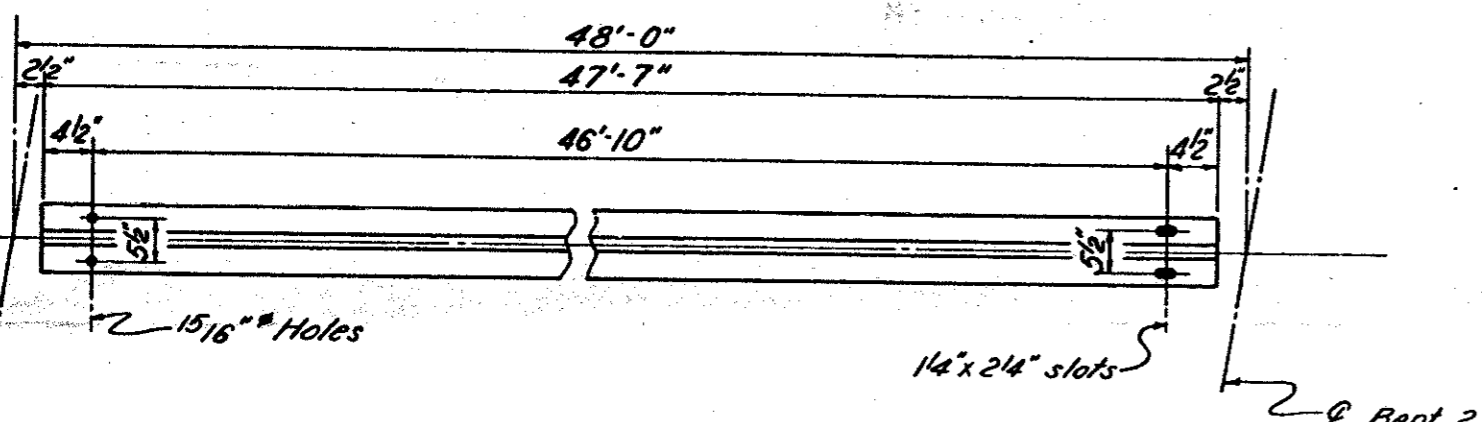
SUPERSTRUCTURE
 SPAN B
 MAY 1962



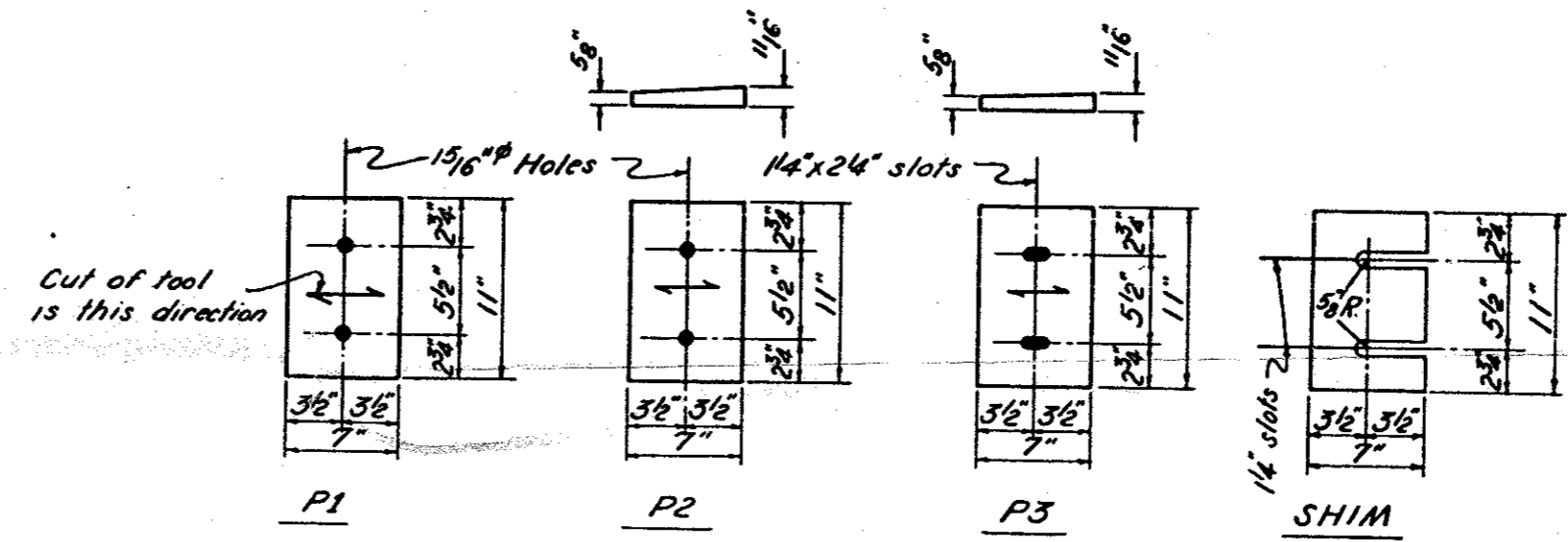
FRAMING PLAN



DETAIL DIAPHRAGM CONNECTIONS - D1



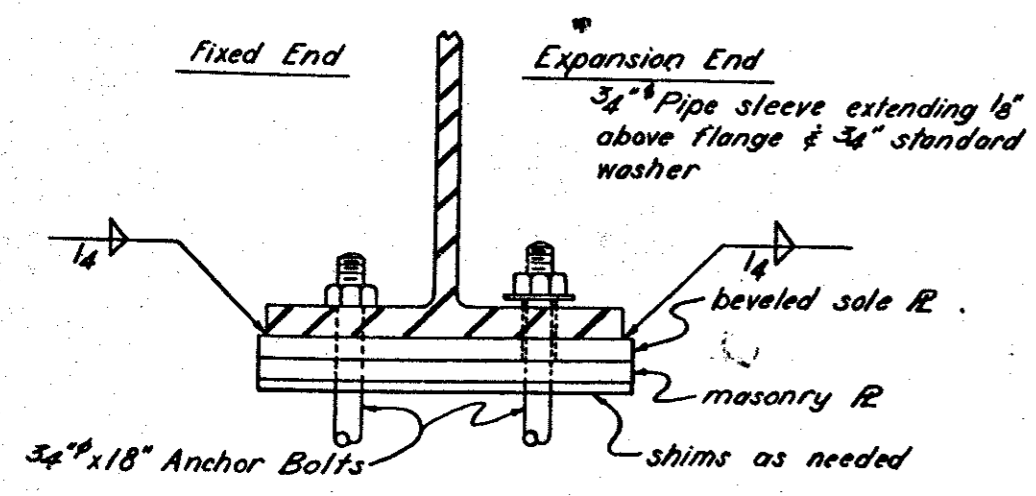
ANCHOR BOLT HOLES ~ BEAM LENGTHS



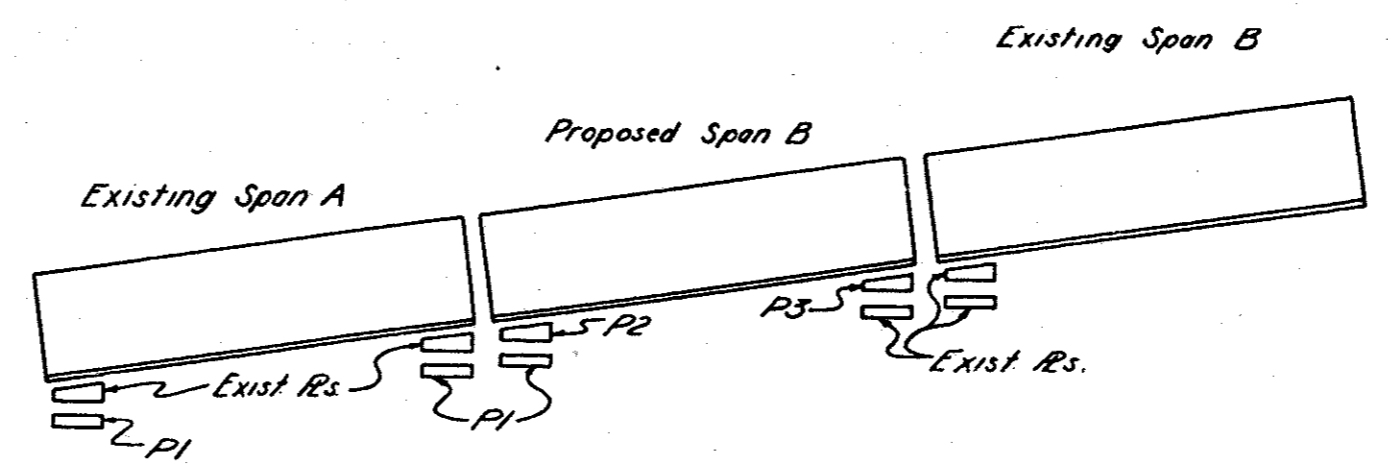
DETAIL BEARING PLATES

- Required:
- 12 P1 7x 5/8 x 0-11" plane finish
 - 4 P2 7x 0-11" plane finish as detailed
 - 4 P3 7x 0-11" plane finish as detailed
 - 32 Shims 7x 1/2 x 0-11" As detailed
 - 16 Shims 7x 1/2 x 0-11" As detailed
 - 24-3/4 x 18" Anchor Bolts with hex nuts

Note: Shims are provided for use as directed by the Resident Engineer to bring the crown of roadway to the correct elevation. Shims are for Spans A or B.



