

TOTAL BILL OF MATERIAL

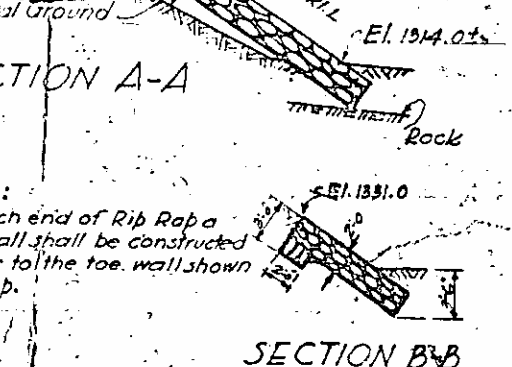
	Class "A" Concrete Cu. Yds.	Class "B" Concrete Cu. Yds.	Reinforcing Steel Lbs.	Excavation Dry Cu. Yds.	Excavation Wet Cu. Yds.	Plain Class 2 Rip Rap Sq. Yds.	Maintenance & Removal of Exist. Struct.
Superstructure	1014.5		222204				
End Bent No 1	57.2		5863	12.5		200	
Pier No 1		22.5	728		2.2		
Pier No 2		121.0	728		7.5		
Pier No 3		122.1	728		7.5		
Pier No 4		113.5	865		6.0		
Pier No 5		122.7	728		9.0		
Pier No 6		133.8	728	2.5	7.0		
Pier No 7		125.1	728	2.5	7.0		
End Bent No 2	57.6		8983	12.5	1.0	1200	
Total	1167.1	805.7	232233	28.5	48.5	1700	Lump Sum

This structure, built in accordance with the original plans and specifications, with the exception of revisions, required to be made during construction and shown elsewhere in this estimate.

Signed: *[Signature]* Resident Engineer.

NOTE: This bridge is to be built on a 2% Grade. The handrails, gutters, slabs and curbs shall conform to the grade. Hand rail posts and balusters shall be built plumb. The elevations shown do not include any allowance for settlement of the individual spans which should be provided for in addition to the elevations given. After the falsework has been removed the finished structure shall have the elevations shown.

DESIGN DATA:
 Specifications
 Assumed Live Load
 Impact Allowance
 Reinforcing Steel (Flexural)
 Reinforcing Steel (Web)
 Concrete in Compression (Superstructure)
 Concrete in Compression (Substructure)
 Concrete in Shear
 Equivalent Fluid Pressure of Earth
 CONCRETE: Air entraining concrete shall be used through out for all Class "A" and class "B" concrete. See Specifications for details.
 REINFORCING STEEL: All reinforcing steel shall be deformed bars. All dimensions relative to reinforcement are to centers of bars. No splices of bars other than those shown on plans will be permitted. Where splicing of reinforcement is necessary, bars are to be lapped 48 diameters. Reinforcing steel shall be securely held in correct position.
 MECHANICAL VIBRATION: All concrete except in handrails to be compacted by "Mechanical Vibrations."
 CHAMFERS: All exposed corners of concrete shall be chamfered 1" except on railings and expansion joints. Corners of all rails and posts shall be chamfered 3/4". Corners of expansion joints shall be chamfered 1/2".
 NAME PLATES: Two name plates shall be placed on the bridge, one on each right hand end post approaching the bridge.
 FOUNDATION DATA: The excavation and foundation data, and all elevations of ground line and water surface are believed to be correct and are furnished for the convenience of the bidders, but the State Highway and Public Works Commission assumes no responsibility for nor guarantees as correct any of the information given. See Specifications for details.
 MATERIAL & WORKMANSHIP: All material and workmanship shall be in accordance with the Specifications of the North Carolina State Highway and Public Works Commission.
 EXPANSION JOINT MATERIAL: Expansion joint material may be either rubber compound or cork conforming to the requirements of the A. R. S. H. O. Specifications for "Expansion Joint Material."
 SURFACE FINISH: Concrete Surfaces shall be finished in accordance with the Specifications except that substructure concrete shall be given a Class 2 surface finish.
 MAINTENANCE & REMOVAL OF EXISTING STRUCTURE: See "Special Provisions"

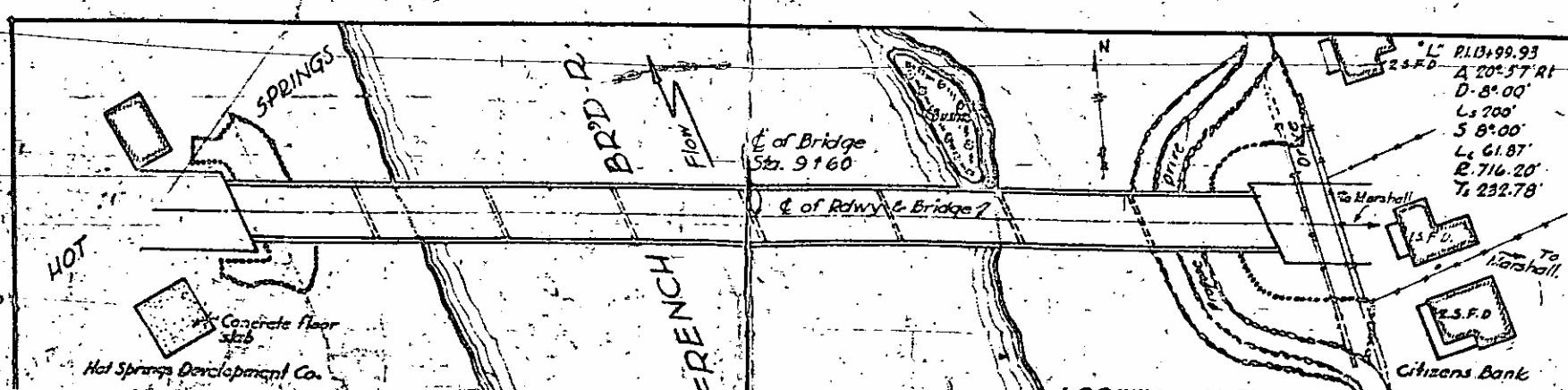


PROVISION OF CLASS "A" CONCRETE

Hard size No 3 Coarse Aggregate	1108.6 Cu. Yds.
Hard size No 4 Coarse Aggregate	55.5 Cu. Yds.
Class A Concrete	1164.1 Cu. Yds.

DATE: Oct. 1942
 DATE: Oct. 1942
 DATE: MAR. 1943

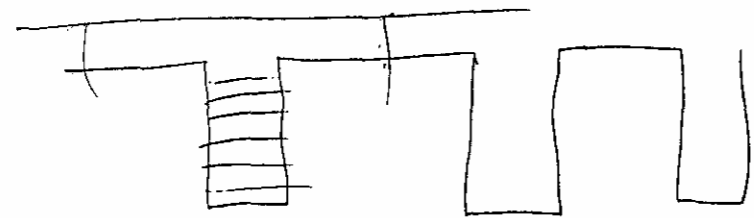
B.M. U.S.G.S. Standard Dist. in top North end of pier cap - present bridge. El. 1331.87.

