

81150701

Reproduction
Name-File
(Rev. 4/1/75)

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION & HIGHWAY SAFETY
REPRODUCTION DEPT., HIGHWAY BLDG.
RALEIGH, N. C. 27611

Project No. 81150701 County Beaufort Reel No. 1512
Position No. 11

Type of Plan: Bridge

REMARKS:

2 SETS OF PLANS CONSISTING OF: TITLE
TYPICAL SECTIONS, DETAILS, AND PLAN & PRO-
FILE SHEETS FOR ROADWAY, OR TITLE AND PLAN
SHEETS FOR BRIDGE, THESE HAVE BEEN MADE
AND SENT BACK TO THE DIVISION.
8/18/95

SHEET NO. INDEX

TITLE SHEET
ORIGINAL TITLE SHEET
INDEX OF SHEETS, GENERAL NOTES,
AND LISTS OF STANDARDS
TYPICAL SECTION
SUMMARY OF DRAINAGE QUANTITIES
PLAN SHEETS
CROSS SECTIONS
ELECTRICAL PLAN SHEETS
LANDSCAPE PLAN SHEETS

UTILITY PLAN SHEETS
SIGNING PLAN SHEETS
CULVERT PLAN SHEETS
2-29 STRUCTURE PLAN SHEETS
COMPUTATION SHEET FOR ITEMS NOT
COMPUTED IN PAY RECORD BOOKS

AS CONSTRUCTED PLANS

THESE PLANS MICRO-FILMED
BY
NORTH CAROLINA
DEPT. OF TRANSPORTATION

REPRODUCTION
8/18/95

PROJECT NO. : 8 11 50 701
F.A. NO. : FBDNHS-306(001)
T.I.P. NO. : F-2800
COUNTY : BEAUFORT
DESCRIPTION : Pamlico River Ferry Basin Ramps ON
NC-306 Between Aurora and Both.
DIVISION NO. : TWO
CONTRACTOR : HMG, INC.
812 N. ELM ST.
GREENSBORO, NC 27401
DIVISION ENGINEER : MR. G.R. SHIRLEY, JR., P.E.
RESIDENT ENGINEER : MR. J.A. WOLF, JR., P.E.

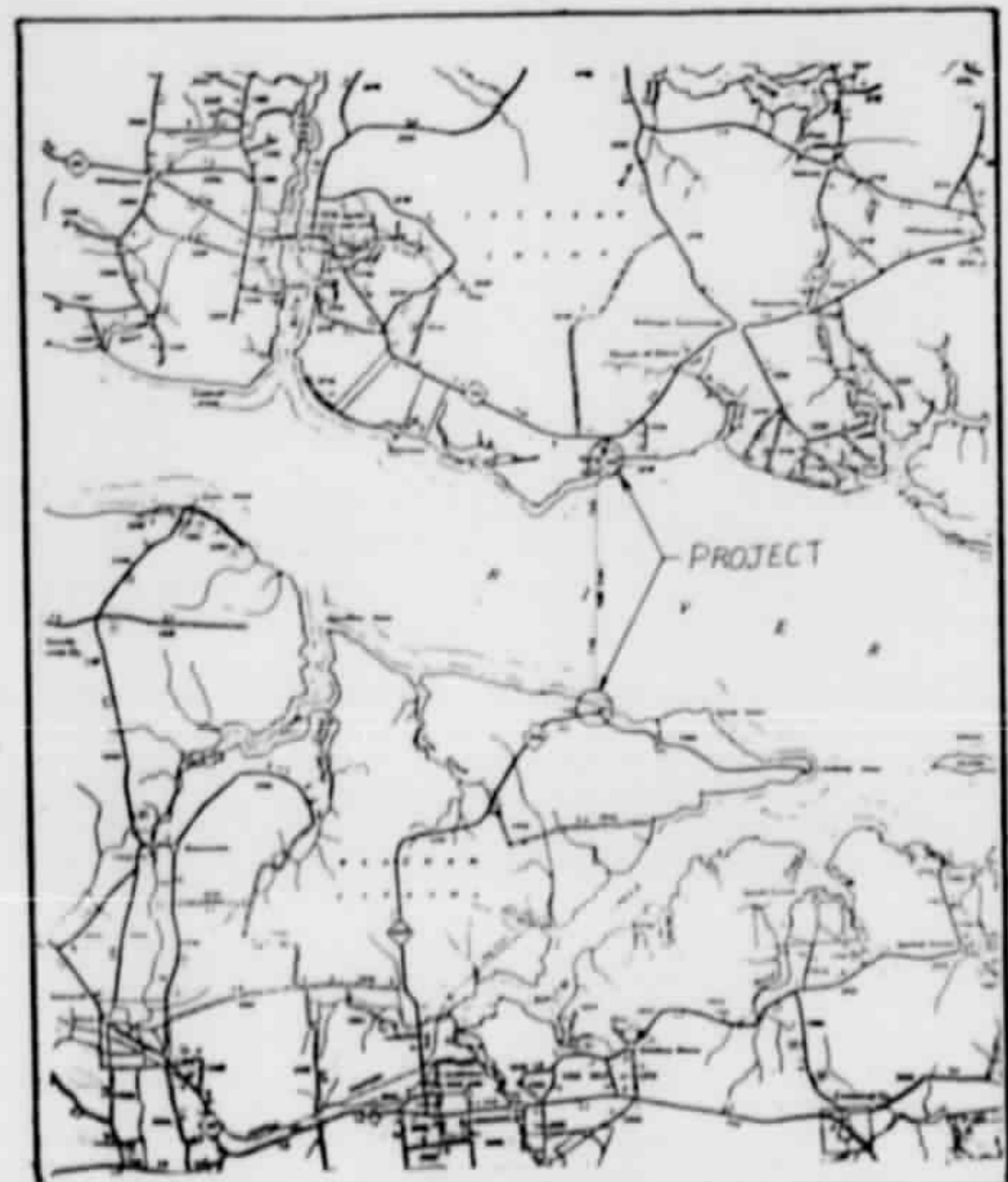
I HEREBY CERTIFY THAT THIS PROJECT
WAS CONSTRUCTED ACCORDING TO
PLANS EXCEPT AS NOTED HEREIN.

J. Wolf
RESIDENT ENGINEER

FINAL RIGHT OF WAY HAS BEEN CHECKED.

Alvin E. Fryer
DIVISION RIGHT OF WAY AGENT

69
 PROJECT: 8.1150701
 F-2800

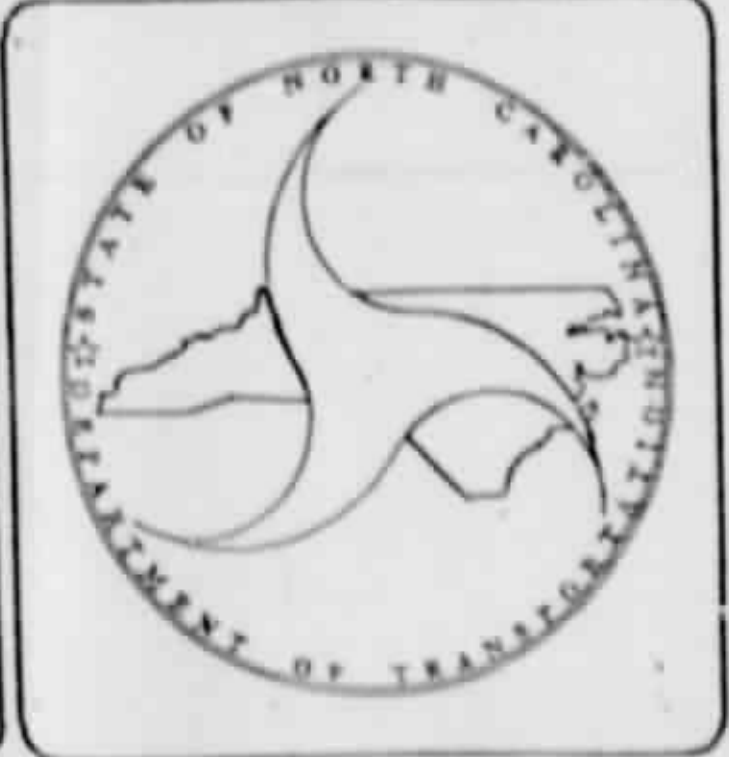
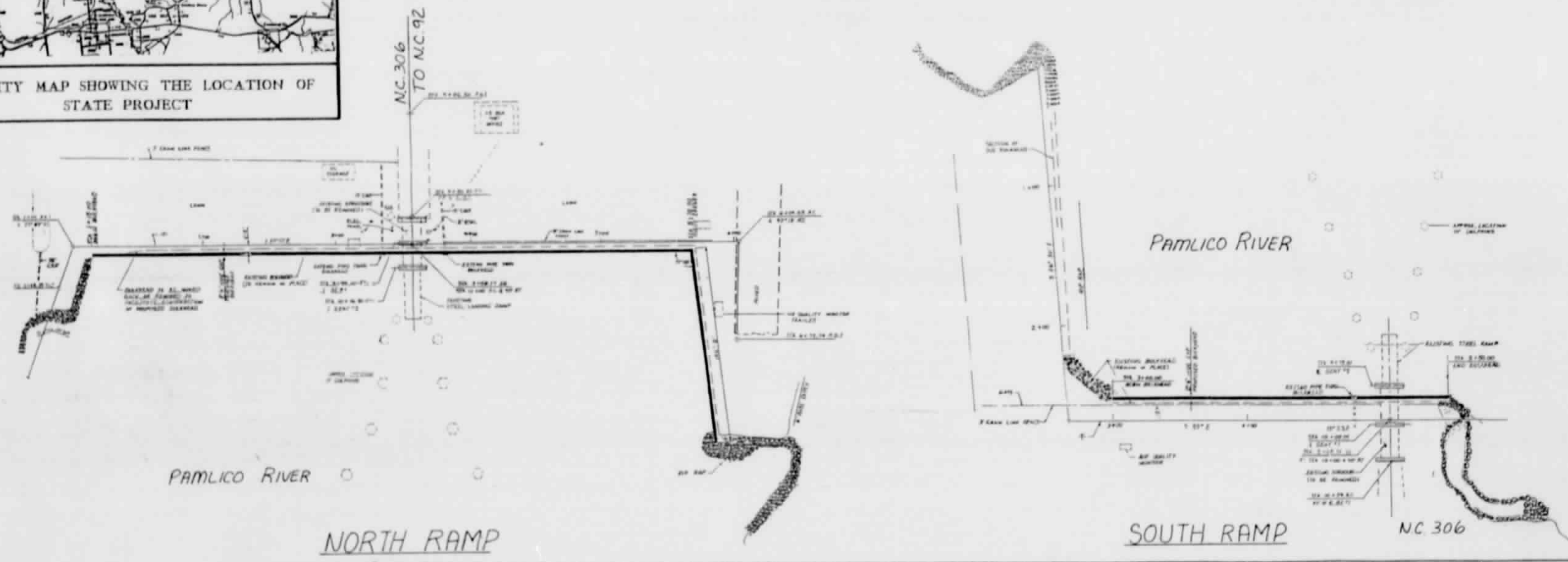


VICINITY MAP SHOWING THE LOCATION OF STATE PROJECT

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
BEAUFORT COUNTY

LOCATION : N.C. 306 AT PAMLICO RIVER FERRY
 TYPE OF WORK : GRADING, PAVING, BULKHEAD REPLACEMENT,
 RECONSTRUCTION OF FERRY RAMPS, AND STRUCTURES