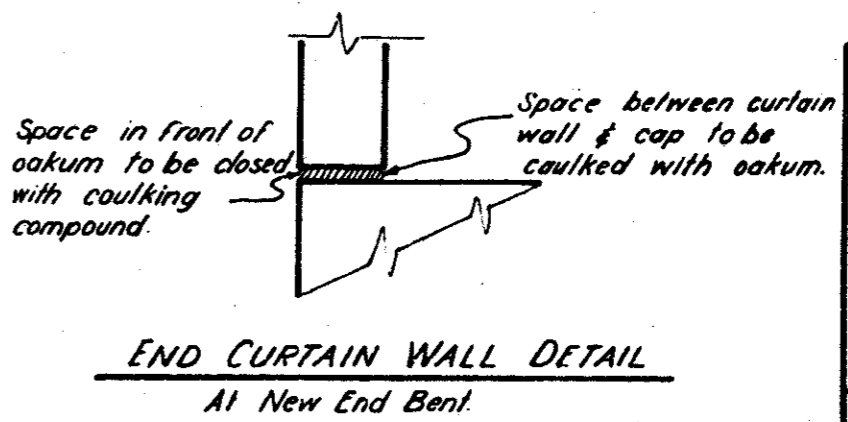
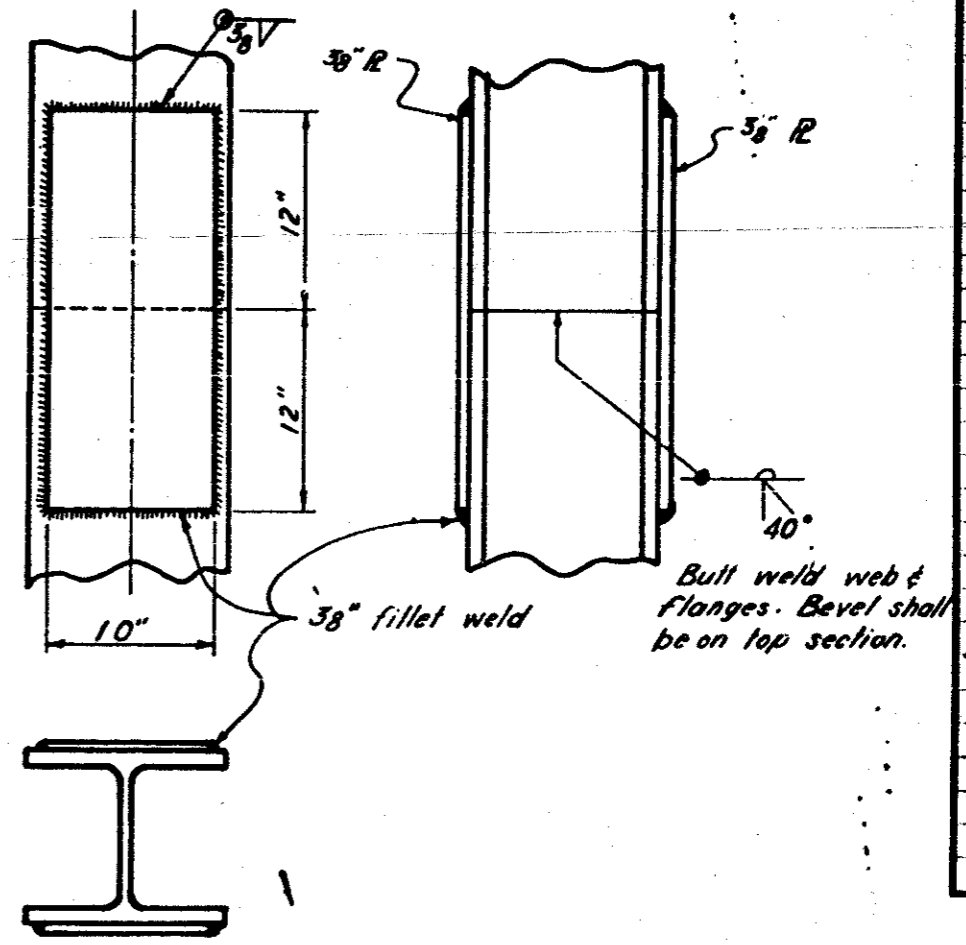
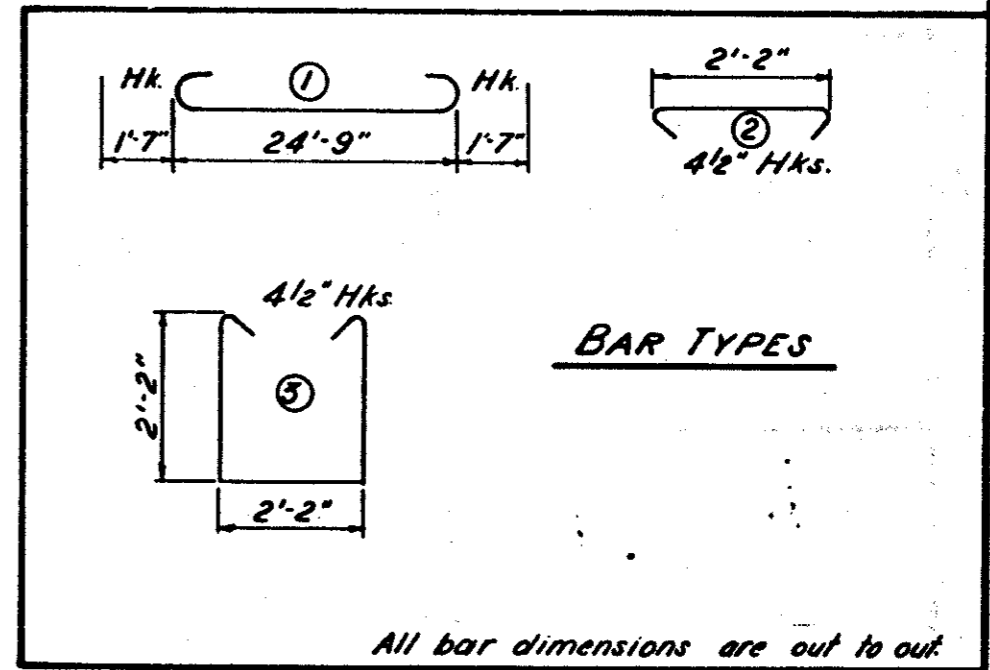