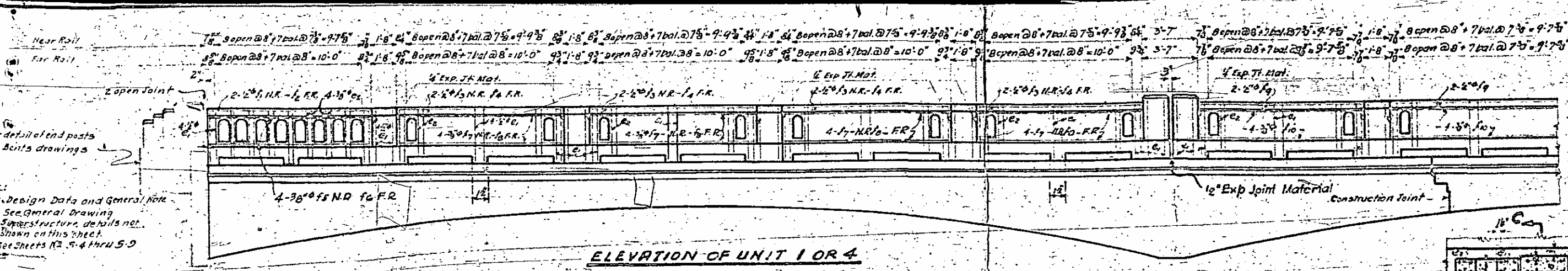


STATE OF NORTH CAROLINA
 STATE HIGHWAY AND PUBLIC WORKS COMMISSION

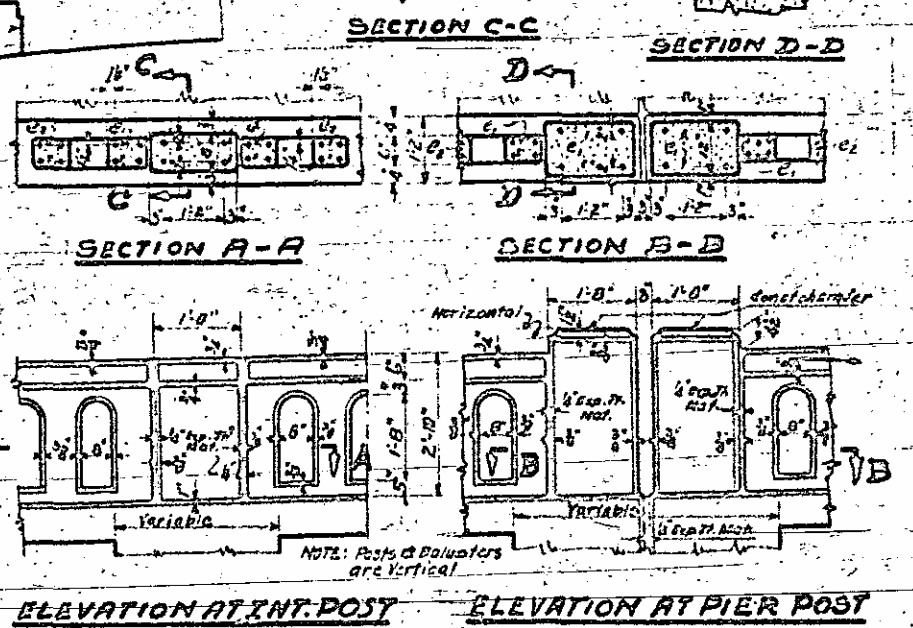
GENERAL DRAWING
 FOR
 BRIDGE OVER
 FRENCH BROAD RIVER
 OCT-1942

PROJECT NO. 9709
 MADISON COUNTY
 STATION: 9+60

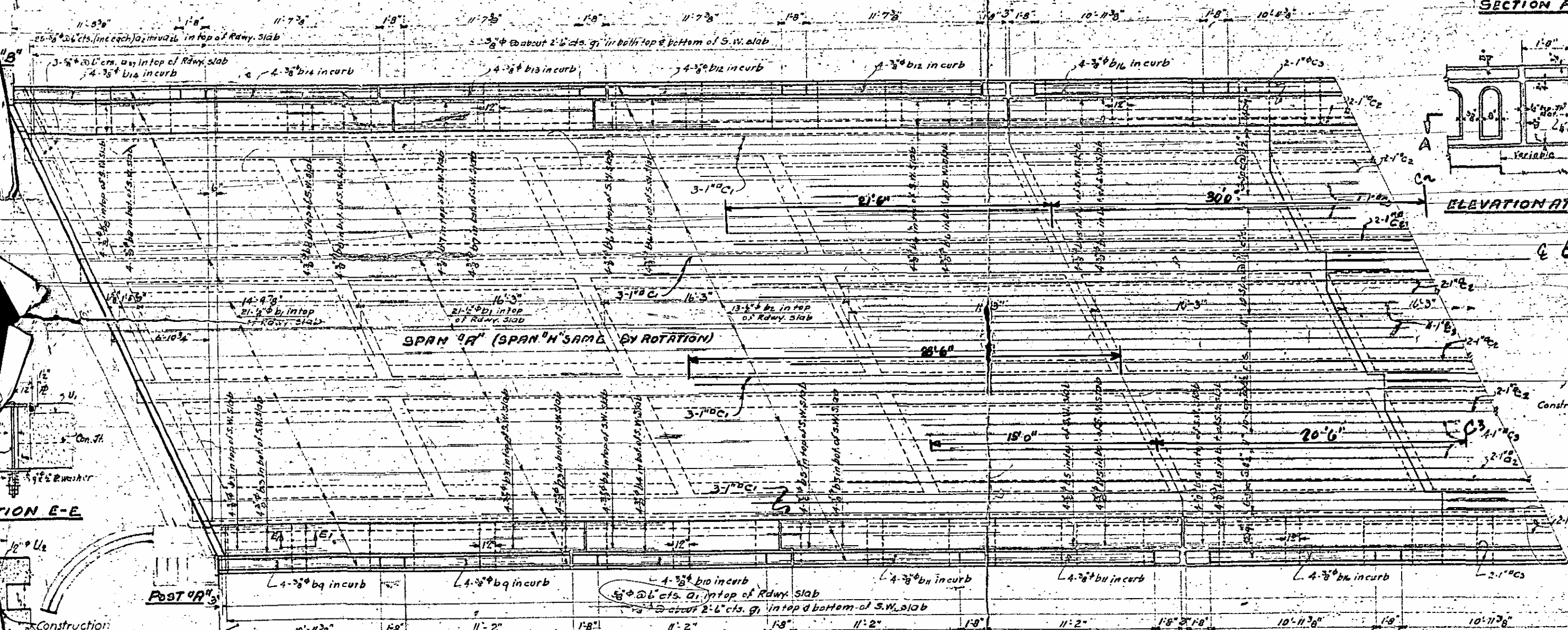




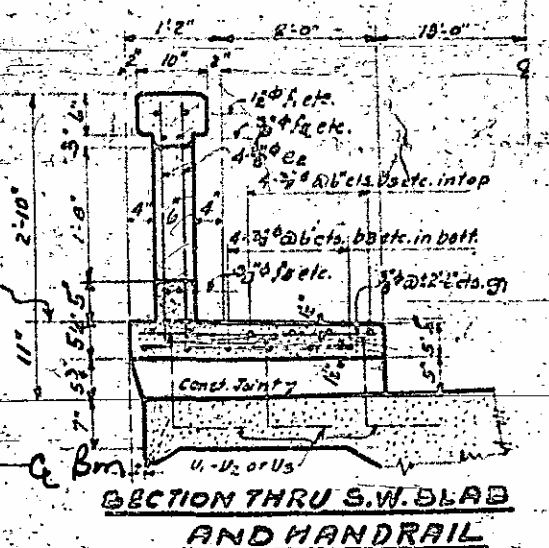
ELEVATION OF UNIT 1 OR 4



SECTION A-A SECTION B-B SECTION C-C SECTION D-D

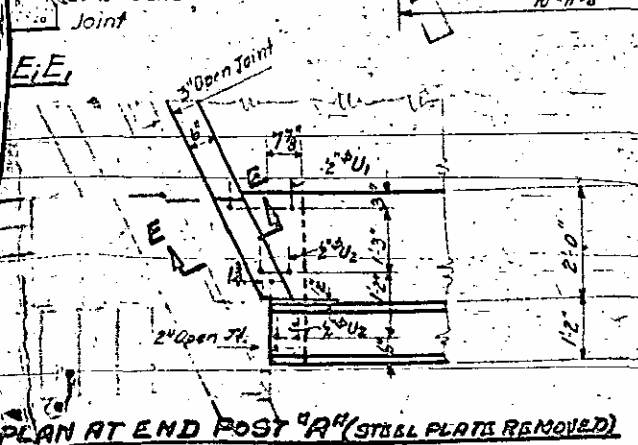


PLAN OF UNIT 1 - SHOWING REINFORCING STEEL IN TOP OF ROADWAY SLAB & S.W. (UNIT 6 - SAME BY ROTATION)

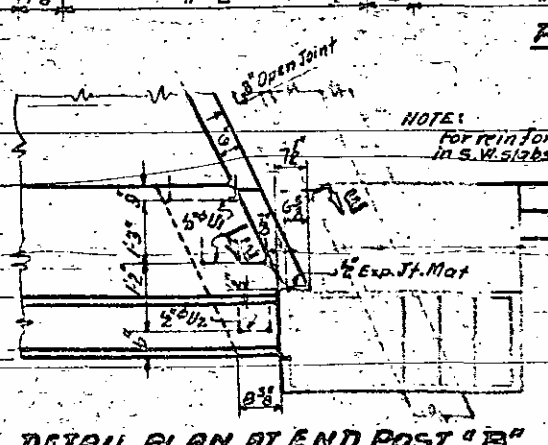


SECTION THRU S.W. SLAB AND HANDRAIL

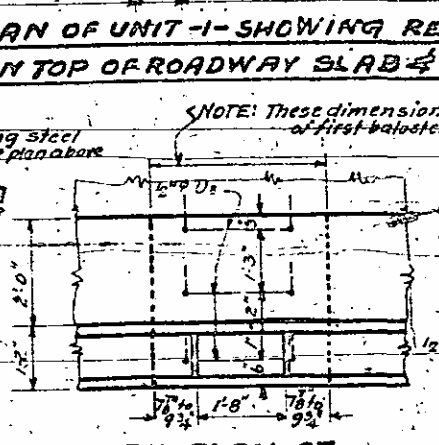
PROJECT NO. 9709
MADISON COUNTY
STATION 9+60