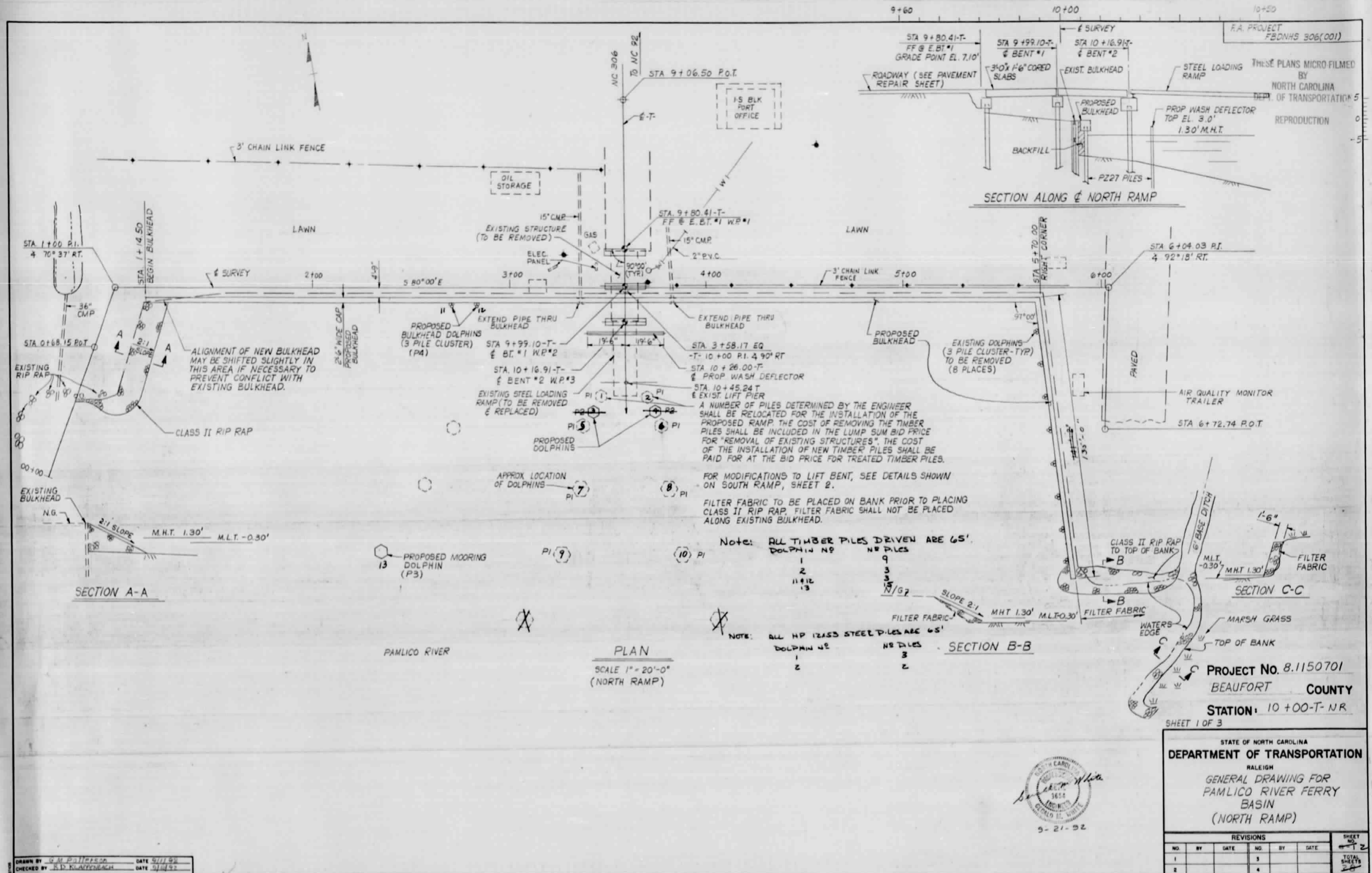
STRUCTURE

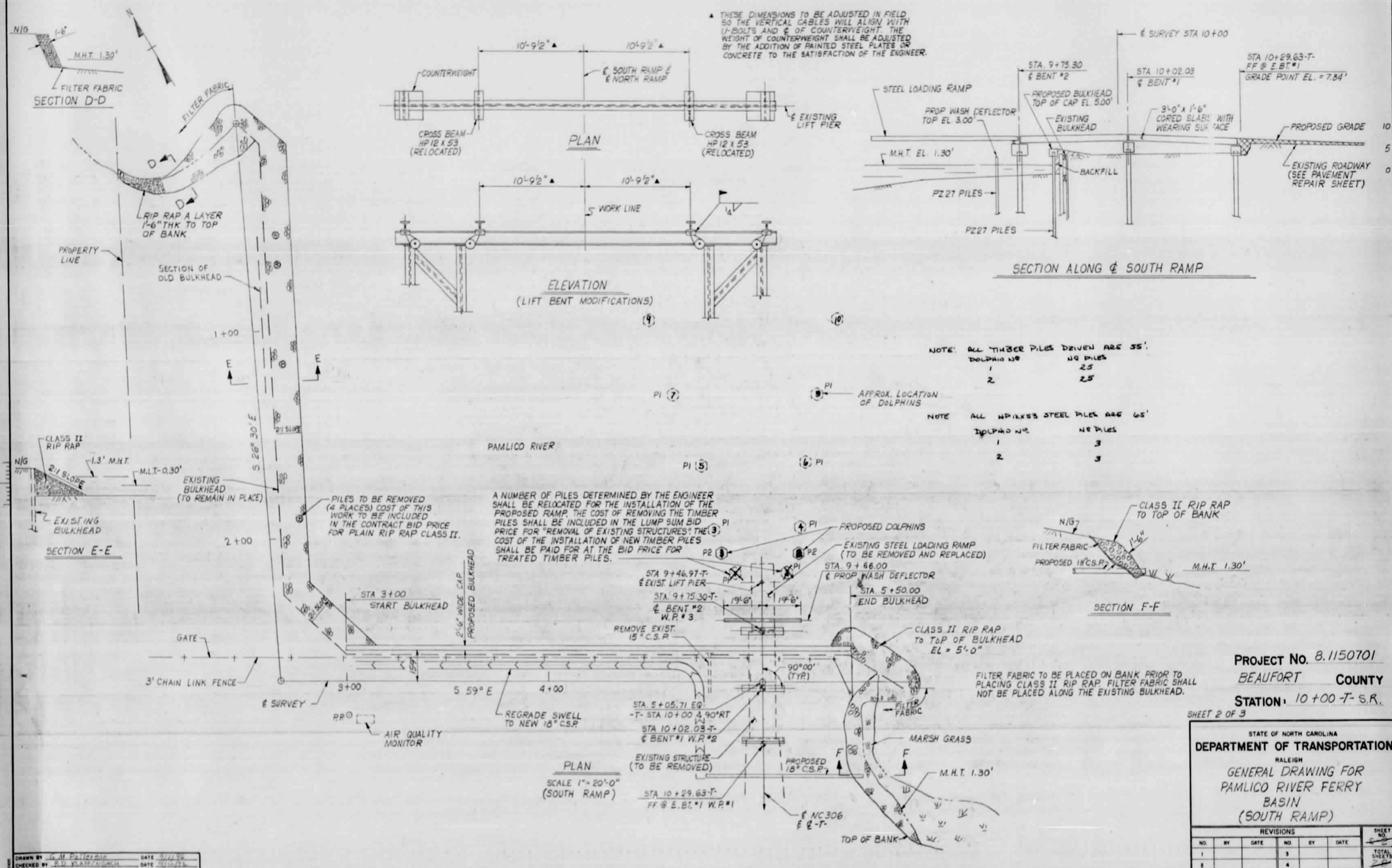


Prepared in the Office of: DIVISION OF HIGHWAYS DHE STANDARD SPECIFICATIONS		STRUCTURE DESIGN UNIT G. M. WHITE, P.E. PROJECT ENGINEER N. N. BULLOCK, P.E. PROJECT DESIGN ENGINEER	STRUCTURE DESIGN UNIT	DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
LETTING DATE: APRIL 29, 1993				

THESE PLANS MICROFILMED BY NORTH CAROLINA DEPT. OF TRANSPORTATION REPRODUCTION

STATE	PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	8.1150701	/	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
8.1150701	FBDNHS-306(001)	CONST.	
2.110015		P.E.	







ASSUMED LIVE LOAD = HS20-44

ALL REINFORCING STEEL SHALL BE GRADE 60.

ALL STRUCTURAL STEEL SHALL BE ASTM A36.

FOR NOTIFICATION OF FERRY DIVISION, SEE SPECIAL PROVISIONS.

FOR CONCRETE COARSE AGGREGATE, SEE SPECIAL PROVISIONS.

STEEL SHEET PILING SHALL CONFORM TO THE REQUIREMENTS OF
ASTM A690.

CALCIUM NITRATE CORROSION INHIBITOR SHALL BE USED IN ALL
CORED SLAB UNITS. SEE SPECIAL PROVISIONS.

FOR CORROSION PROTECTION OF 18" STEEL SHEET PILES AND
HP 12 X 53 STEEL PILES. SEE SPECIAL PROVISIONS "PAINTING
STEEL PILES."

THE COST FOR ALL LABOR, MATERIALS AND INCIDENTALS FOR ALTERING THE LIFT BENT AND COUNTERWEIGHT TO FIT THE PROPOSED RAMP SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR STRUCTURAL STEEL.

FOR EPOXY COATED REINFORCING STEEL, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC BEARINGS. SEE SPECIAL PROVISIONS.

THE FINAL GRADE OF BACKFILL SHALL BE GRADED TO PROVIDE
ADEQUATE DRAINAGE AS DIRECTED BY THE ENGINEER.

FOR 18" STEEL SHEET PILES AND HP 12 X 53 STEEL PILES,
SEE SPECIAL PROVISIONS.

THE EXISTING 15" CMP'S AT THE NORTH RAMP SHALL EXTEND THRU THE PROPOSED BULKHEAD AS DIRECTED BY THE ENGINEER. THE COST OF EXTENDING THE 15" CMP, THE LABOR, MATERIALS AND INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR 18" STEEL SHEET PILES.

THE EXISTING STRUCTURES AT THE SOUTH RAMP CONSISTING OF THE STEEL LOADING RAMP, TWO 25' - 0" TIMBER SPANS, TIMBER SUBSTRUCTURE, ANY DOLPHINS OR PILES THAT INTERFERE WITH THE CONSTRUCTION OF THE PROPOSED BULKHEAD, AND PILES TO BE REMOVED NECESSARY FOR THE INSTALLATION OF THE PROPOSED RAMP, AND THE WHIT OAK FENDERS INCLUDING WIRE ROPE, STAPLES AND HARDWARE ATTACHING THE FENDER TO THE DOLPHINS SHALL BE REMOVED AND SHALL BE PAID FOR AT THE LUMP SUM BID PRICE FOR REMOVAL OF EXISTING STRUCTURES AT STA. 10+28.00 - T-SOUTH RAMP.

THE EXISTING STRUCTURES AT THE NORTH RAMP CONSISTING OF THE STEEL LOADING RAMPS, TWO 17'-0" TIE BEAMS, SPAN AND SUBSTRUCTURE, 48'-0" STEEL SHEET PILE PROP DEFLECTOR, ANY DOLPHIN OR PILES THAT INTERFERE WITH THE CONSTRUCTION OF THE PROPOSED BULKHEAD, ANY PILES TO BE REMOVED NECESSARY FOR THE INSTALLATION OF THE PROPOSED RAMP, AND WHITE OAK FENDERS INCLUDING WIRE ROPE, STAPLES AND HARDWARE ATTACHING THE FENDERS TO THE RAMP SHALL BE REMOVED AND SHALL BE PAID FOR AT THE LUMP SUM BID PRICE FOR REMOVAL OF EXISTING STRUCTURES AT STA. 10+00.00 - 1-NORTH RAMP.

BACKFILL BEHIND BULKHEAD SHALL BE OF SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER. NO SEPARATE PAYMENT WILL BE MADE FOR THE ITEM. ALL MATERIALS, EQUIPMENT, OR LABOR FOR PLACING AND COMPACTING THIS MATERIAL SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR 18" STEEL SHEET PILES. SEE SPECIAL PROVISIONS.

THE EXISTING FENCE AS SHOWN ON THE GENERAL DRAWING SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER. THE COST OF REMOVING AND REPLACING THE EXISTING FENCE SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.

FOR MAINTENANCE OF TRAFFIC,
SEE SPECIAL PROVISIONS.

THE COST OF THE PROPOSED 18" C.M.P. AT THE SOUTH RAMP, THE REMOVAL OF THE EXISTING 15" C.M.P., ALL LABOR, MATERIALS, EQUIPMENT, AND ANY INCIDENTALS NECESSARY FOR THE INSTALLATION OF THE PIPE SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR 18" STEEL SHEET PILES.

TOTAL BILL OF MATERIAL FOR NORTH RAMP

TOTAL BILL OF MATERIAL FOR SOUTH RAMP

STATION: 10+00.00 -T- NR
10+00.00 -T- SR

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PAMLICO RIVER FERRY
BILL OF MATERIAL

SEPTEMBER 19

REVISIONS						SHEET /
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			20

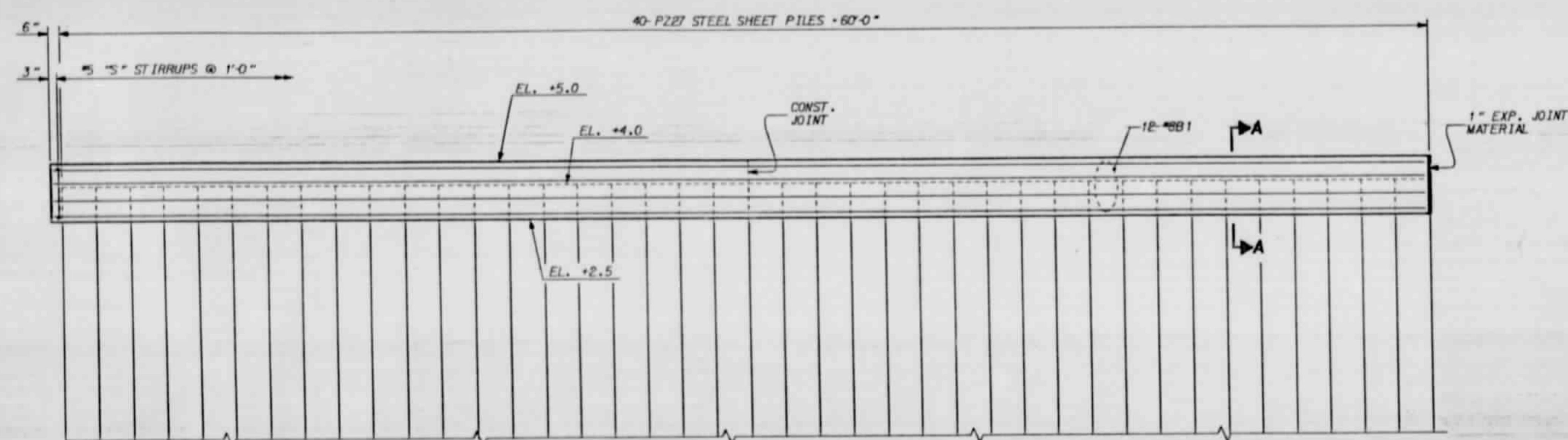
DRAWN BY : W.D. CRUTCHER DATE : 09-92
CHECKED BY : B.D. KLAPPENBACH DATE : 7-14-92

14-00000-9992 10:52
7962050231FARBYBLI.DGN
DSC01A

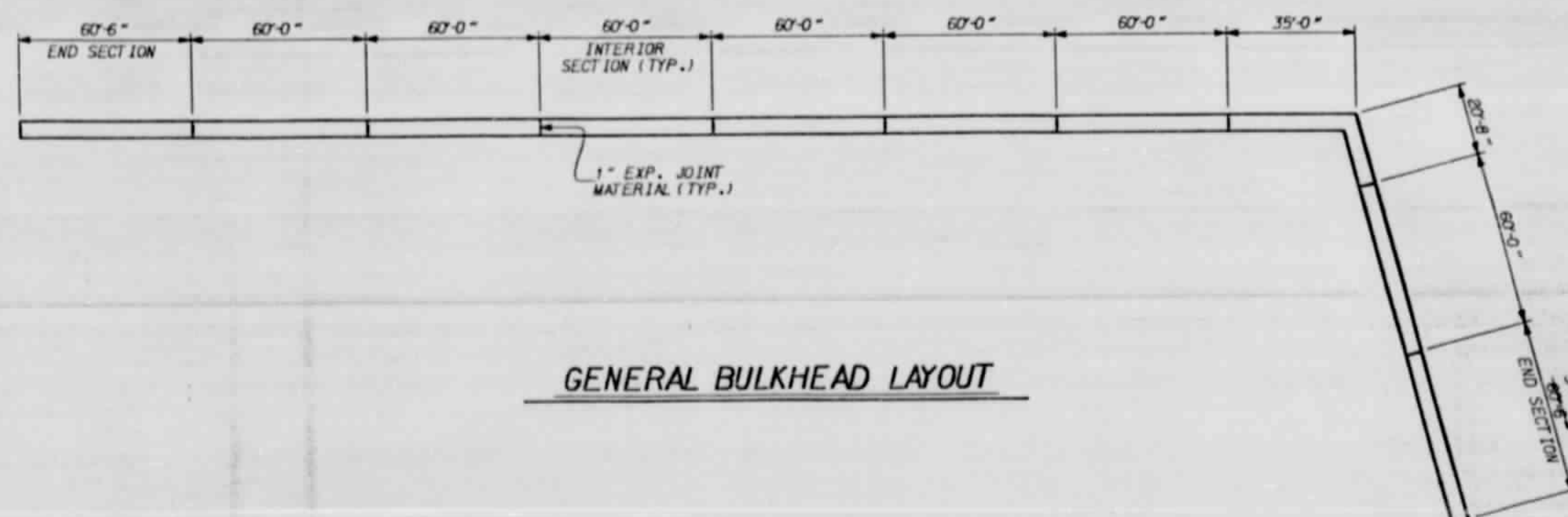
Diagram illustrating the End Section Plan of the bulkhead and sheet pile wall. The plan shows a cross-section of the structure with dimensions and labels:

- Overall width: 30'-6" (left section) and 30'-0" (right section).
- FACE OF EXISTING BULKHEAD (indicated by a dashed line).
- EXISTING PILES (indicated by a dashed line).
- CONST. JOINT (indicated by a vertical dashed line).
- BEGIN PROPOSED SHEET PILES (indicated by an arrow pointing right).
- 1" EXP. JOINT MATERIAL (indicated by a vertical dimension line on the right).