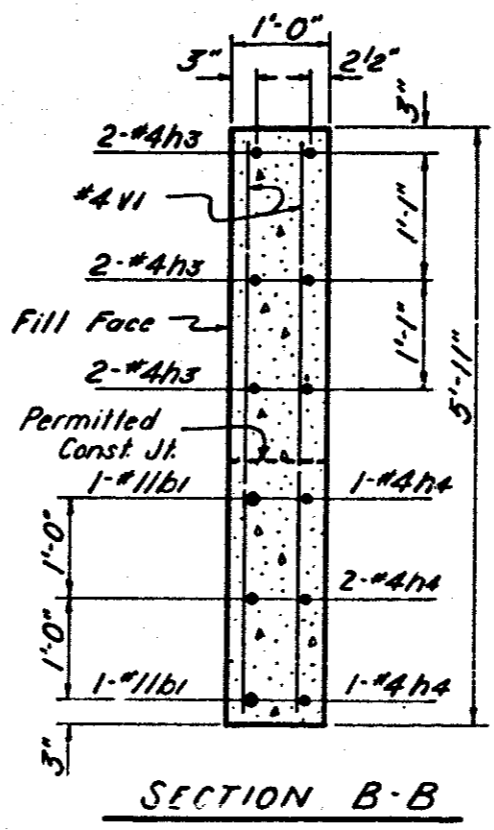
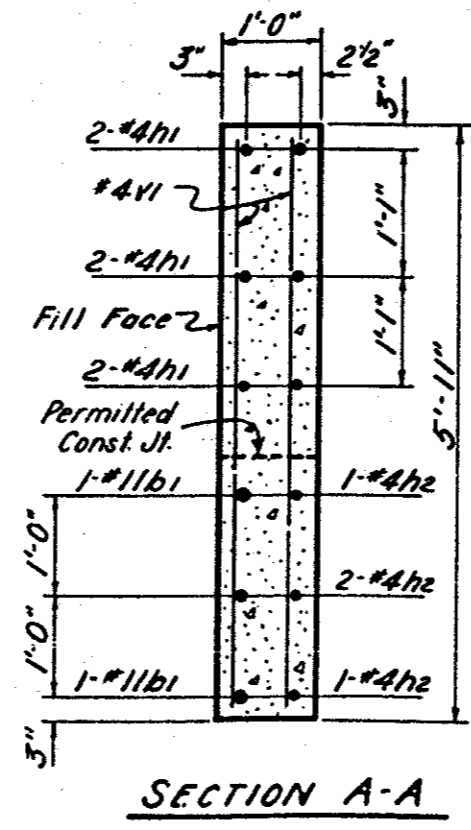
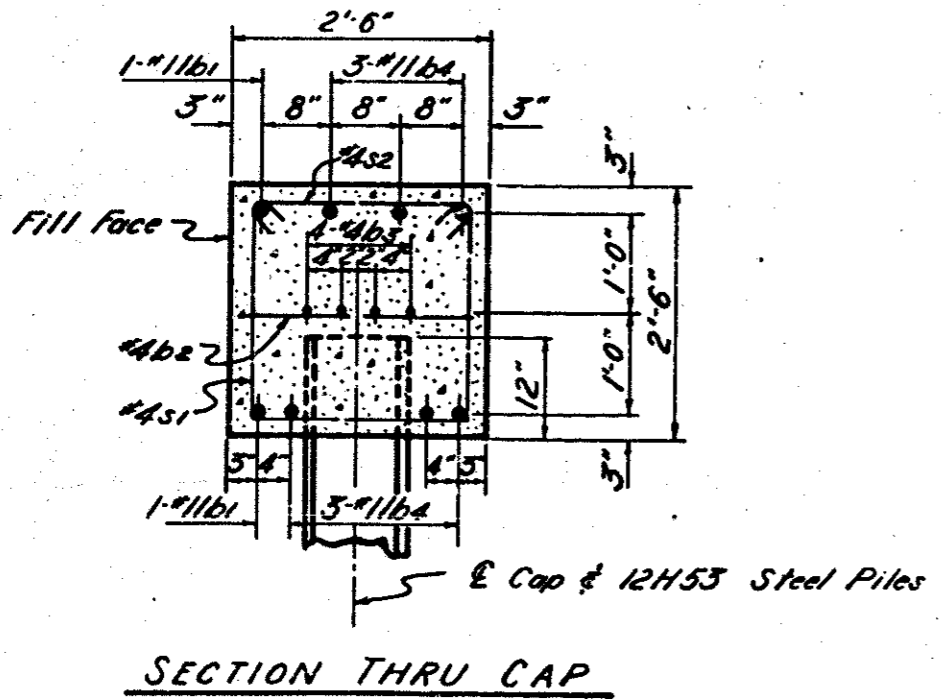