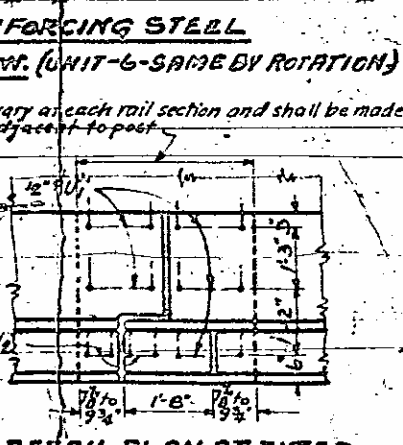
PLAN AT END POST "A" (STEEL PLATE REMOVED)



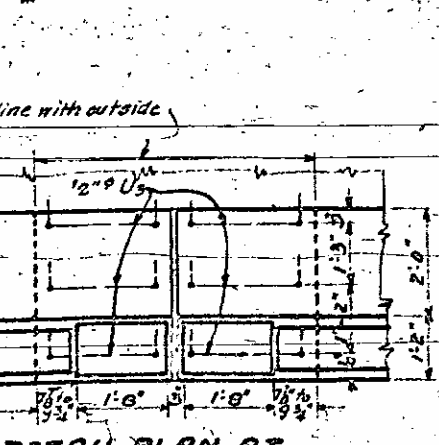
DETAIL PLAN AT END POST "B" (STEEL PLATE REMOVED)



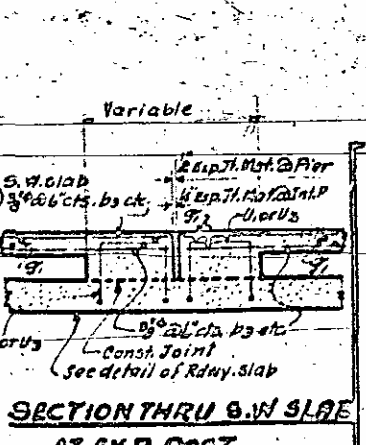
DETAIL PLAN AT INTERMEDIATE POST



DETAIL PLAN AT INTER POST EXP. JOINT



DETAIL PLAN AT DOUBLE POST

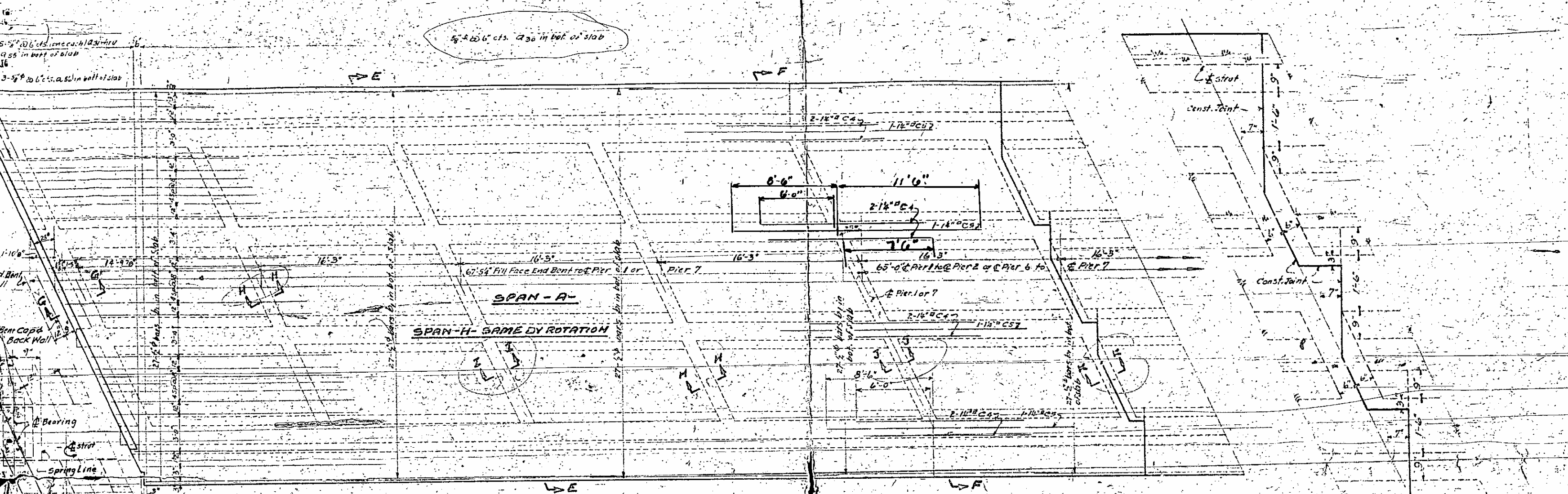


SECTION THRU S.W. SLAB AT EXP. POST

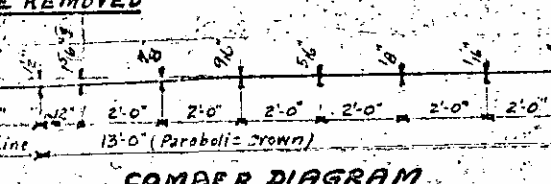
STATE OF NORTH CAROLINA
STATE HIGHWAY AND PUBLIC WORKS COMMISSION
SUPERSTRUCTURE DETAILS
FOR
HOT SPRINGS BRIDGE
OVER FRENCH BROAD RIVER
NOVEMBER 1942

DATE: Oct. 1942
DATE: Nov. 1942
DATE: Jan. 1943

PLAN NO.

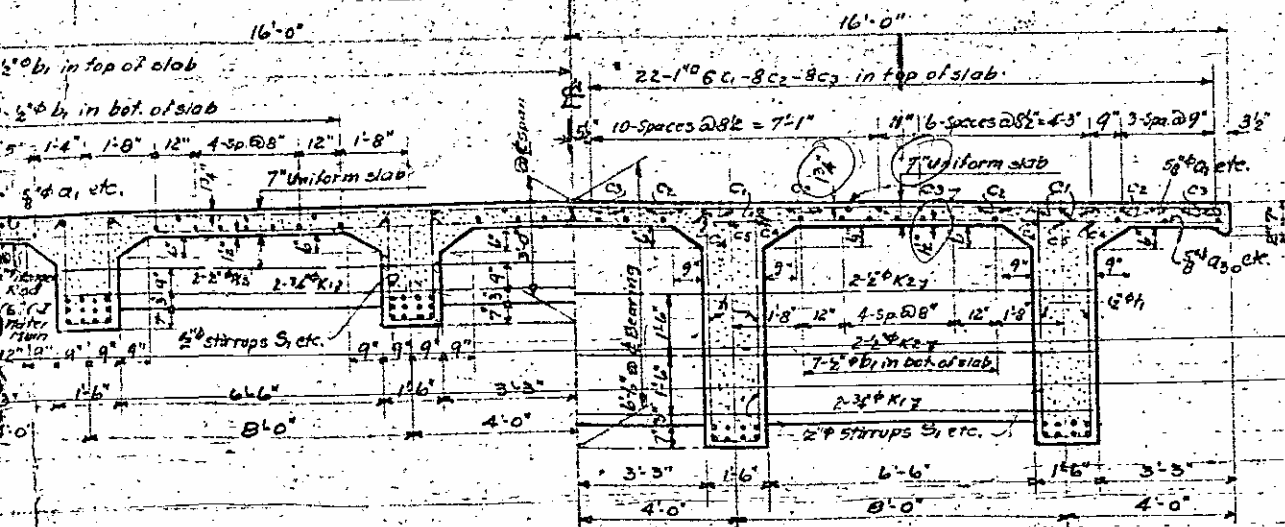


PLAN OF UNIT 1 - SHOWING REINFORCING STEEL (UNIT 6 - SAME BY ROTATION) IN BOTTOM OF ROADWAY SLAB (S.W. SLAB AND CURB REMOVED)