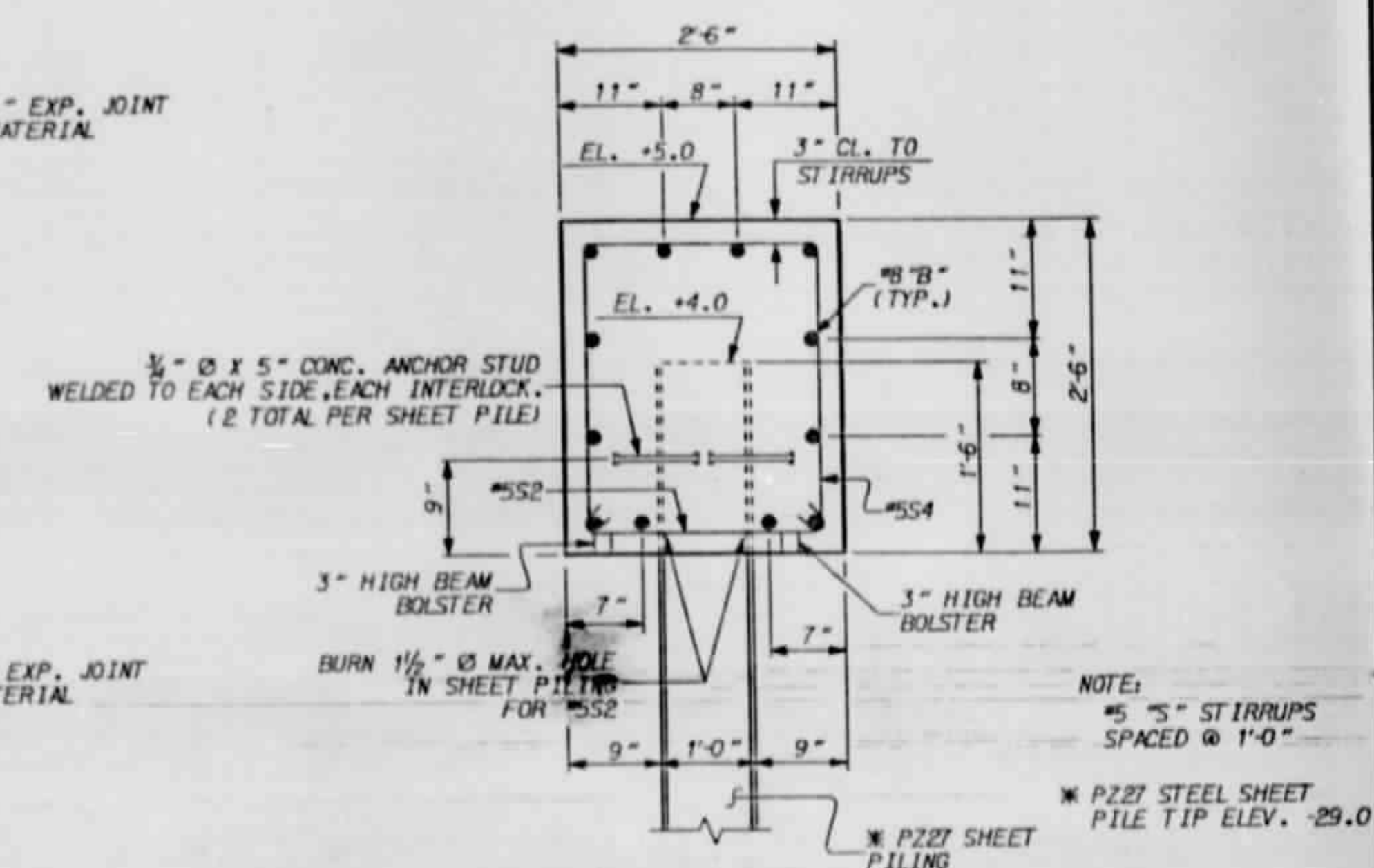
END SECTION PLAN



END SECTION ELEVATION



GENERAL BULKHEAD LAYOUT



SECTION A-A

PROJECT NO. 8.1150701
BEAUFORT COUNTY
 STATION: 10+00.00 -T- NR

SHEET 1 OF 3

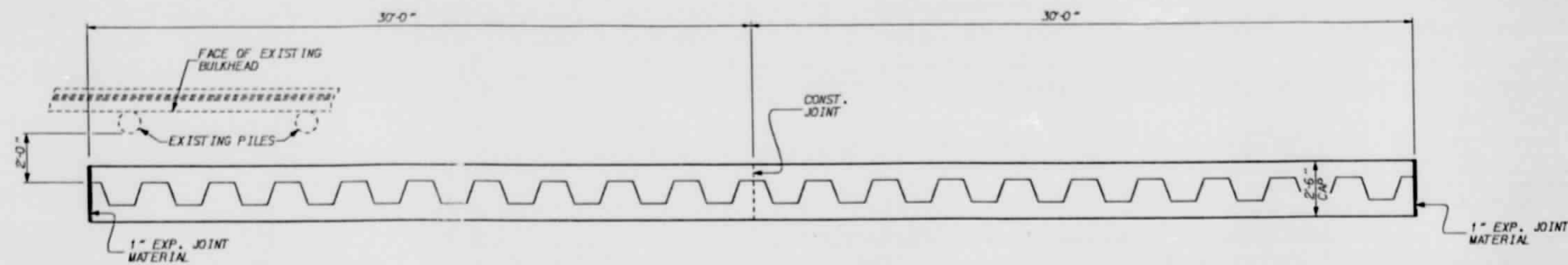
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RAILROAD
PAMLICO RIVER FERRY
NORTH RAMP
BULKHEAD END SECTION

(2 REQUIRED)

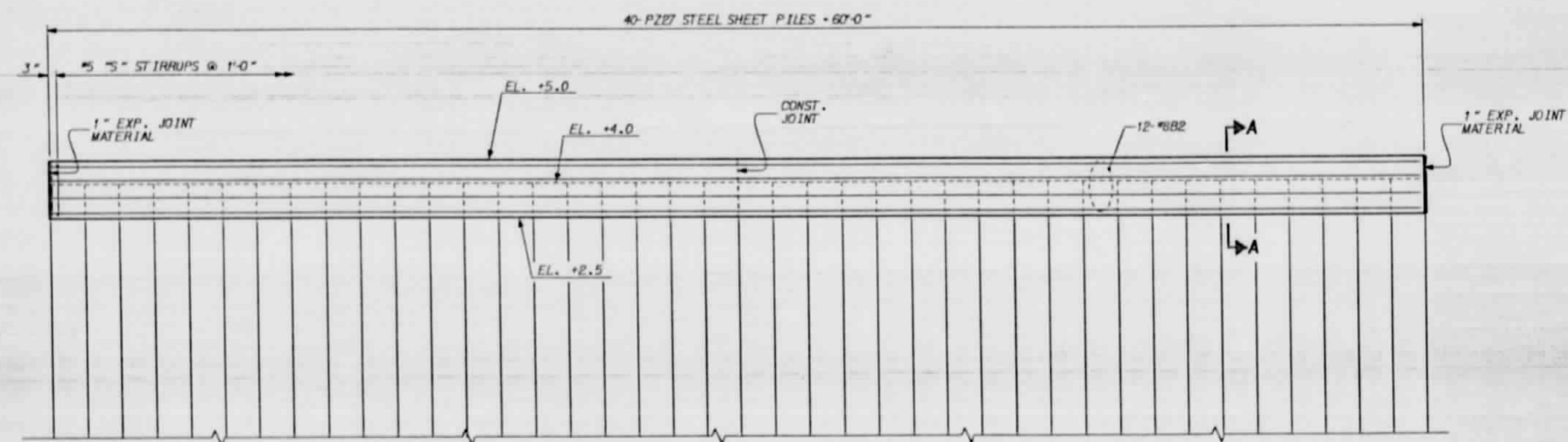
AUGUST			12 REWIRED			199	
REVISIONS						SHEET NO	
NO.	BY:	DATE:	NO.	BY:	DATE:	54	
1			3			TOTAL	
2			4			SHEETS	
						28	

DRAWN BY : W.D. CRUTCHER DATE : 08-92
CHECKED BY : William Koon DATE : 9/11/92

10-SEP-88Z 1437
P:\PROJECTS\NORTH RAMP.DWG
W.D. CRUTCHER



INTERIOR SECTION PLAN



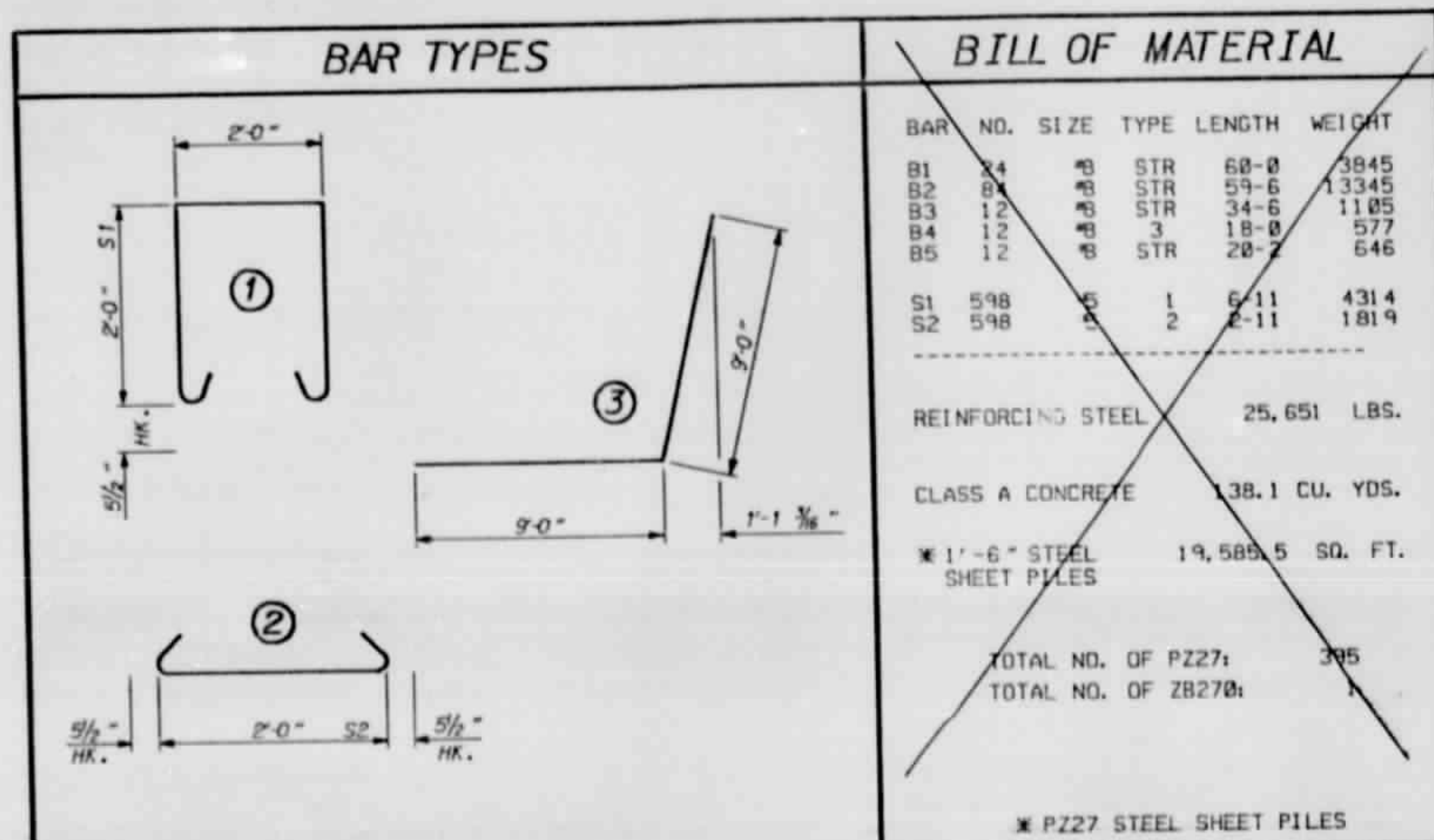
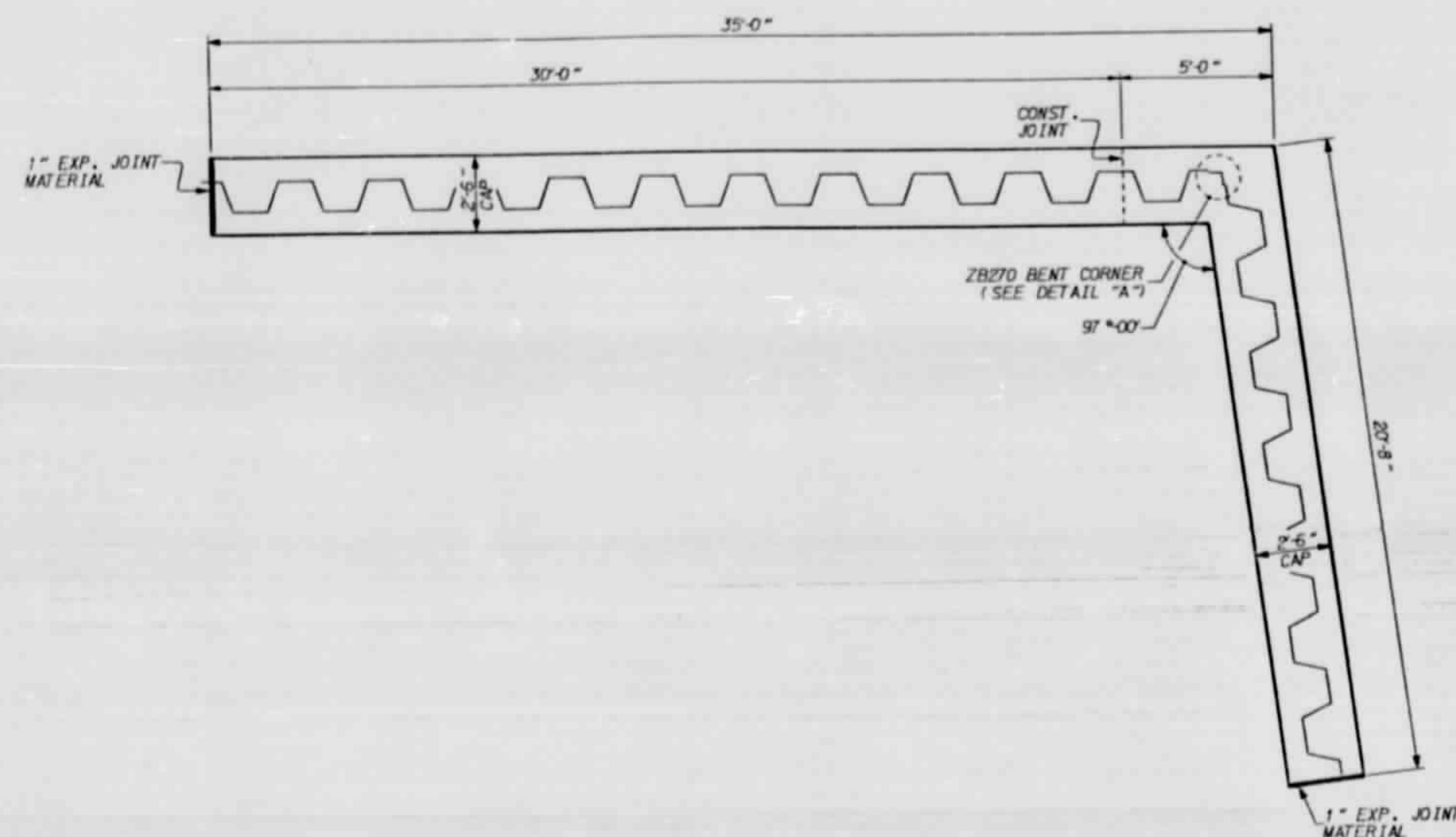
INTERIOR SECTION ELEVATION