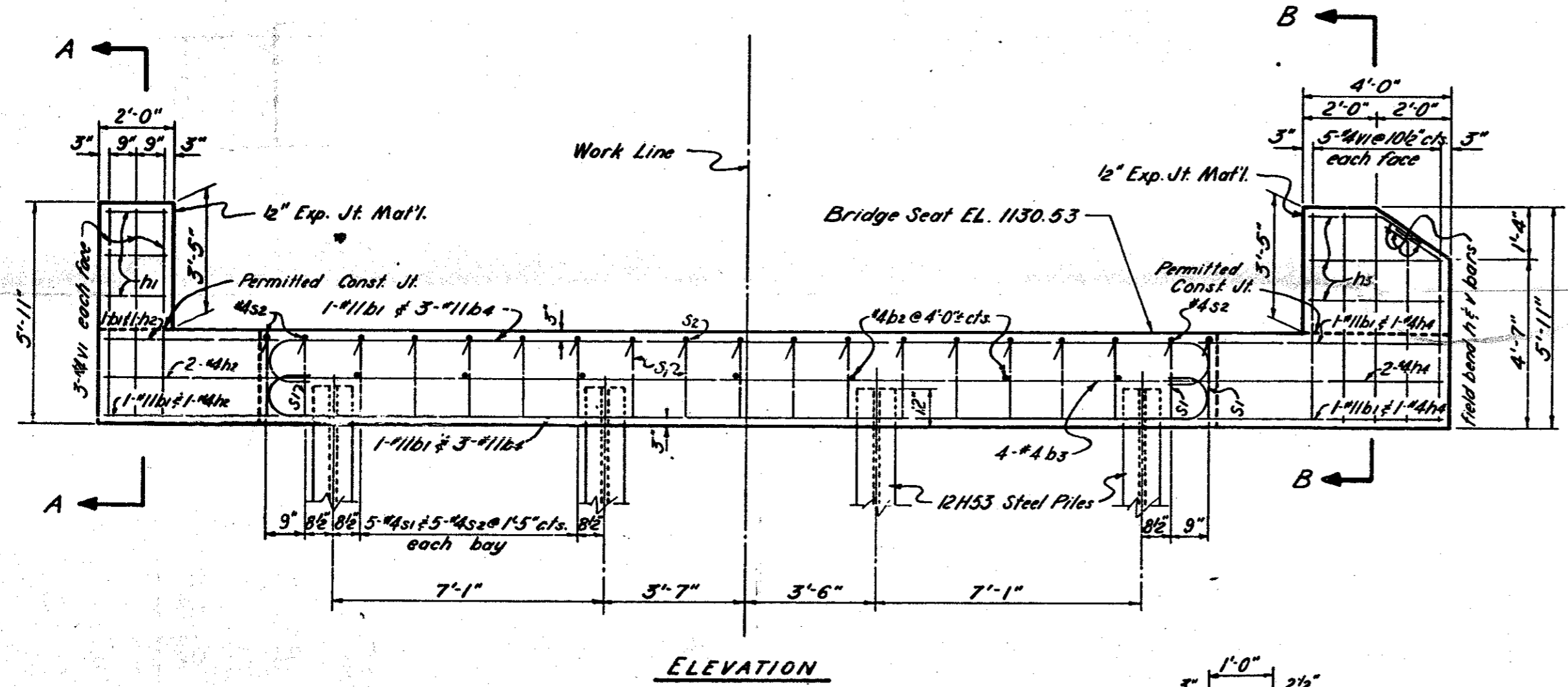
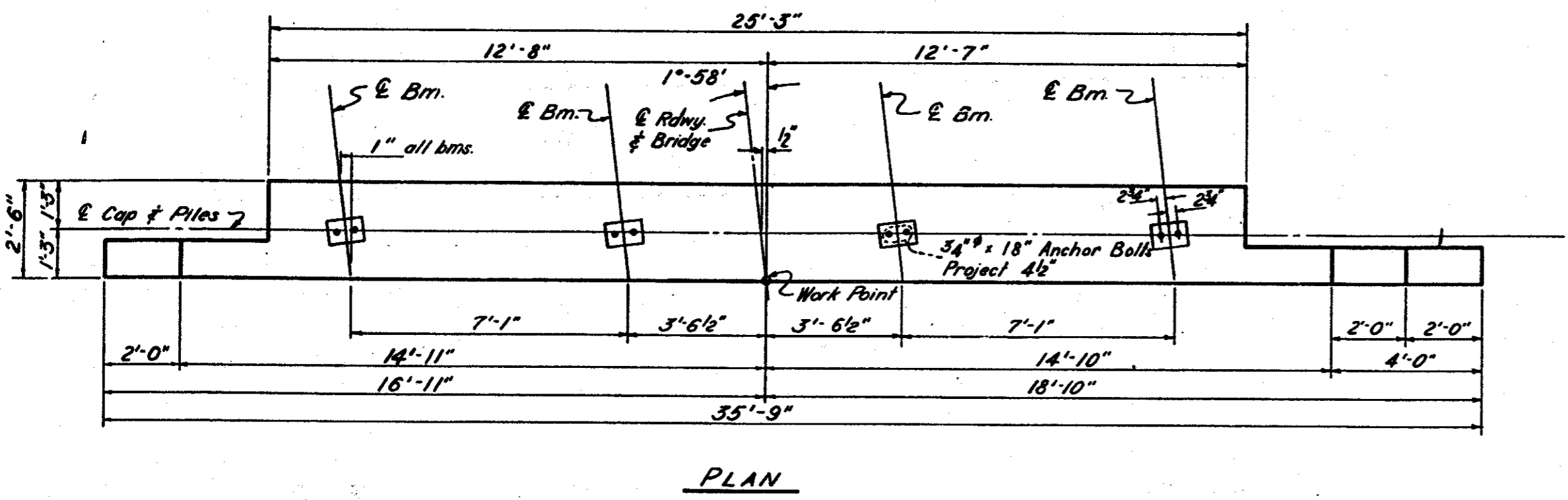
SECTION THRU BEAM