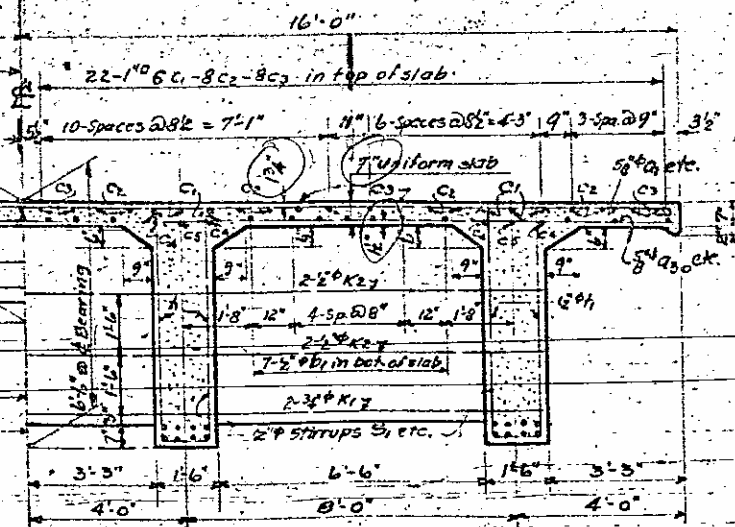


CAMBER DIAGRAM

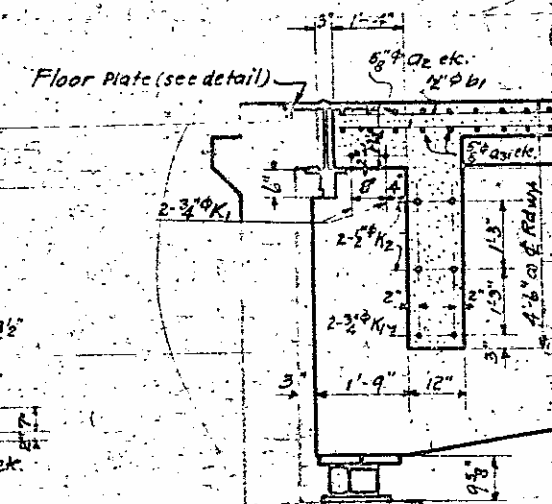
NOTE: For detail of S.W. slab, curb and rail see Sheet No. 5-3