PROJECT NO. 8.1150701
BEAUFORT COUNTY
 STATION: 10+00.00 -T-NR

SHEET 2 OF 3

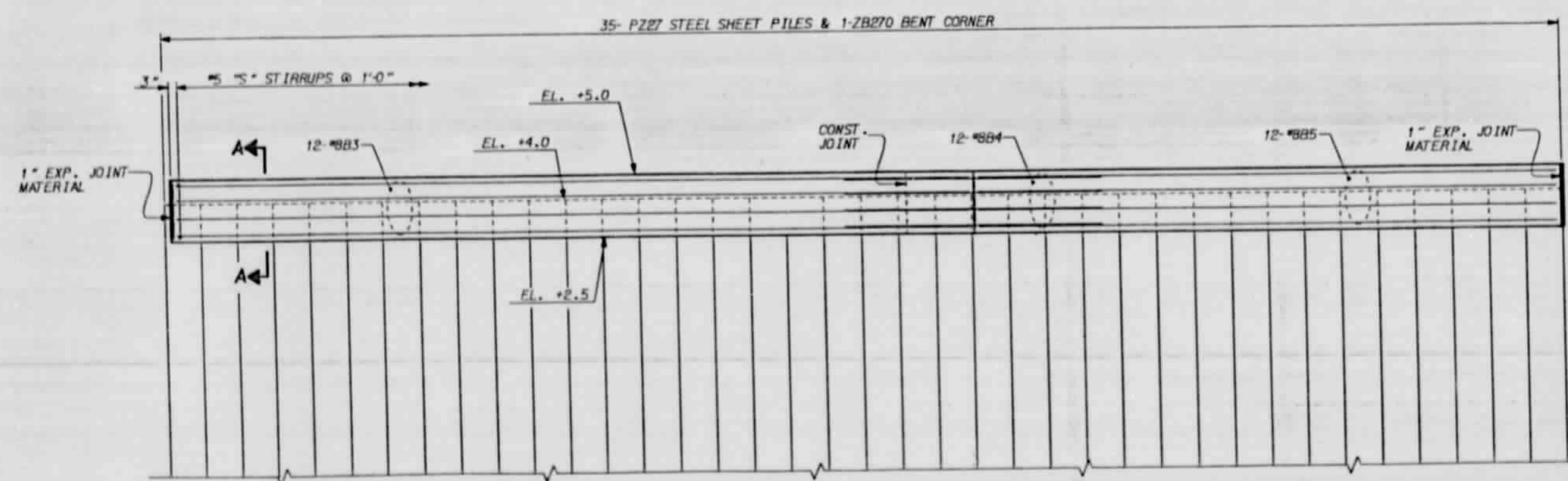
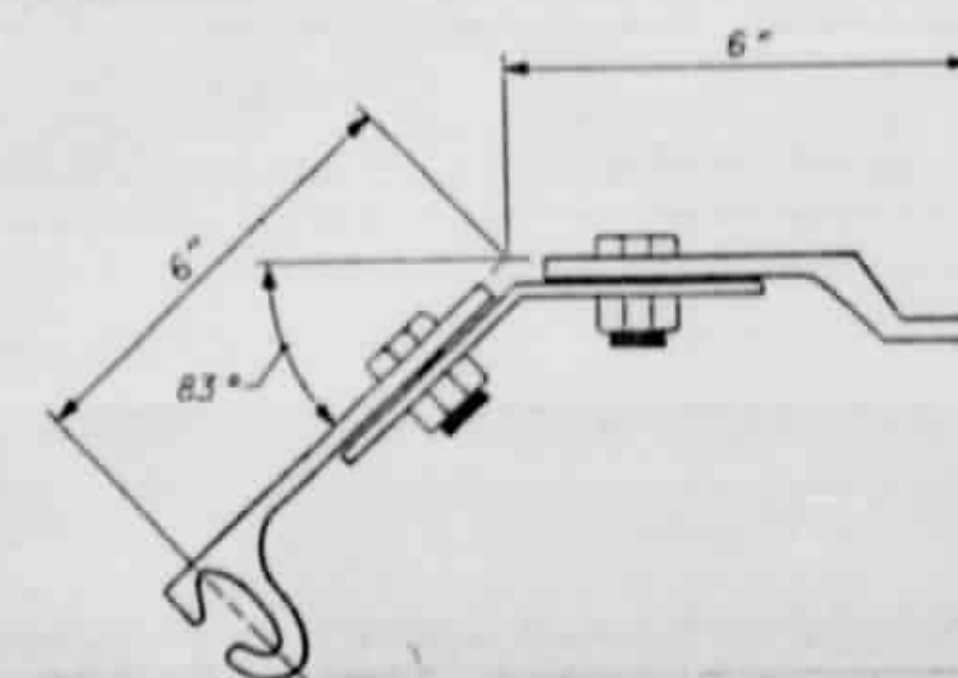
STATE OF NORTH CAROLINA			
DEPARTMENT OF TRANSPORTATION			
RALEIGH			
PAMLICO RIVER FERRY			
NORTH RAMP			
BULKHEAD INTERIOR			
SECTIONS			
(7 REQUIRED)			
AUGUST 1992			
REVISIONS			
NO.	BY	DATE	NO.
1			3
2			4
			SHEET NO.
			856
			TOTAL
			28

DRAWN BY: W.D. CRUTCHER DATE: 08-92
 CHECKED BY: William Crutcher DATE: 9/1/92



BILL OF MATERIAL					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	24	#3	STR	68'-8"	2845
B2	8	#3	STR	59'-6"	13345
B3	12	#3	STR	34'-6"	1185
B4	12	#3	3	18'-0"	577
B5	12	#3	STR	28'-2"	646
S1	598	#5	1	6'-11"	431.4
S2	598	5	2	6'-11"	181.9
REINFORCING STEEL				25,651	LBS.
CLASS A CONCRETE				38.1	CU. YDS.
* 1' - 6" STEEL SHEET PILES				19,585.5	SQ. FT.
TOTAL NO. OF PZ27:					395
TOTAL NO. OF ZB270:					1

~~* PZ27 STEEL SHEET PILES~~



PROJECT NO. 8.1150701
BEAUFORT COUNTY
 STATION: 10+00.00 -T-NR
 SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PAMLICO RIVER FERRY
NORTH RAMP
CORNER SECTION
(1 REQUIRED)

AUGUST 1991

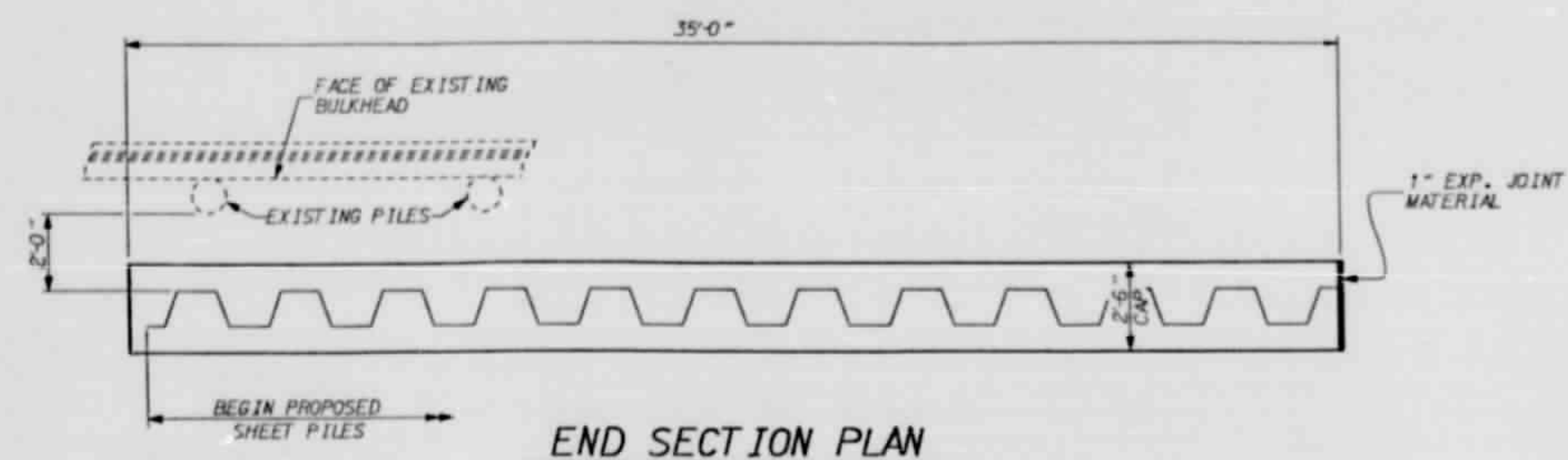
REVISIONS	SHEET NO.
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NO.	BY:	DATE:	NO.	BY:	DATE:	56 TOTAL SHEETS 28
1			3			
2			4			

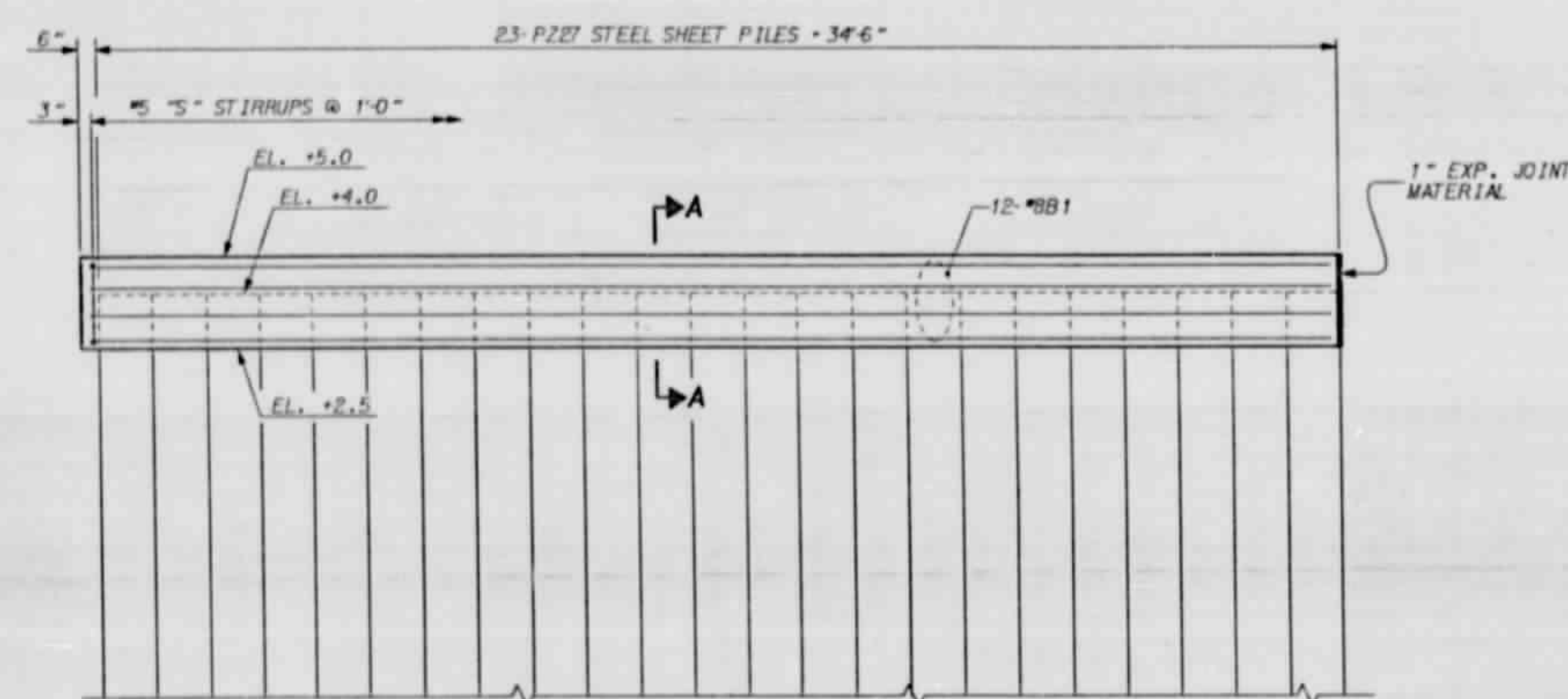
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DRAWN BY : W.D. CRITCHER DATE : 08-92
CHECKED BY : William Kam DATE : 9/11/92