KEY TO BEARING PLATES
Do not use masonry IRs from existing End Bent 1

PROJECT No. 818246
CLEVELAND COUNTY
STATION: 102+29.42

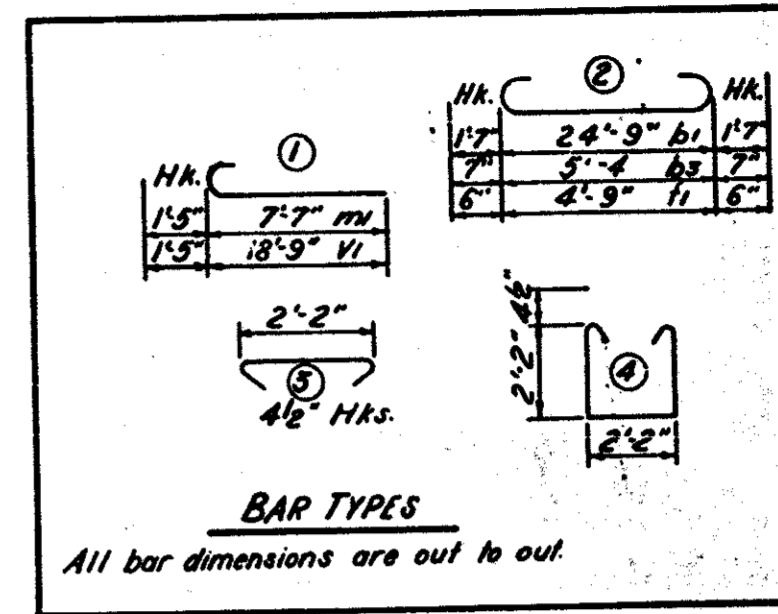
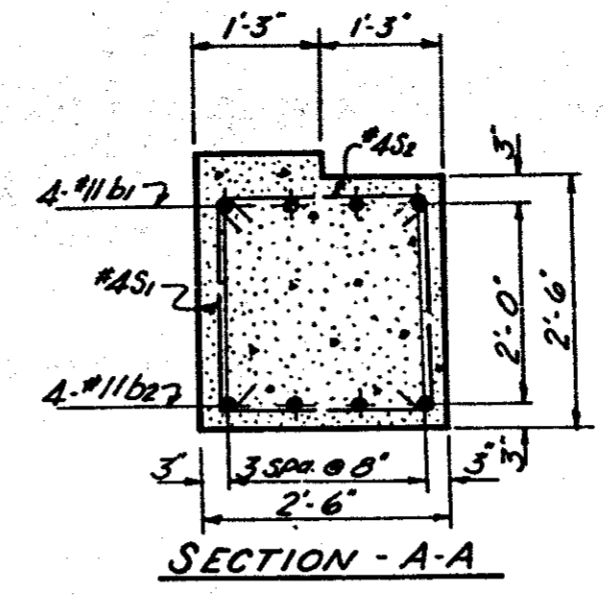
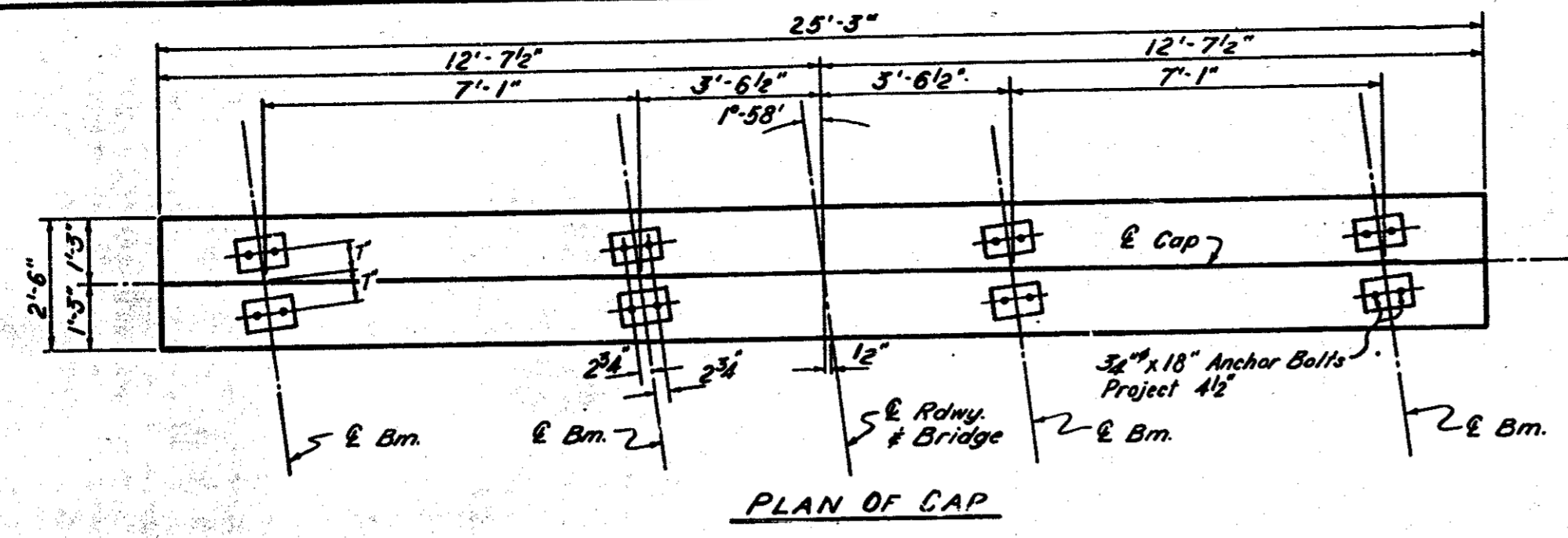
STATE OF NORTH CAROLINA	
STATE HIGHWAY COMMISSION	
RALEIGH	
STRUCTURAL STEEL DETAILS	
MAY 1962	
REVISIONS	DATE