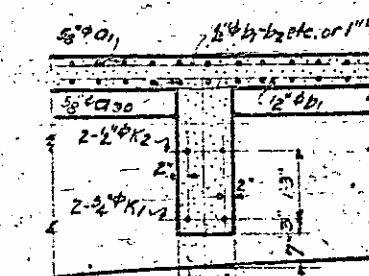
HALF SECTION E-E



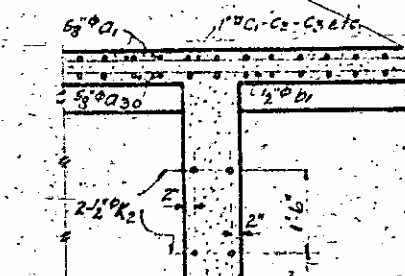
HALF SECTION F-F



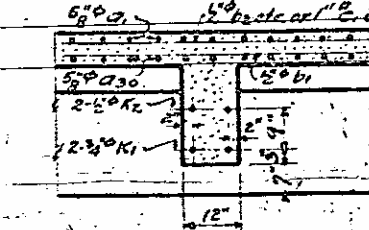
SECTION G-G



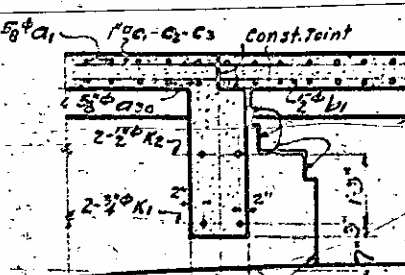
SECTION H-H



SECTION J-J



SECTION I-I



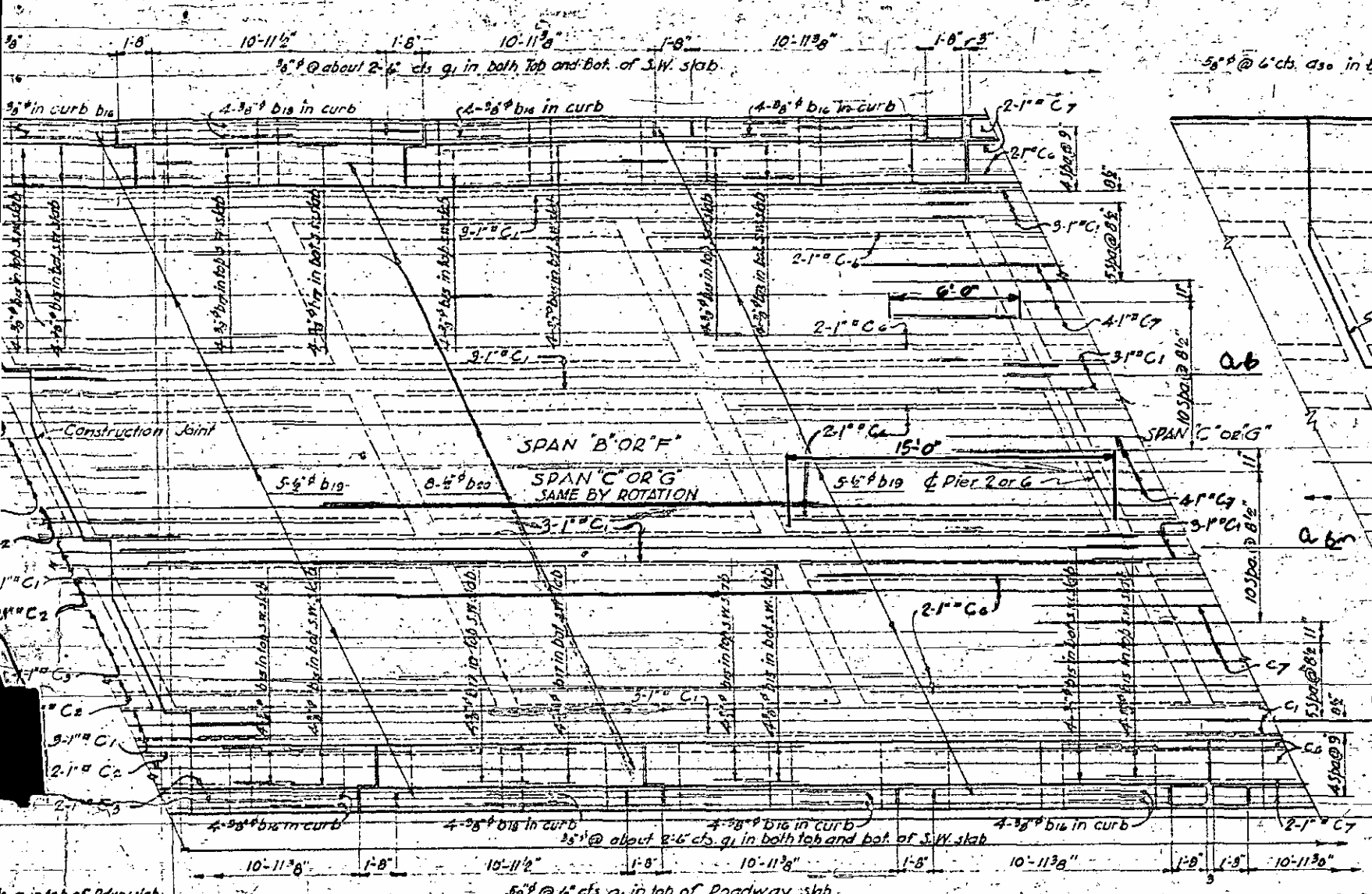
SECTION K-K

CONSTRUCTION JOINT DETAILS

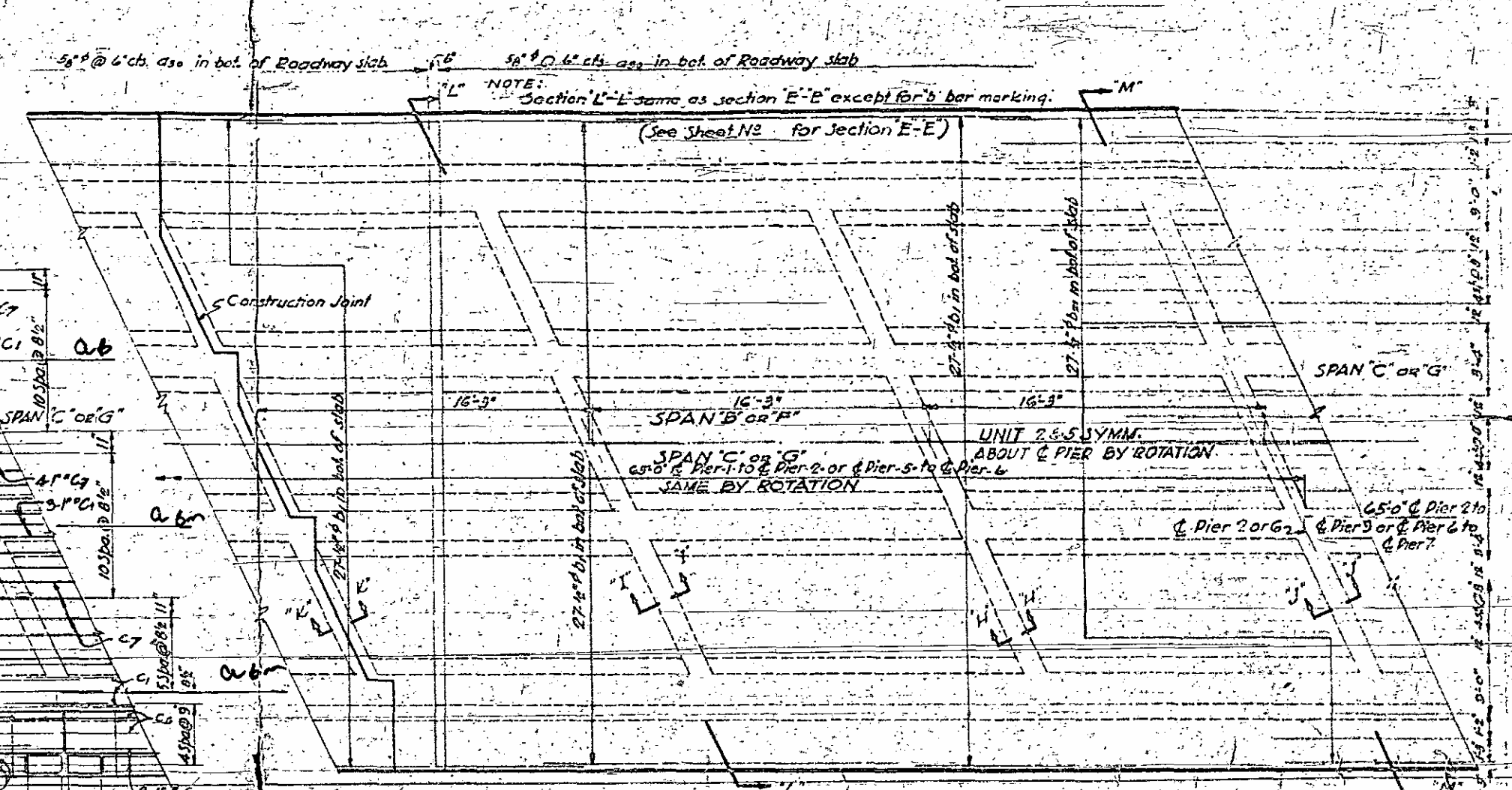
PROJECT NO. 9709
MADISON COUNTY
STATION: 9+60

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION
SUPERSTRUCTURE DETAILS
FOR
HOT SPRINGS BRIDGE
OVER FRENCH BROAD RIVER
NOVEMBER 1942

DATE
OCT 1942
DATE NOV 1942
DATE NOV 1942

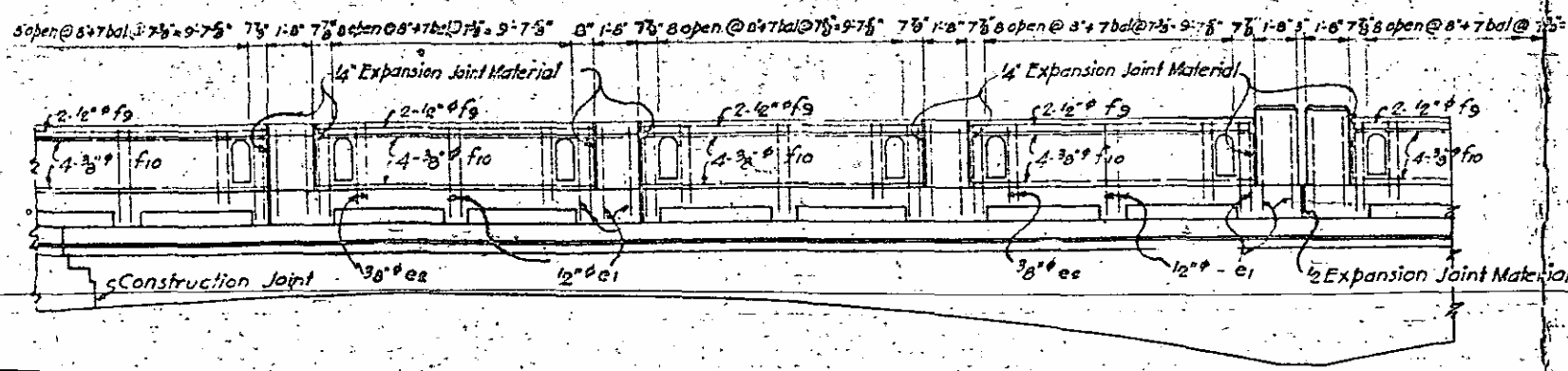


HALF PLAN OF UNIT 2 OR 5 SHOWING REINFORCING STEEL IN TOP OF ROADWAY SLAB & S.W.

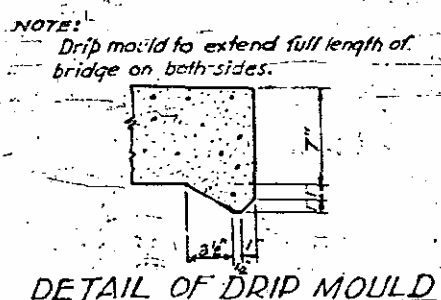


HALF PLAN OF UNIT 2 OR 5 SHOWING REINFORCING STEEL IN BOTTOM OF ROADWAY SLAB (SIDEWALK SLAB AND CURB REMOVED)

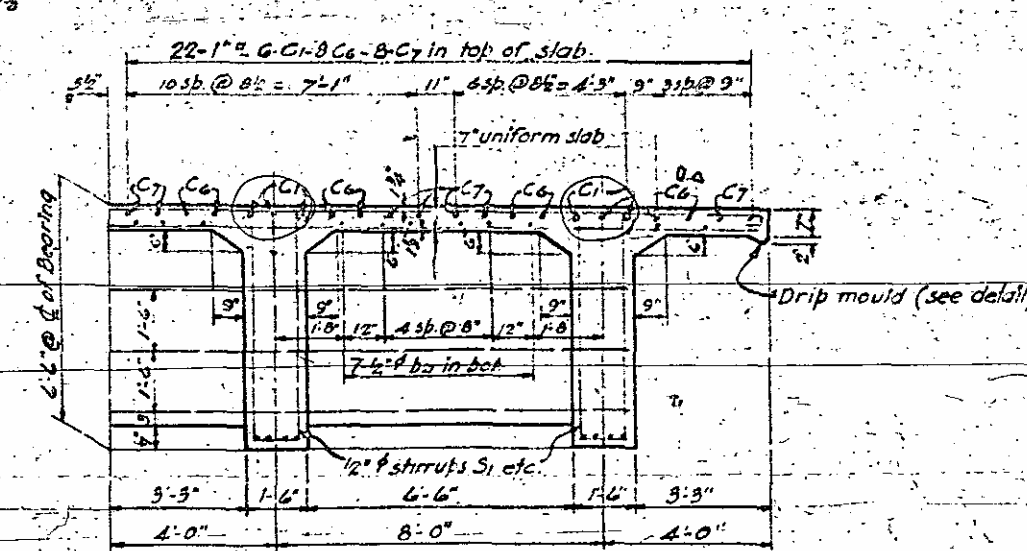
NOTE: For "Design Data" and "General Notes" see General Drawing. For "Superstructure details not shown on this sheet see Sheets Nos. 5-3-5-4-5-6-5-7 R.3-B