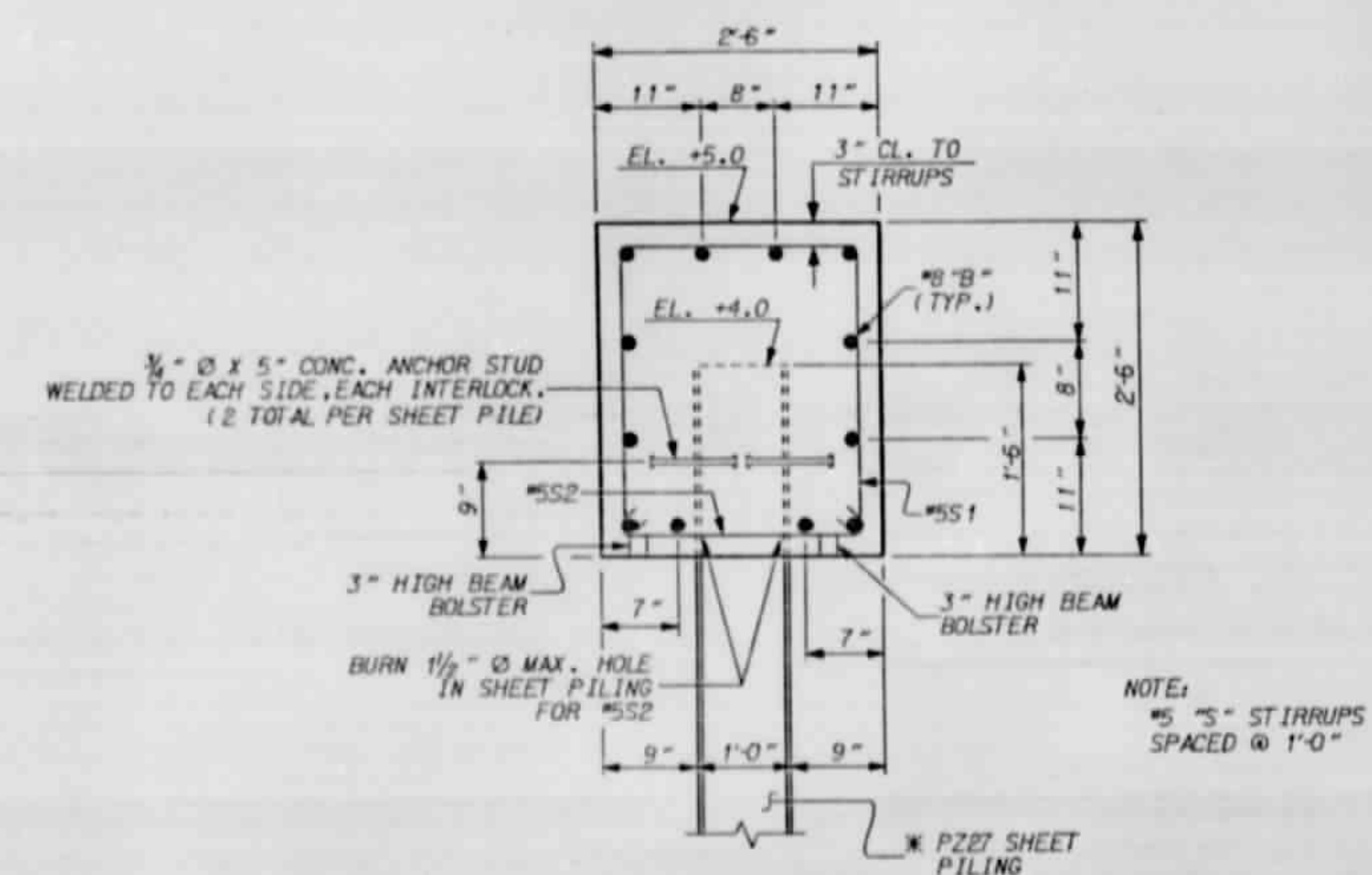
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ZHU205023NORTHAMP.D0M1
WCRUTCHER



END SECTION PLAN

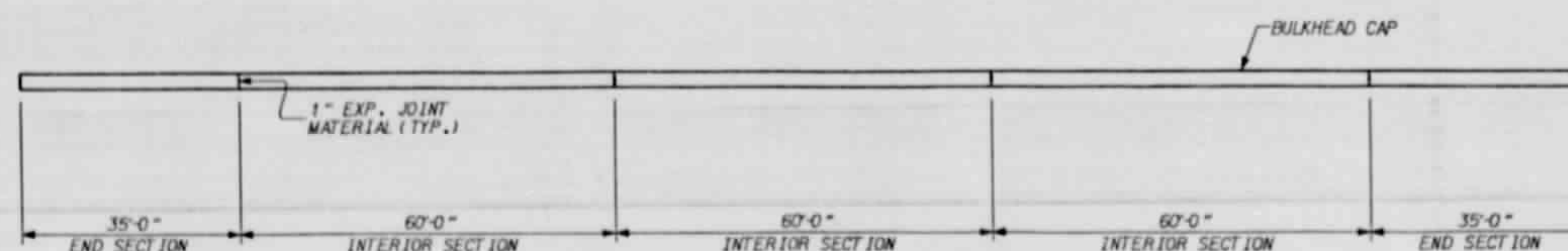


END SECTION ELEVATION



SECTION A-A

* PZ27 STEEL SHEET
PILE TIP ELEV. -29.0



GENERAL BULKHEAD LAYOUT

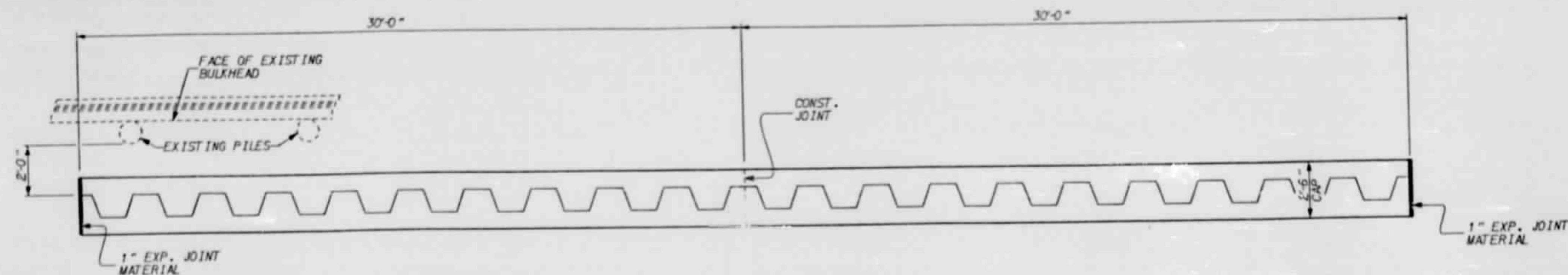
PROJECT NO. 81150701
BEAUFORT COUNTY
 STATION: 10+00.00 -T-SR
 SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PAMLICO RIVER FERRY
SOUTH RAMP
BULKHEAD END SECTION
(2 REQUIRED)

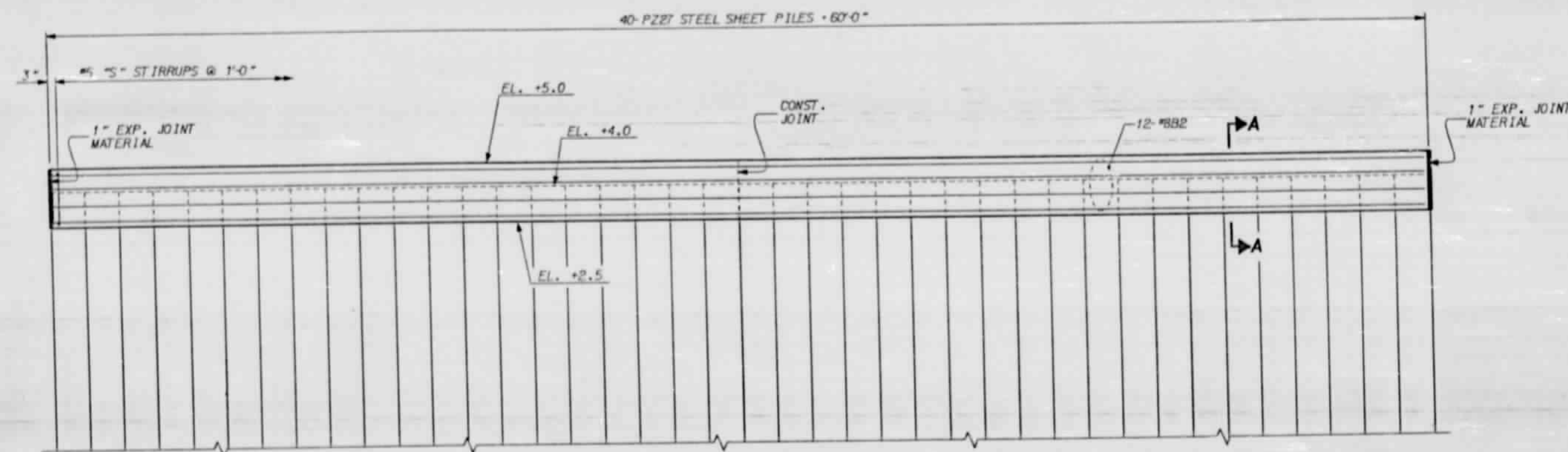
AUGUST						19	
REVISIONS						SHEET 1	
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS	
1			3			24	
2			4			24	

DRAWN BY : W.D. CRUTCHER DATE : 08-92
CHECKED BY : F.A. mims DATE : 9-9-92

08-SEP-1992 08:29
 14075023 SOUTHWOOD.DWG
 CRUTCHER



INTERIOR SECTION PLAN



INTERIOR SECTION ELEVATION

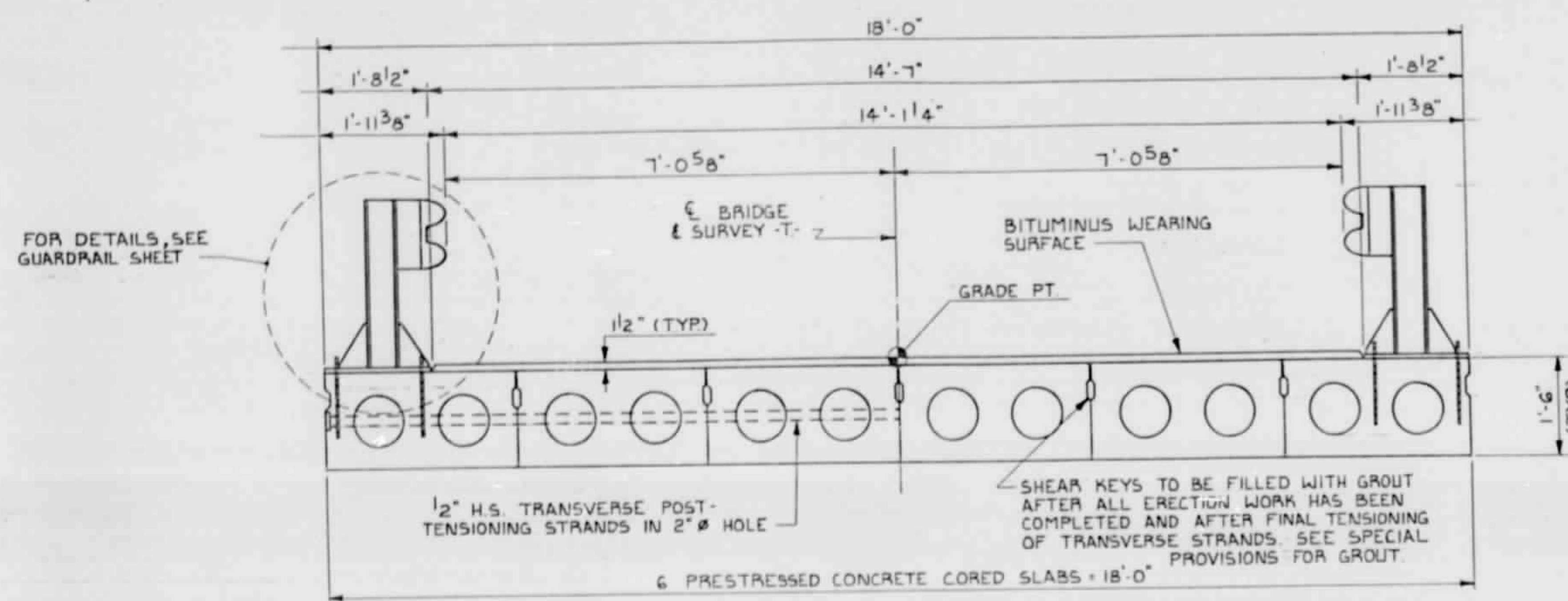
BAR TYPES		BILL OF MATERIAL				
		BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
		B1	24	#6	STR	34'-6"
		B2	36	#6	STR	54'-6"
		S1	250	#5	1	2'-11"
		S2	250	#5	2	2'-11"
		REINFORCING STEEL				10,495 LBS.
		CLASS A CONCRETE				57.9 CU. YDS.
		* 1'-6" STEEL SHEET PILES				8217.0 SQ. FT.
		* P227 STEEL SHEET PILES				

PROJECT NO. 81150701
 BEAUFORT COUNTY
 STATION: 10+00.00 -T-SR

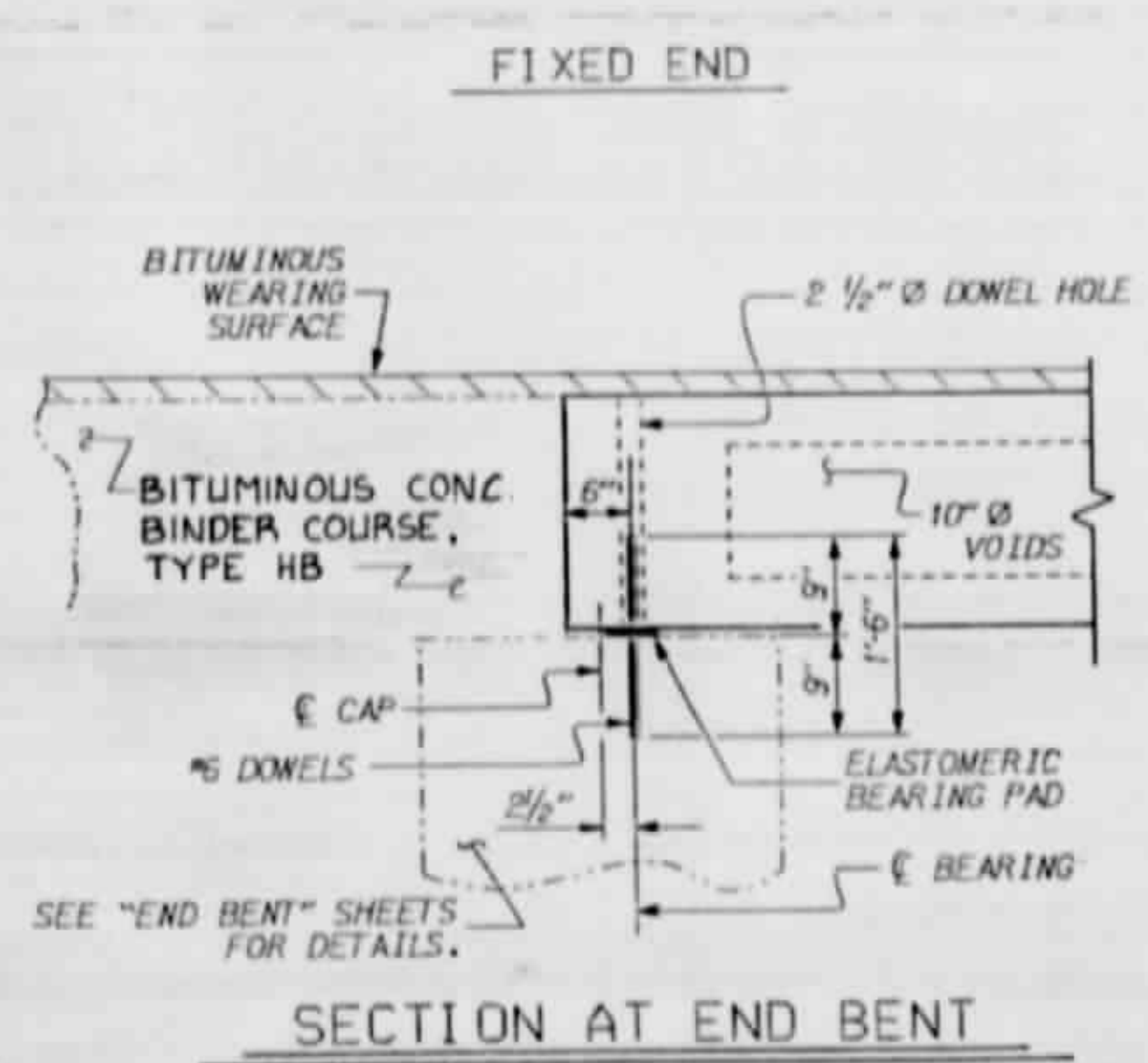
SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PAMLICO RIVER FERRY SOUTH RAMP BULKHEAD INTERIOR SECTION					
(3 REQUIRED)					
AUGUST 1992					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO.
					289
					TOTAL SHEETS
					28