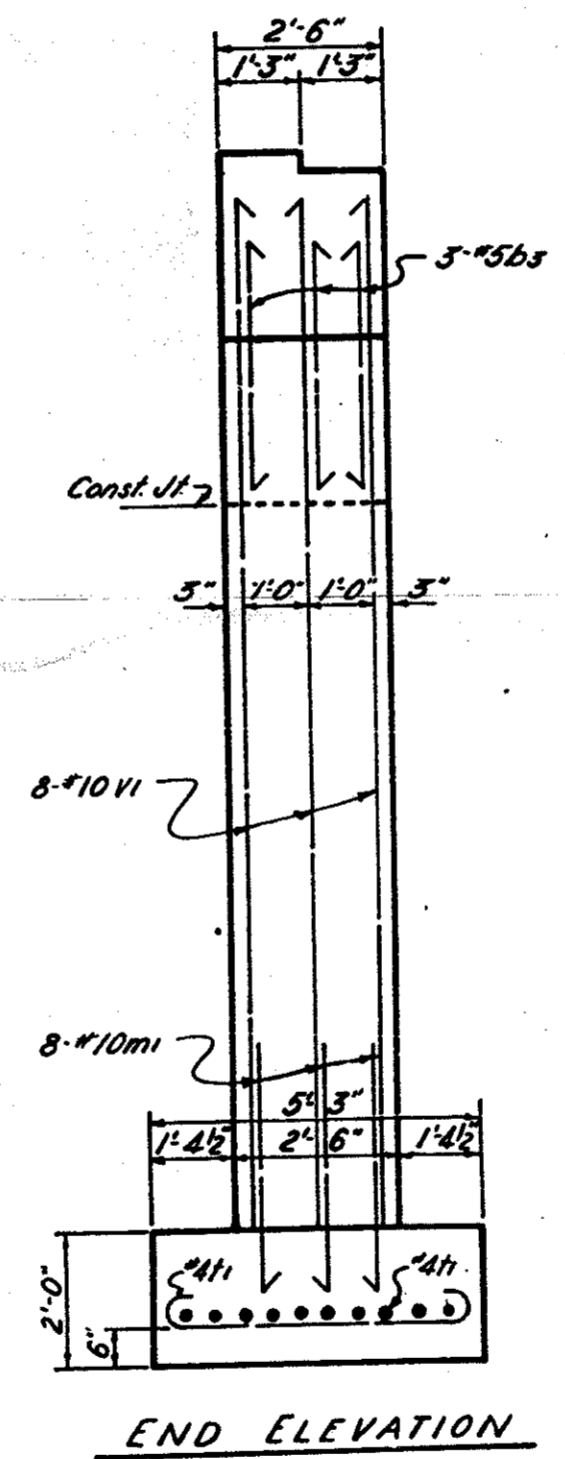
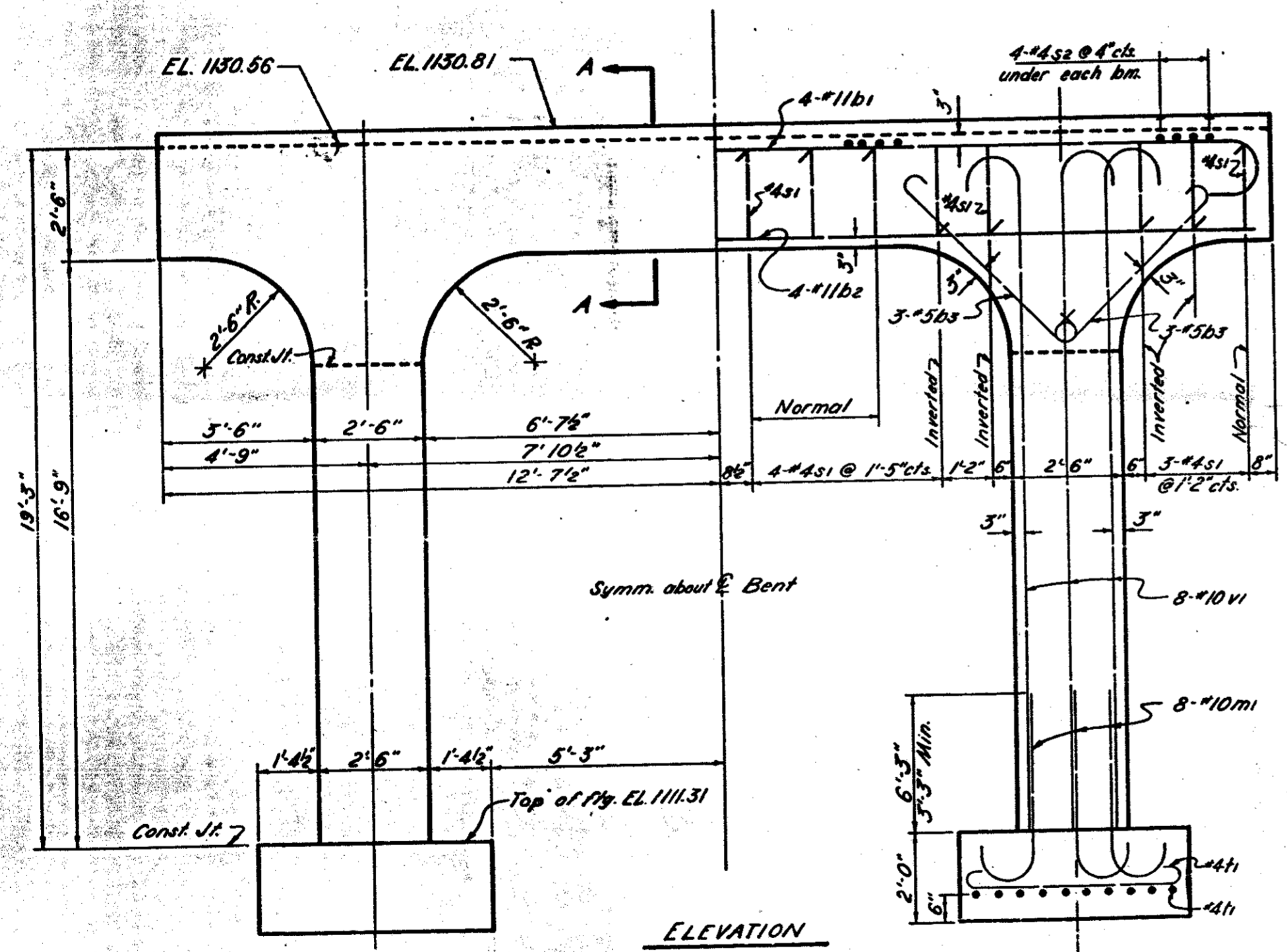
BILL OF MATERIAL						
END BENT 1						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
b1	2	#11	Str.	35'-3"	37	
b2	7	#4	Str.	2'-2"	16	
b3	4	#4	Str.	24'-9"	61	
b4	6	#11	1	27'-11"	89	
h1	6	#4	Str.	1'-7"	6	
h2	4	#4	Str.	5'-6"	19	
h3	6	#4	Str.	3'-7"	14	
h4	4	#4	Str.	7'-6"	20	
s1	19	#4	3	7'-3"	92	
s2	19	#4	2	2'-11"	37	
v1	16	#4	Str.	5'-6"	59	