HALF ELEVATION OF UNIT 2 OR 5



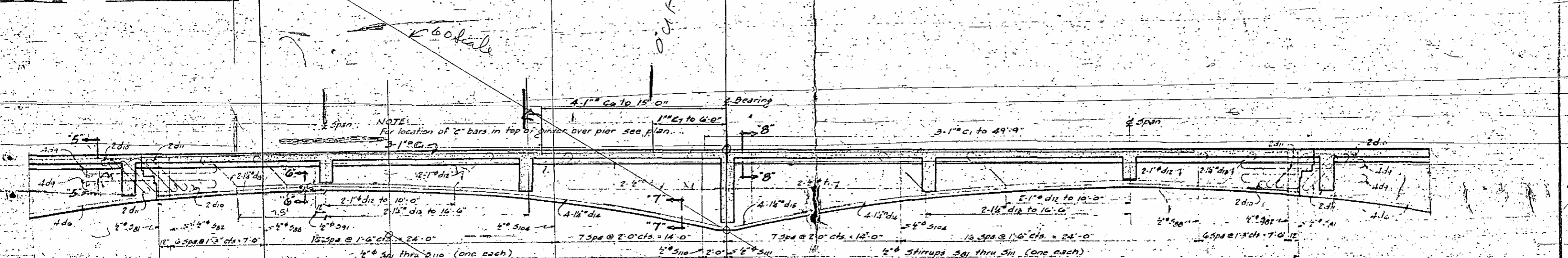
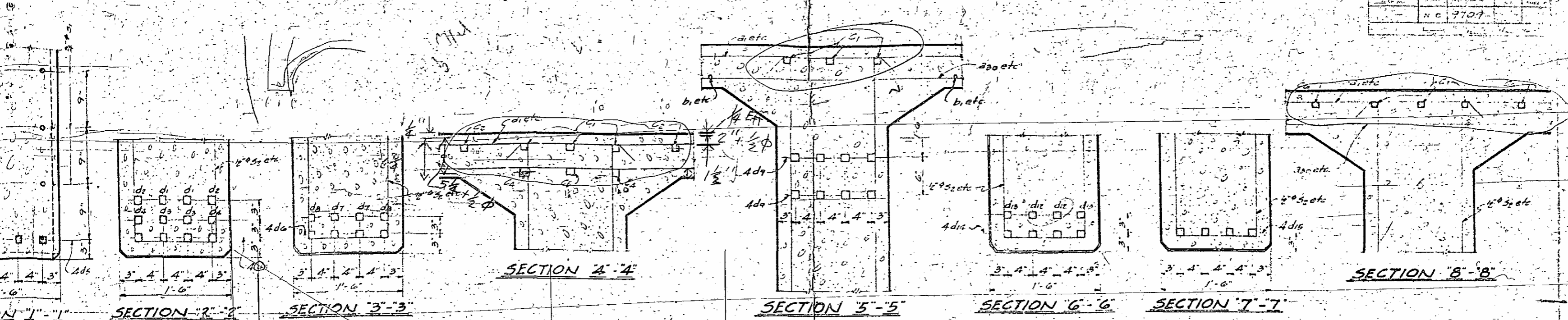
DETAIL OF DRIP MOULD



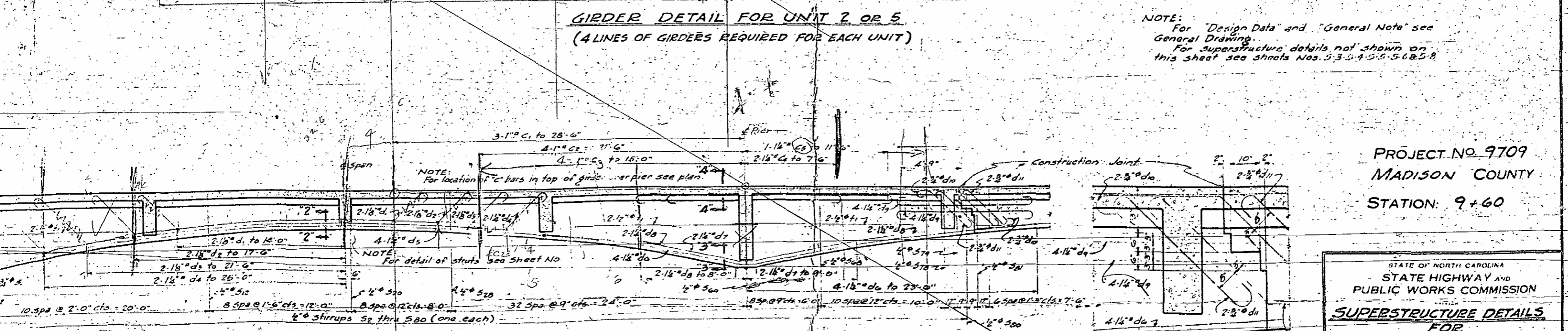
HALF SECTION "M-M"

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STATE HIGHWAY AND
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OVER FRENCH BROAD RIVER
NOVEMBER 1942.



NOTE:
For "Design Data" and "General Note" see General Drawing.
For superstructure details not shown on this sheet see sheets Nos. 3-3, 4-4, 5-5, 6-6, 7-7.



PROJECT NO. 9709
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STATE OF NORTH CAROLINA
STATE HIGHWAY AND
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SUPERSTRUCTURE DETAILS
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OVER
FRENCH BROAD RIVER
DECEMBER 1942

DATE Oct. 1942
DATE Nov. 1942
DATE Dec. 1942



TOTAL BILL OF MATERIAL FOR EIGHT SPANS OF SUPERSTRUCTURE

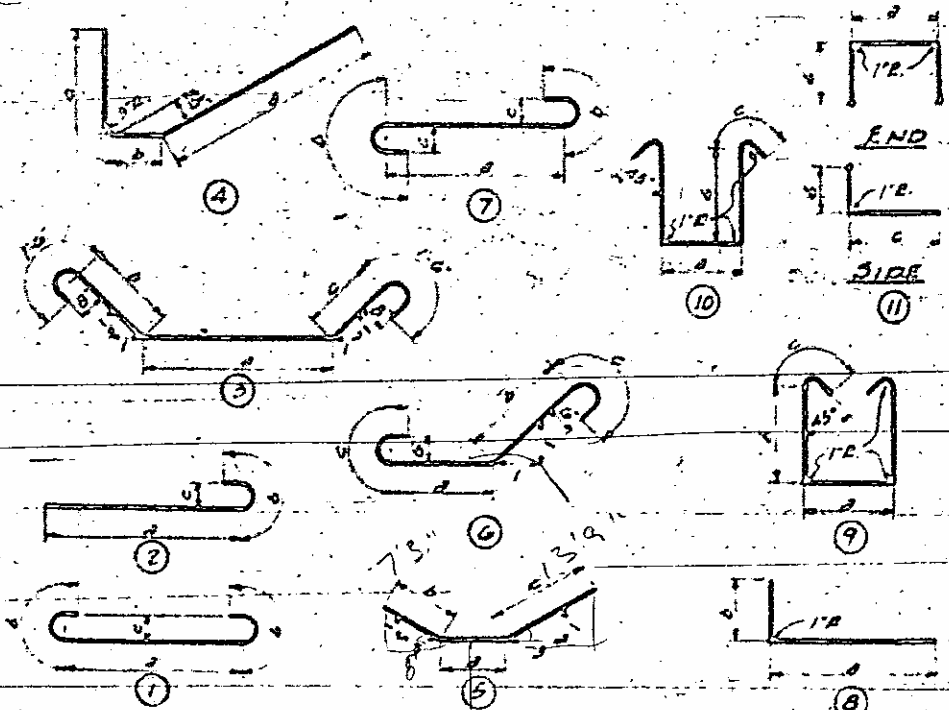
N.C. 9709

Dimensions		No. Bars Per Unit						Total	Length	Weight	Bar	Type	Dimensions			Size	No. Bars Per Unit						Total	Length	Weight	
1	2	1	2	3	4	5	6	Bars	ft.	lbs.			a	b	c		Bars	1	2	3	4	5	6	Bars	ft.	lbs.
10.0	10.0	10	10	10	10	10	10	100	10.0	1000	10	10	10	10	10	10	10	10	10	10	10	10	10	1000	10.0	1000