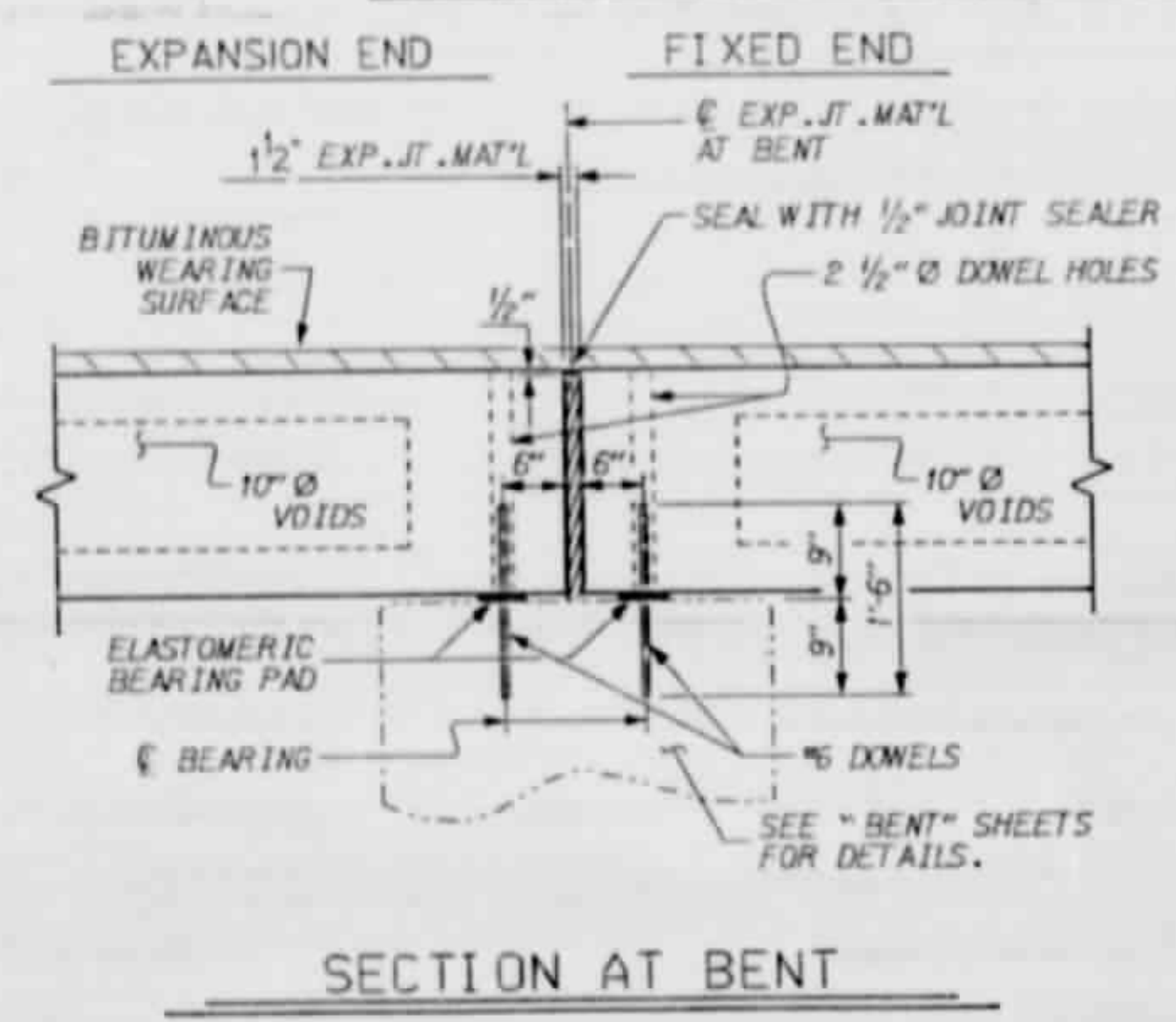
DRAWN BY: W.D. CRUTCHER DATE: 08-92
 CHECKED BY: F.A. THUMMS DATE: 11-92



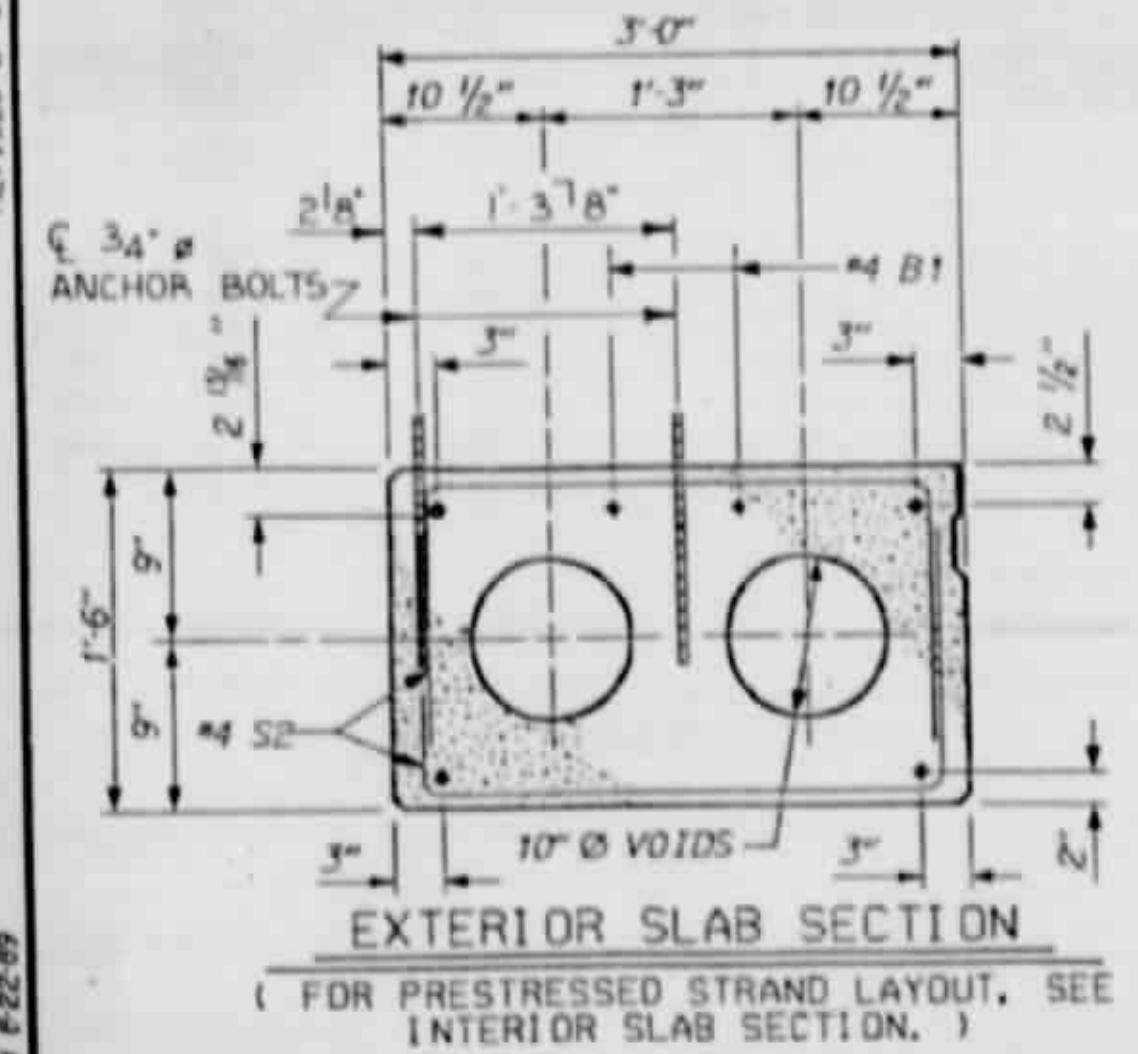
TYPICAL SECTION



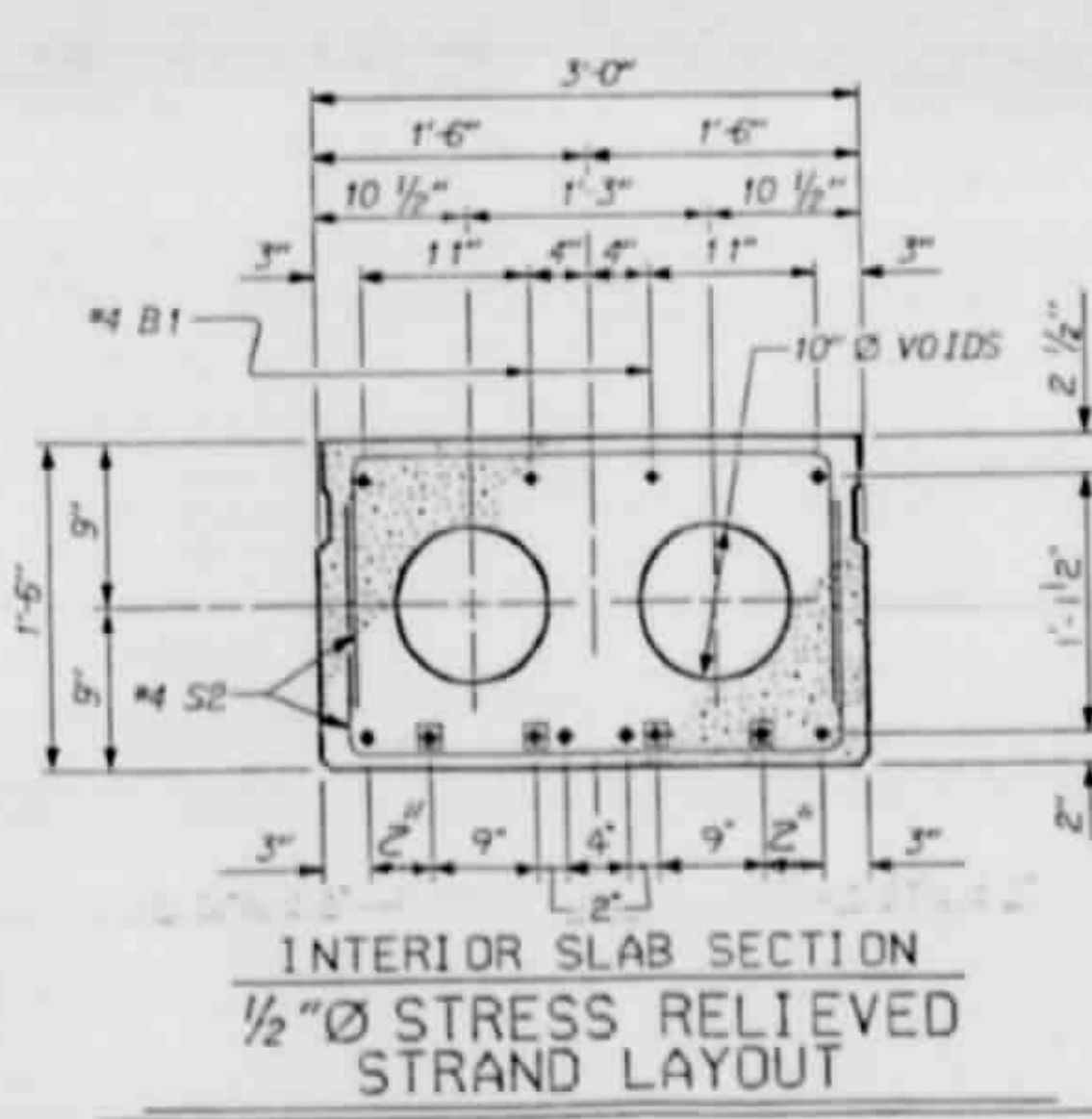
SECTION AT END BENT



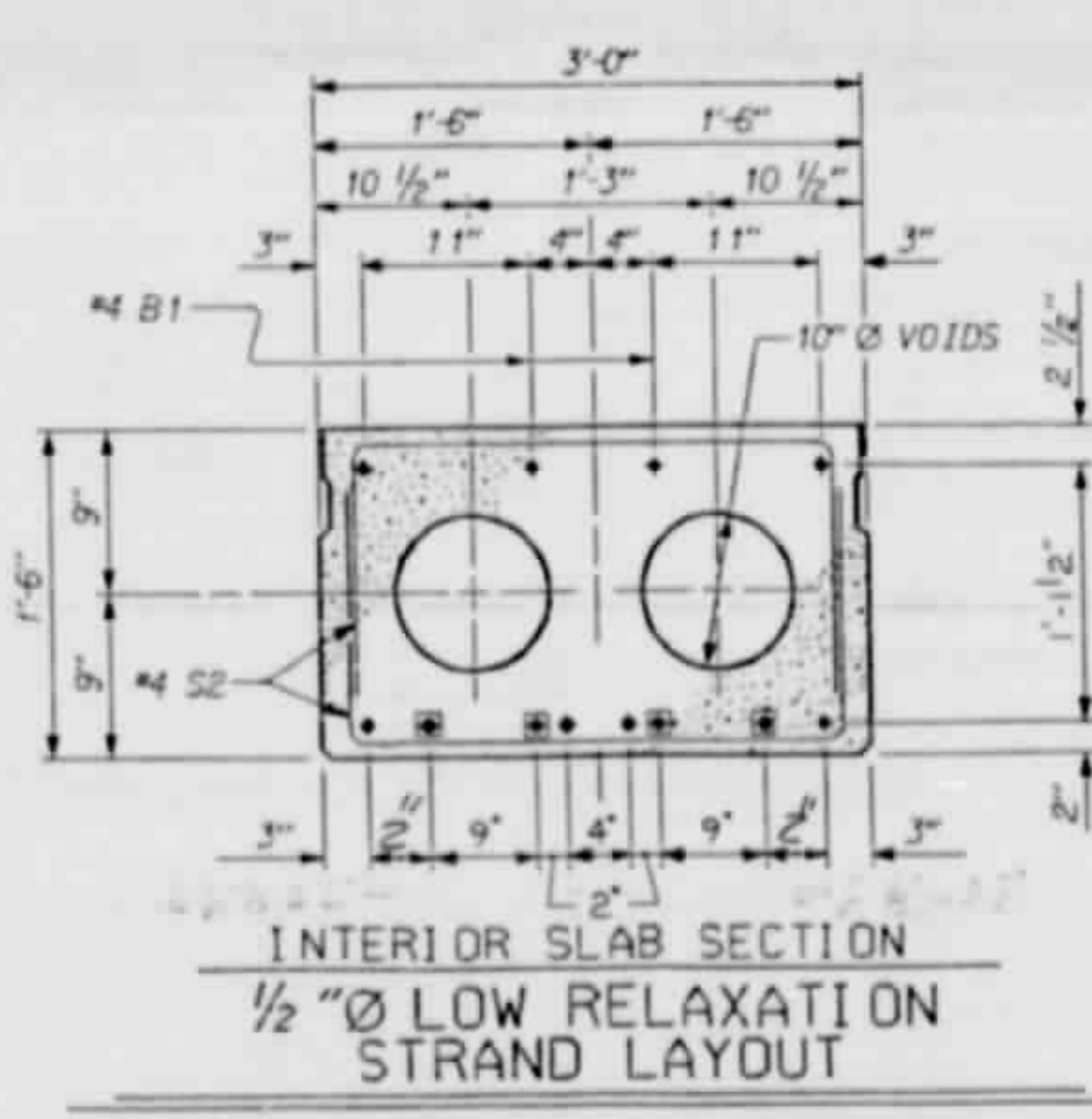
SECTION AT BENT



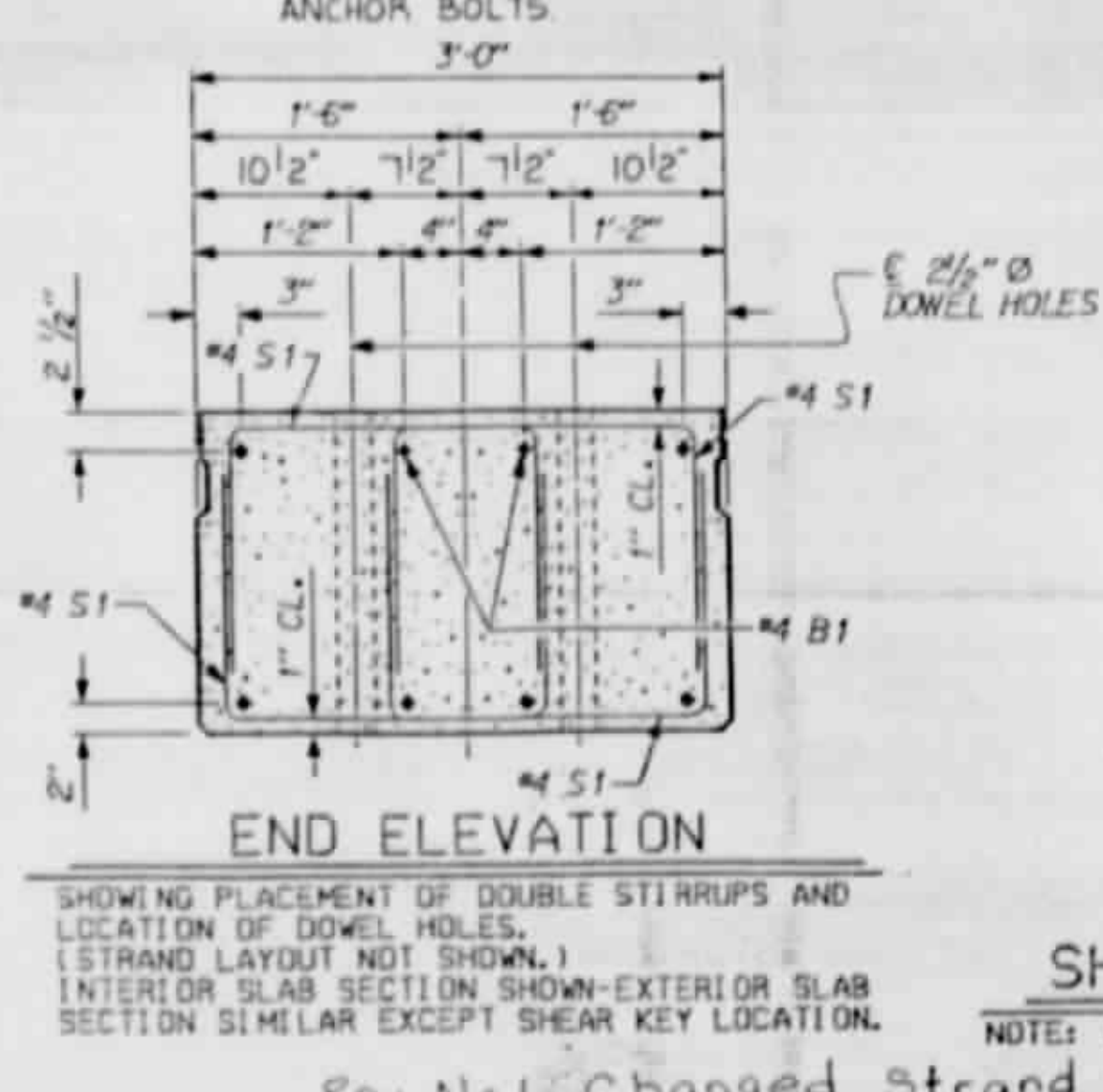
EXTERIOR SLAB SECTION
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)