PROJECT NO. 818246
 CLEVELAND COUNTY
 STATION: 102 + 29.42

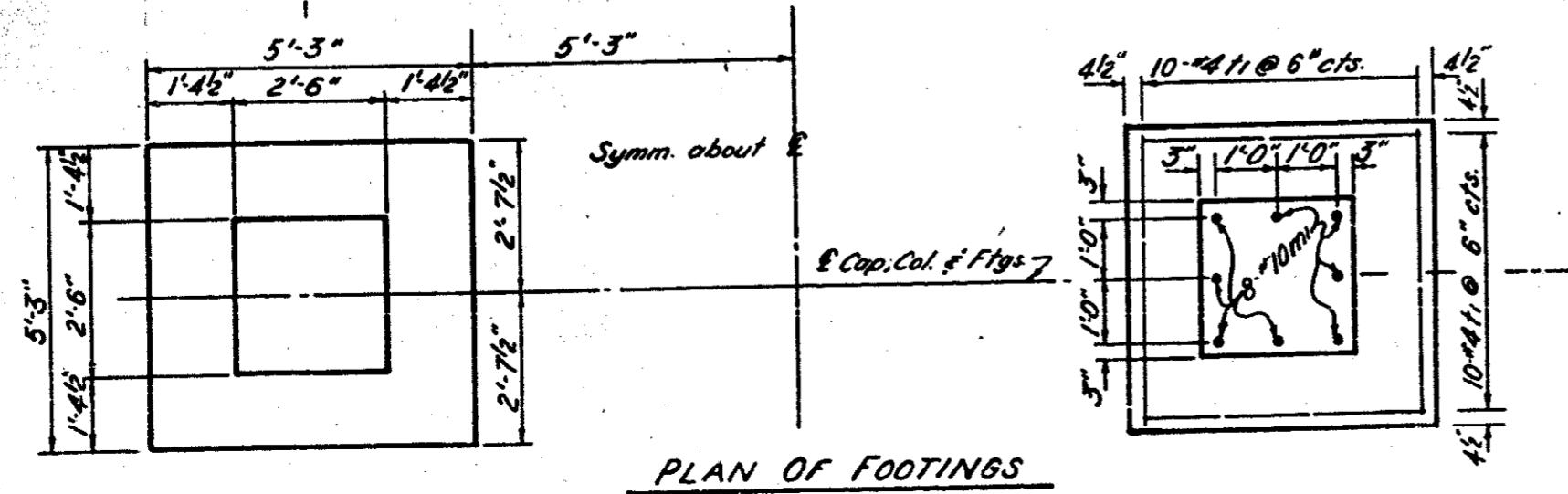
STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION						
END BENT 1						
May 1962						
REVISIONS						
NO.	BY	DATE	NO.	BY	DATE	
1			1			



BILL OF MATERIAL					
BENT 1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
bi	4	#11	2	27'-11"	593
b2	4	#11	Str.	2'-9"	526
b3	12	#5	2	6'-6"	81
mi	16	#10	1	9'-0"	620
si	16	#4	4	7'-5"	77
ss	16	#4	3	2'-11"	51
ti	40	#4	2	5'-9"	154
vi	16	#10	1	20'-2"	1388

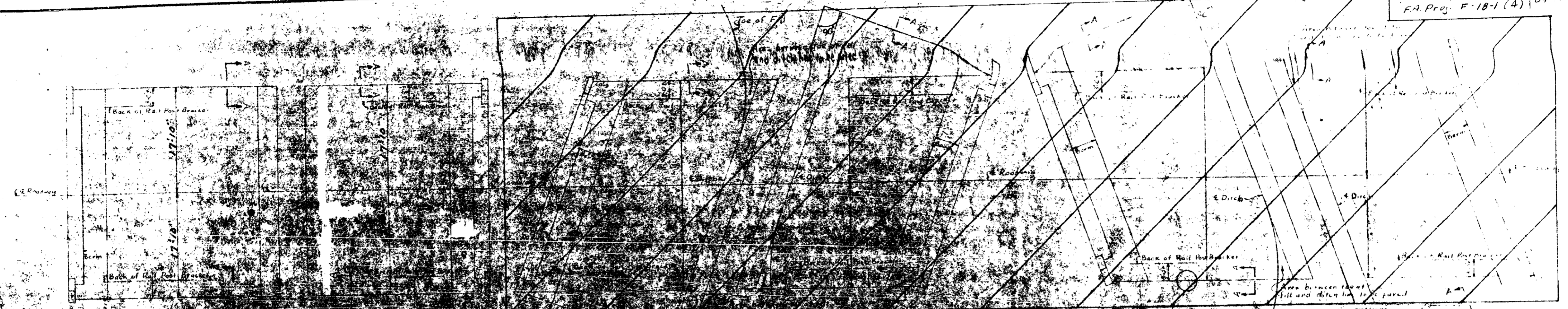


Note: Computed foundation load equals 2 1/2 tons per sq ft. Cap steel may be shifted to clear Anchor Bolts. Bridge seal buildups on Bent 2 (Existing Bent 1) to be removed flush with the top of the cap. The entire cost of this work to be included in the unit contract price bid for Class A Concrete.