DIVISION OF CLASS 'A' CONCRETE
 Std Size No 3 Course Aggregate = 961.6 cu yds
 Std Size No 4 Course Aggregate = 52.9 cu yds
 Total Class 'A' Concrete = 1014.5 cu yds

NOTE:
 For "Design Data" and "General Note"
 See General Drawing
 For Superstructure Details not shown
 on this sheet see sheet Nos. 3-3-4-5-6
 3-6-5-7

Total Reinforcing Steel Lbs = 263,472
 Class 'A' Concrete cu yds = 1014.5



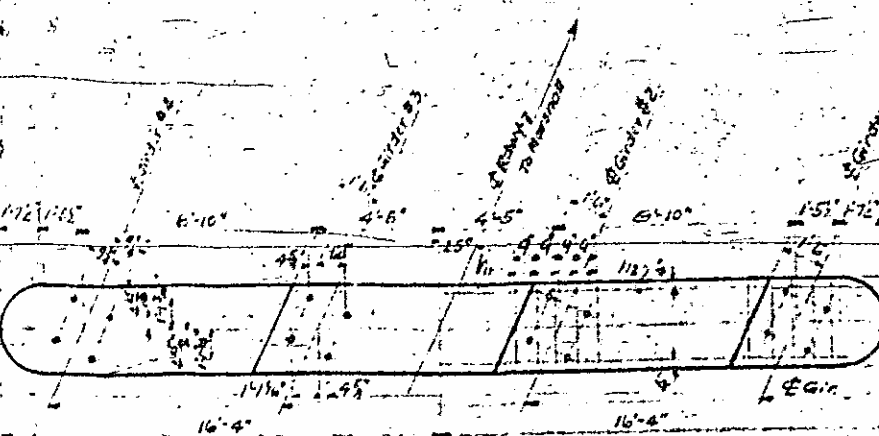
BAR TYPES

PROJECT NO. 9709
 MADISON COUNTY
 STATION: 9+60

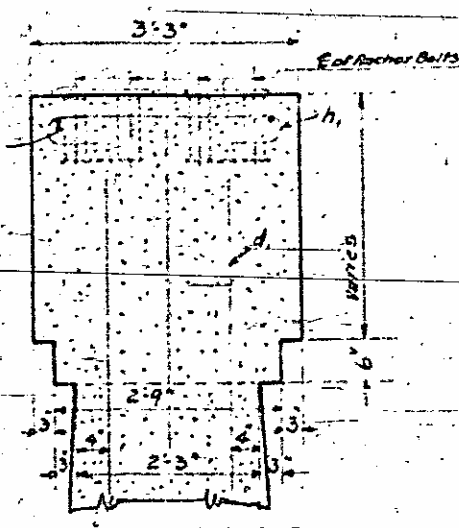
STATE OF NORTH CAROLINA
 STATE HIGHWAY AND
 PUBLIC WORKS COMMISSION
SUPERSTRUCTURE DETAILS
 FOR
HOT SPRINGS BRIDGE
 OVER
FRENCH BROAD RIVER
 DECEMBER 1942

DATE: Oct. 1942
 DRAWN BY: G. W. E.
 CHECKED BY: G. W. E.
 DATE: Dec. 1942

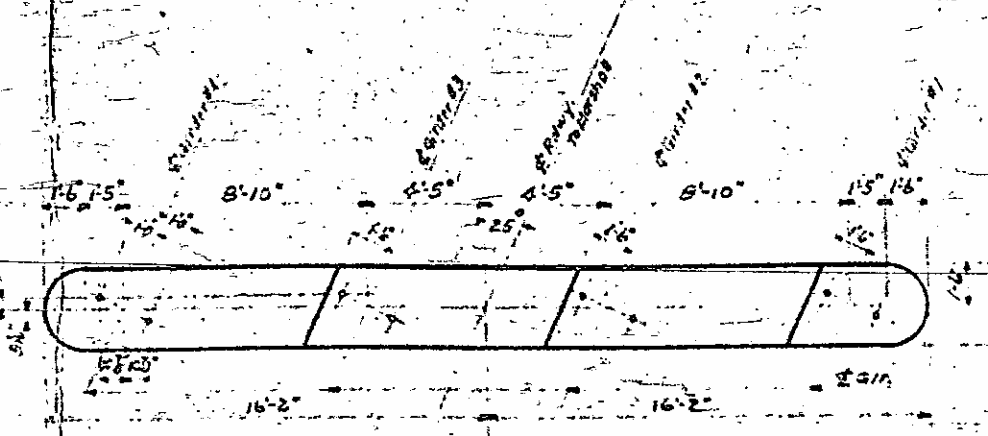
1. 27.0 3710
 2. 34.6 4751
 3. 52.5 8823