INTERIOR SLAB SECTION
1/2" Ø STRESS RELIEVED STRAND LAYOUT

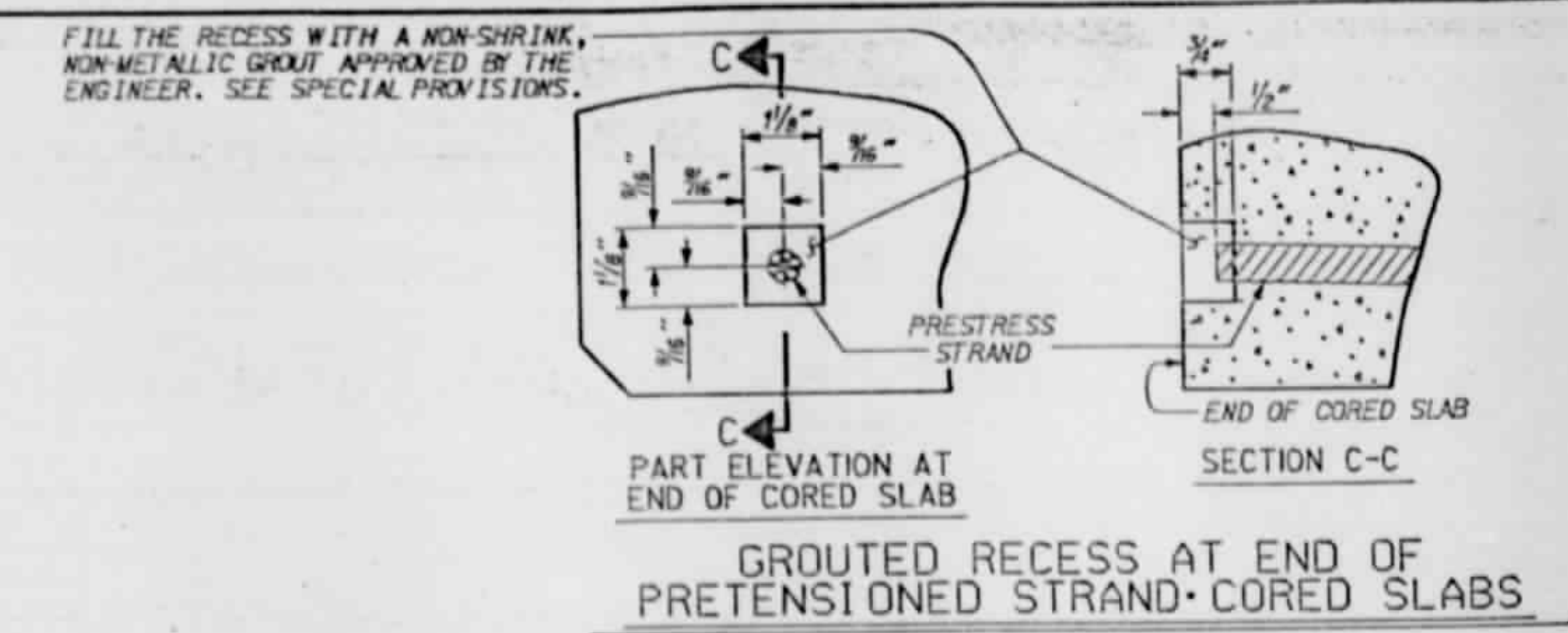


INTERIOR SLAB SECTION
1/2" Ø LOW RELAXATION STRAND LAYOUT

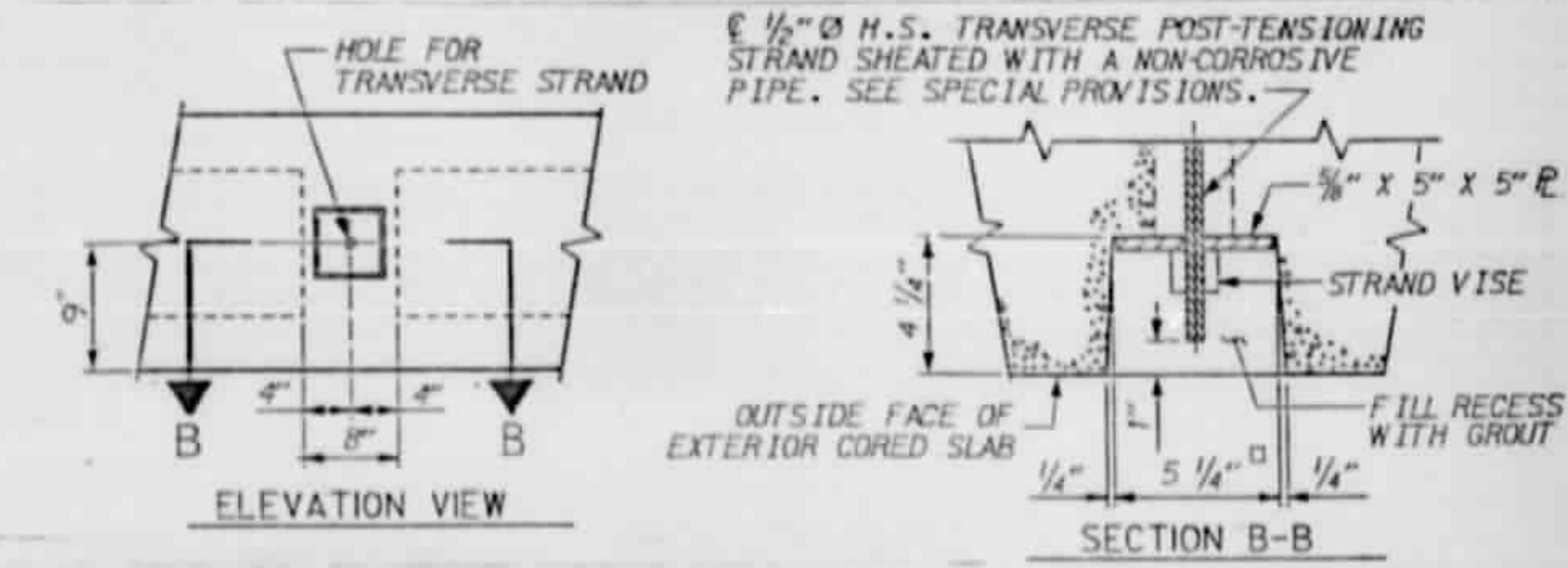


END ELEVATION
SHOWING PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES.
(STRAND LAYOUT NOT SHOWN.)
INTERIOR SLAB SECTION SHOWN-EXTERIOR SLAB SECTION SIMILAR EXCEPT SHEAR KEY LOCATION.