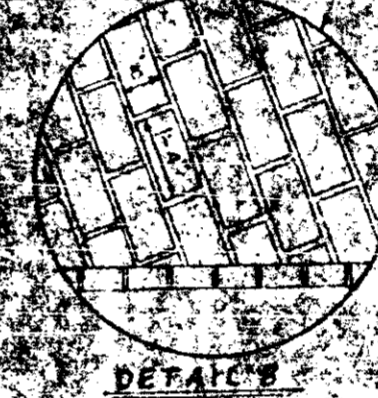
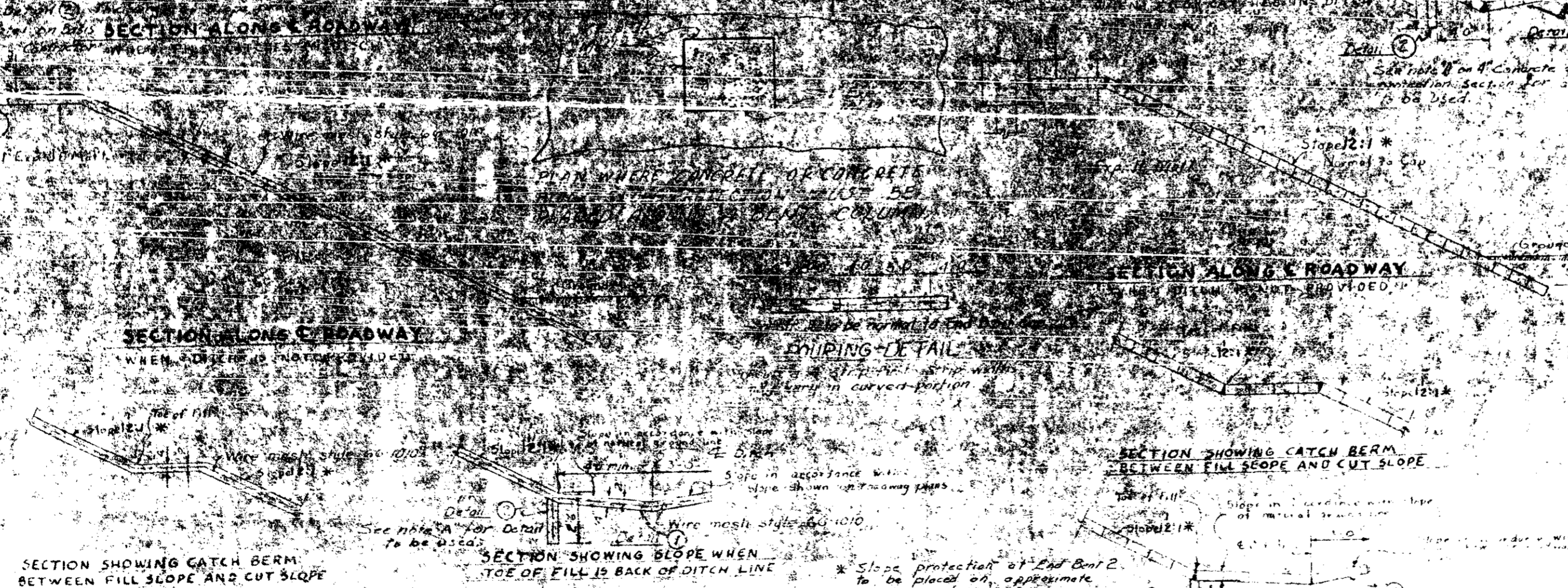


PROJECT NO. 818246
 CLEVELAND COUNTY
 STATION: 102+29.42

STATE OF NORTH CAROLINA STATE HIGHWAY COMMISSION					
BENT 1					
May, 1962					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			1		
2			2		



NOTE A
 If shoulder sand drain constructed under concrete pavement, drains shall be constructed to be considered. The concrete slope shall be constructed in accordance with detail (1) shown. Slope has been completed on basis of detail (1) but will be paid for as determined by field measurement.



SLOPE PROTECTION PAVING
 As shown, slope protection paving shall be placed on the toe of the slope. Limits of the protection shall be as shown in the plan view and shall be accepted on either Alternative A or B as hereinafter defined.
 Immediately before placing the paving, the slope shall be prepared by compacting to a minimum depth of 4 inches. The surface shall be uniformly smooth and uniform and shall not exceed a maximum grade of 1:10. The paving shall be more than 4 inches thick.
ALTERNATE A
 Alternate A shall consist of 4" poured in place concrete paving as shown in detail (1) which shall be Class B using Standard Test Number 3 coarse aggregate. The concrete surface shall be finished with a wooden float and finished.
 The quantity to be placed under this step shall be the number of square feet of slope protection measured to place completely and accepted, plus the volume of the concrete below 4" thickness of protection, for example 8' by 10' by 10' deep.
 The quantity measured as provided for above shall be used for the contract unit price. Cooper course yard for 4" concrete slope protection, complete in place, at price and payment shall be full compensation for all materials, labor, equipment, and other items necessary to complete the work.
ALTERNATE B
 Alternate B shall consist of solid concrete blocks as shown in detail (2) which shall be laid in courses. The blocks shall be laid in the first course with grooved joints preferably laid out parallel to the toe of the slope. The joints shall be laid in a staggered pattern. The joints shall be laid in a staggered pattern. The joints shall be laid in a staggered pattern. The joints shall be laid in a staggered pattern.
 The concrete blocks shall be cast to a depth of 4 inches and shall be laid in a staggered pattern. The joints shall be laid in a staggered pattern. The joints shall be laid in a staggered pattern. The joints shall be laid in a staggered pattern.
 Method of measurement and basis of payment shall be as provided for in Alternative A except that the stone shall be placed on the toe of the slope of 4" concrete slope protection.

PROJECT NO 818246
 CLEVELAND COUNTY
 STATION 102+29.42
 #88

BRIDGE	102+29.42	640	165	153
Width				
Span				
Abutment				
Grade				

STATE HIGHWAY COMMISSION
 STANDARD
 SLOPE PROTECTION PAVING
 DETAILS
 SEPTEMBER 1958

DETAILS FOR ALTERNATE A
 Wire mesh reinforcement to be style 66-1010-60 wide and spaced at 4" on center. Slope protection shall be 4" thick as shown in detail (1). The wire mesh to be included in the contract unit price and paid for as shown on the concrete slope notes.

DETAILS FOR ALTERNATE B

James N. Palmer
 25 May 62