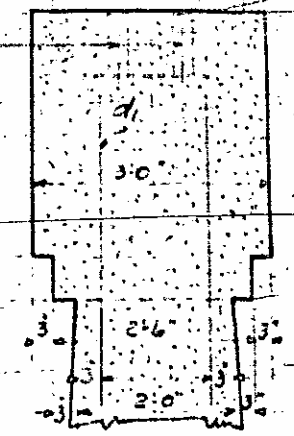
PLAN OF COPING



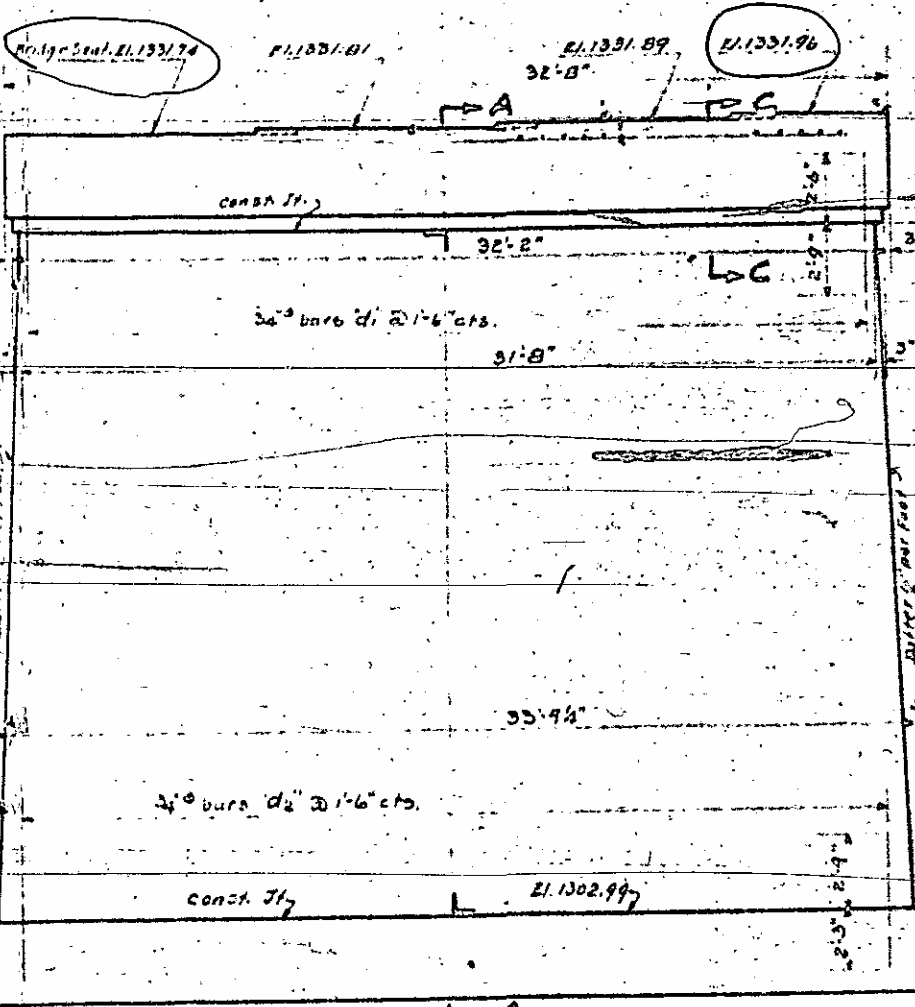
SECTION C-C



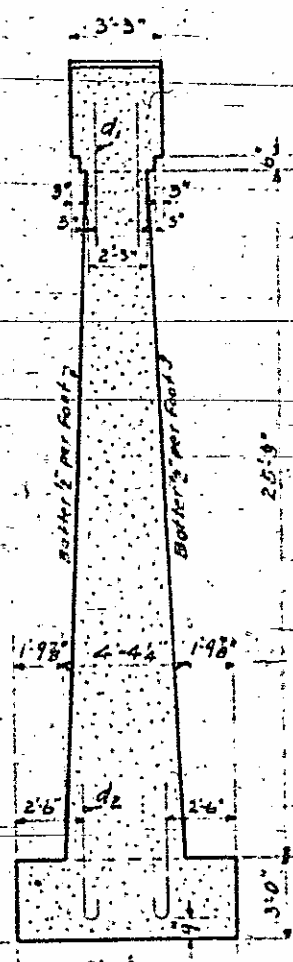
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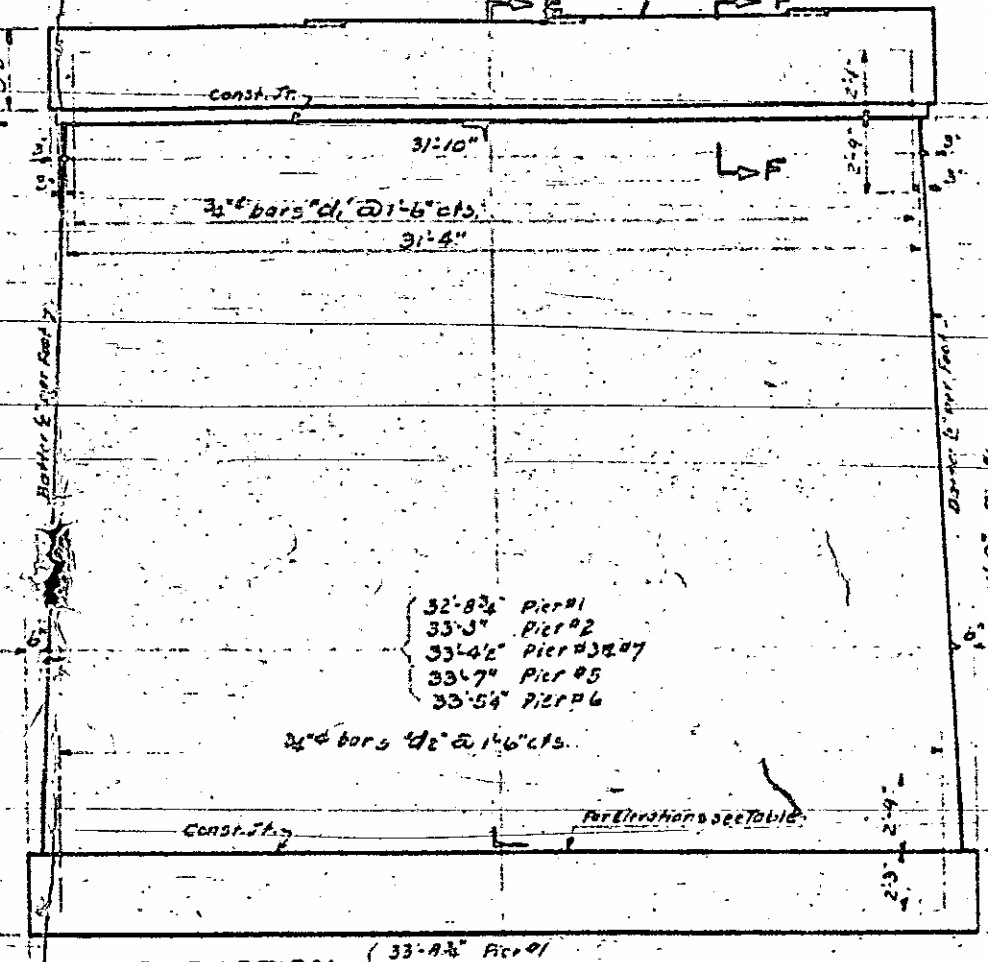
SECTION F-F



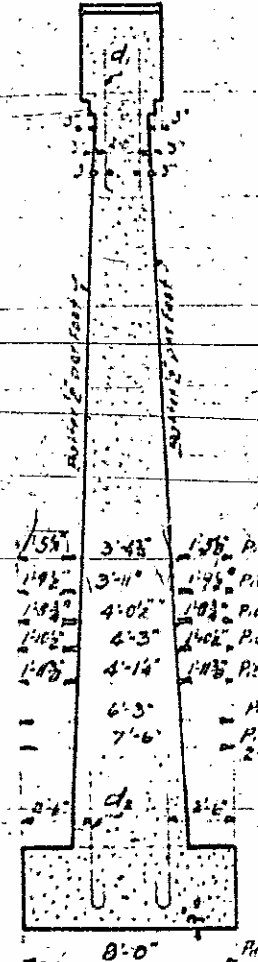
ELEVATION PIER #4



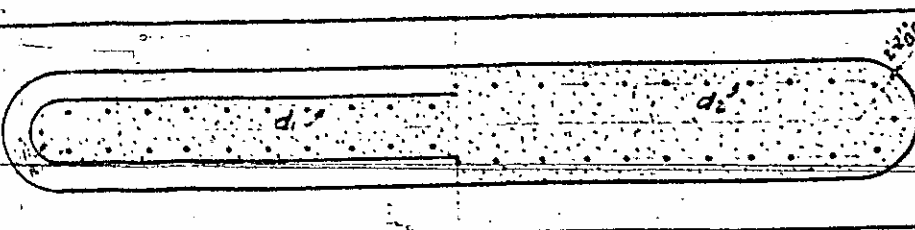
SECTION A-A



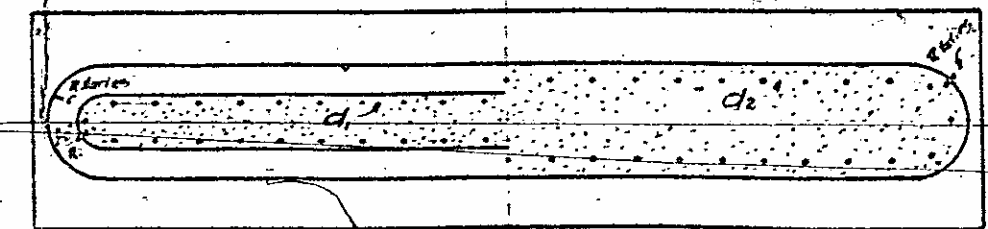
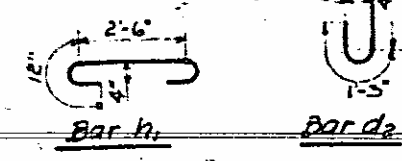
ELEVATION



SECTION E-E



SECTION B-B



SECTION D-D FOR PIERS #2-3-5-6 OR 7

BILL OF MATERIAL PIER #4

Bar	NR	SIZE	LENGTH	WEIGHT
d ₁	42	3"Ø	5'3"	331
d ₂	44	3"Ø	6'-0"	397
h	20	5"Ø	4'-6"	94
h ₂	4	2"Ø	16'-0"	43
Reinforcing Steel Lbs.				865
CLASS "B" CONCRETE CU.YDS.				73.5

BRIDGE SEAT ELEVATIONS

	GIRDER #1	GIRDER #2	GIRDER #3	GIRDER #4	TOP OF FOOTING ELEVATIONS
PIER #1	1328.04	1328.27	1328.13	1328.12	1307.87
PIER #2	1329.72	1329.55	1329.57	1329.50	1305.00
PIER #3	1330.94	1330.97	1330.79	1330.72	1302.72
PIER #5	1333.58	1333.51	1333.43	1333.36	1302.86
PIER #6	1334.96	1334.89	1334.81	1334.74	1305.99
PIER #7	1336.16	1336.11	1336.03	1335.96	1307.96

BILL OF MATERIAL (CHE PIER)

CLASS "B" CONCRETE	BAR	NR	SIZE	LENGTH	WEIGHT		
Pier #1	CU.YDS.	62.5	d ₁	42	3"Ø	5'3"	331
Pier #2	CU.YDS.	12.0	d ₂	44	3"Ø	6'-0"	397
Pier #3-7	CU.YDS.	12.1					
Pier #5	CU.YDS.	12.7					
Pier #6	CU.YDS.	12.0					
Reinforcing Steel Lbs.						728	

PROJECT NO 9709
MADISON COUNTY
STATION: 9+60
PIER 1-2-3-4-5-6 & 7

STATE OF NORTH CAROLINA
STATE HIGHWAY AND
PUBLIC WORKS COMMISSION
**PIER DETAILS
FOR
HOT SPRING BRIDGE
OCTOBER 1942**