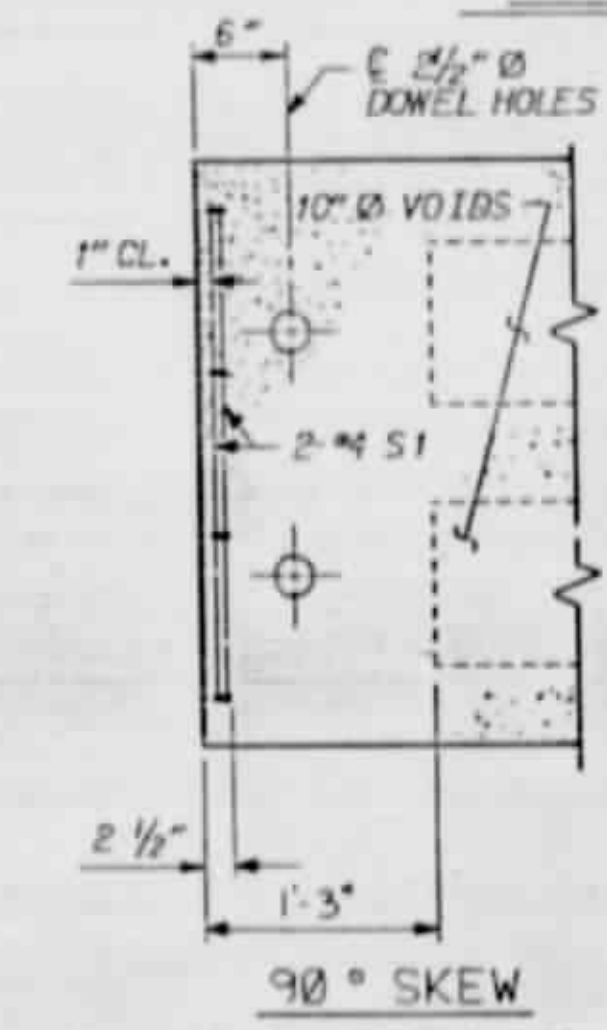
SHEAR KEY DETAIL



GROUTED RECESS AT END OF PRETENSIONED STRAND-CORED SLABS



GROUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS



PART PLAN-EXTERIOR SECTION

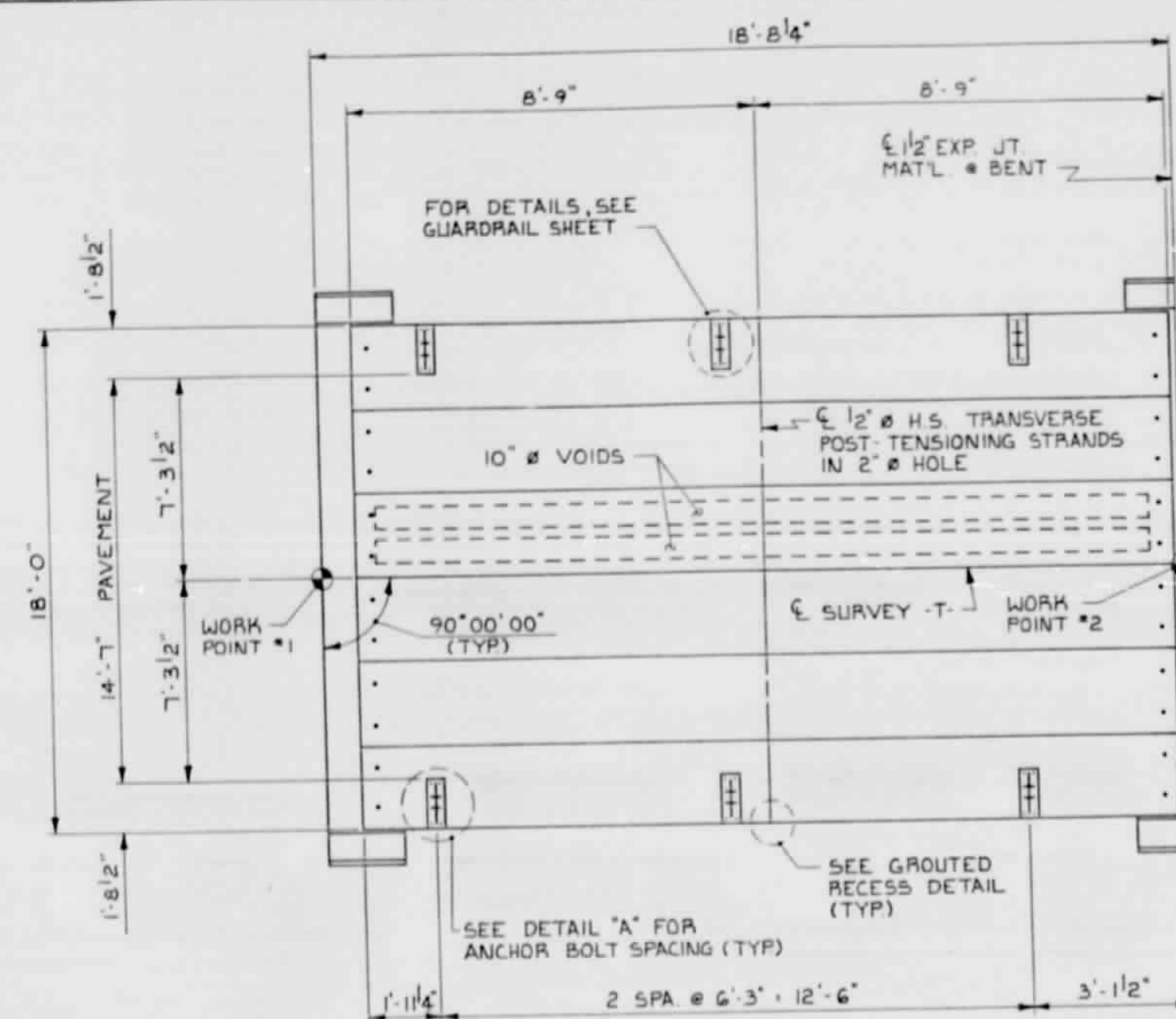
NOTE: EXTERIOR SECTION SHOWN-INTERIOR SECTION SIMILAR EXCEPT OMIT 3/4" Ø ANCHOR BOLTS

PROJECT NO. 81150701
BEAUFORT COUNTY
STATION: 10+00.00 T. N. R.
SHEET 1 OF 3

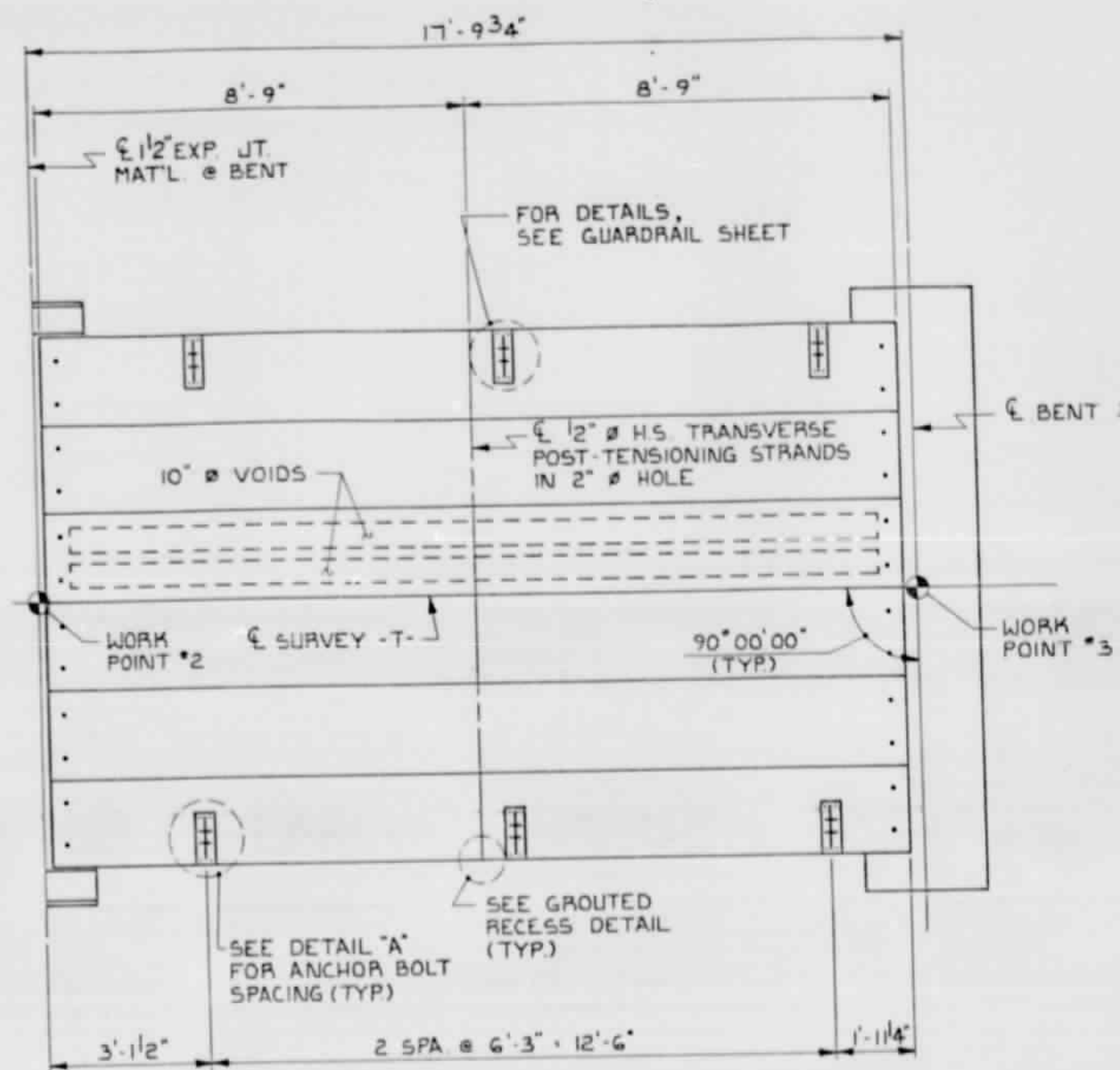
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HALESON			
STANDARD 3'-0" X 1'-6" PRESTRESSED CONCRETE CORED SLAB UNIT NORTH RAMP			
REVISIONS			
NO.	BY	DATE	DESCRIPTION
1	FAM	7-14-93	Changed Strand Pattern. By FAM Date: 7-14-93 ✓ By.
2			
			SHEET NO. 270

REVISED BY E.L.R. CHECKED BY G.R.P. 11-13-91
REVISED BY W.J.H. CHECKED BY C.R.K. 3-1-92
REVISED BY F.G. CHECKED BY F.G. 8-22-89

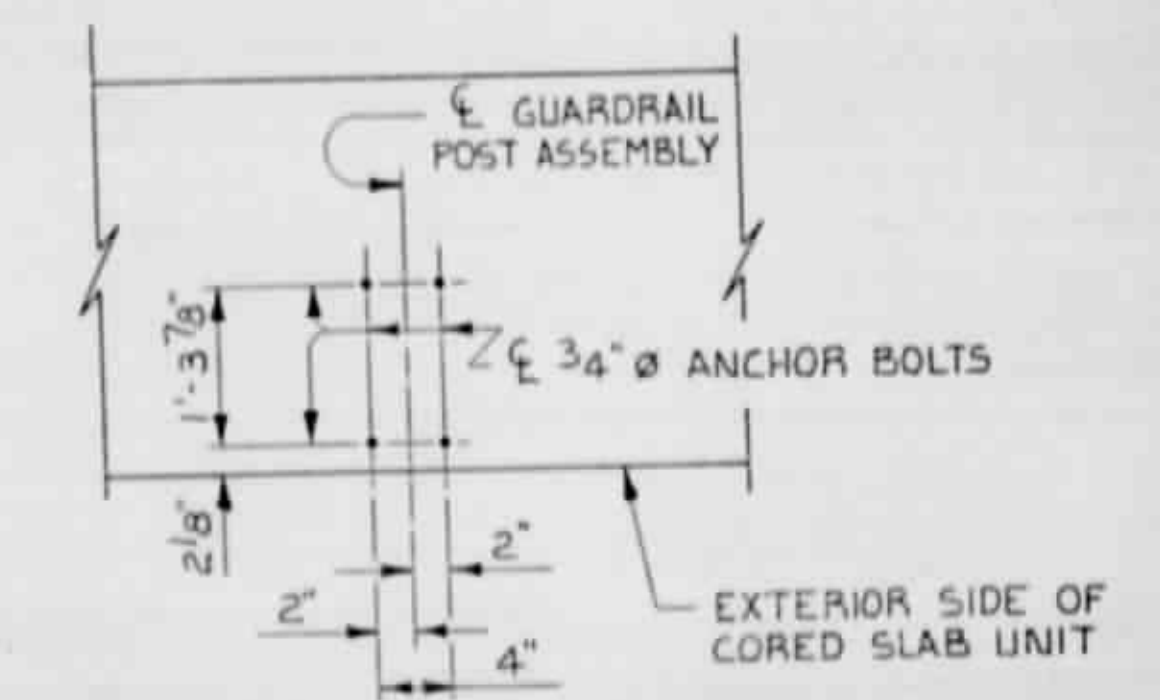
ASSEMBLED BY: J.A. HALL	DATE: 9-3-92	SPECIAL
CHECKED BY: F.G. JONES	DATE: 9-11-92	
DRAWN BY: W.J. HARRIS	DATE: 4-11-89	STANDARD
CHECKED BY: F.G. JONES	DATE: 7-18-89	



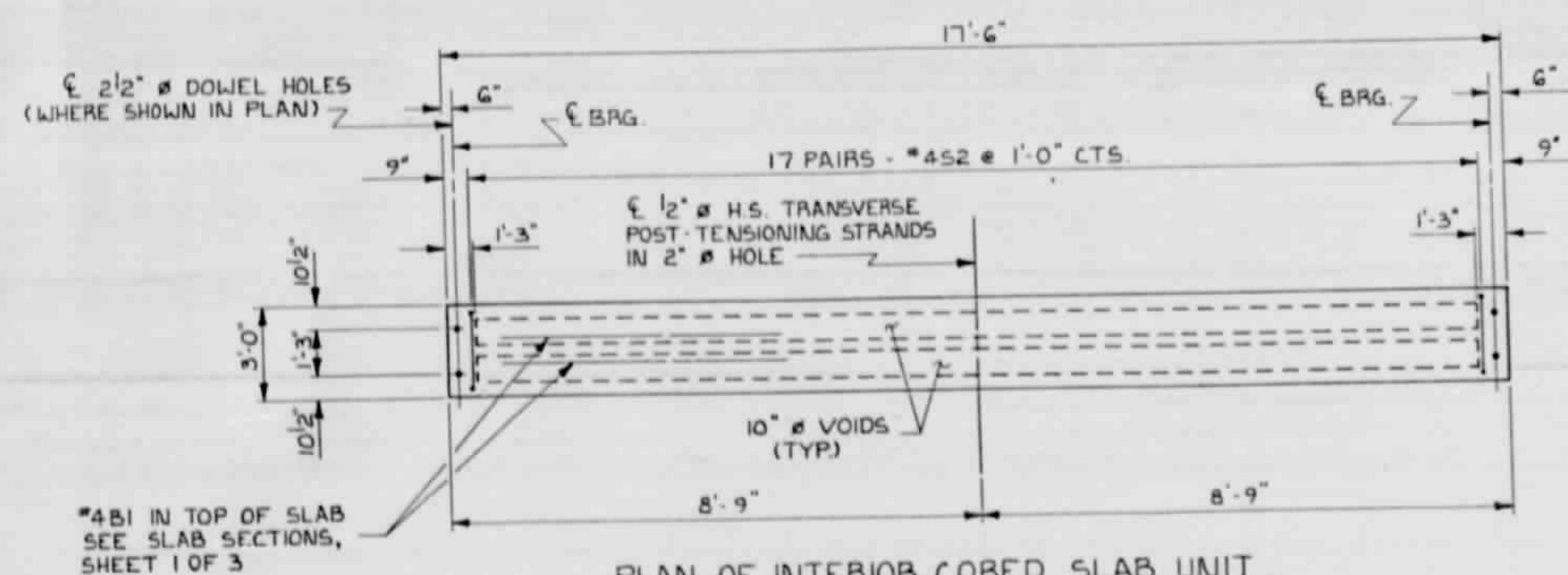
PLAN OF SPAN 'A'



PLAN OF SPAN 'B'

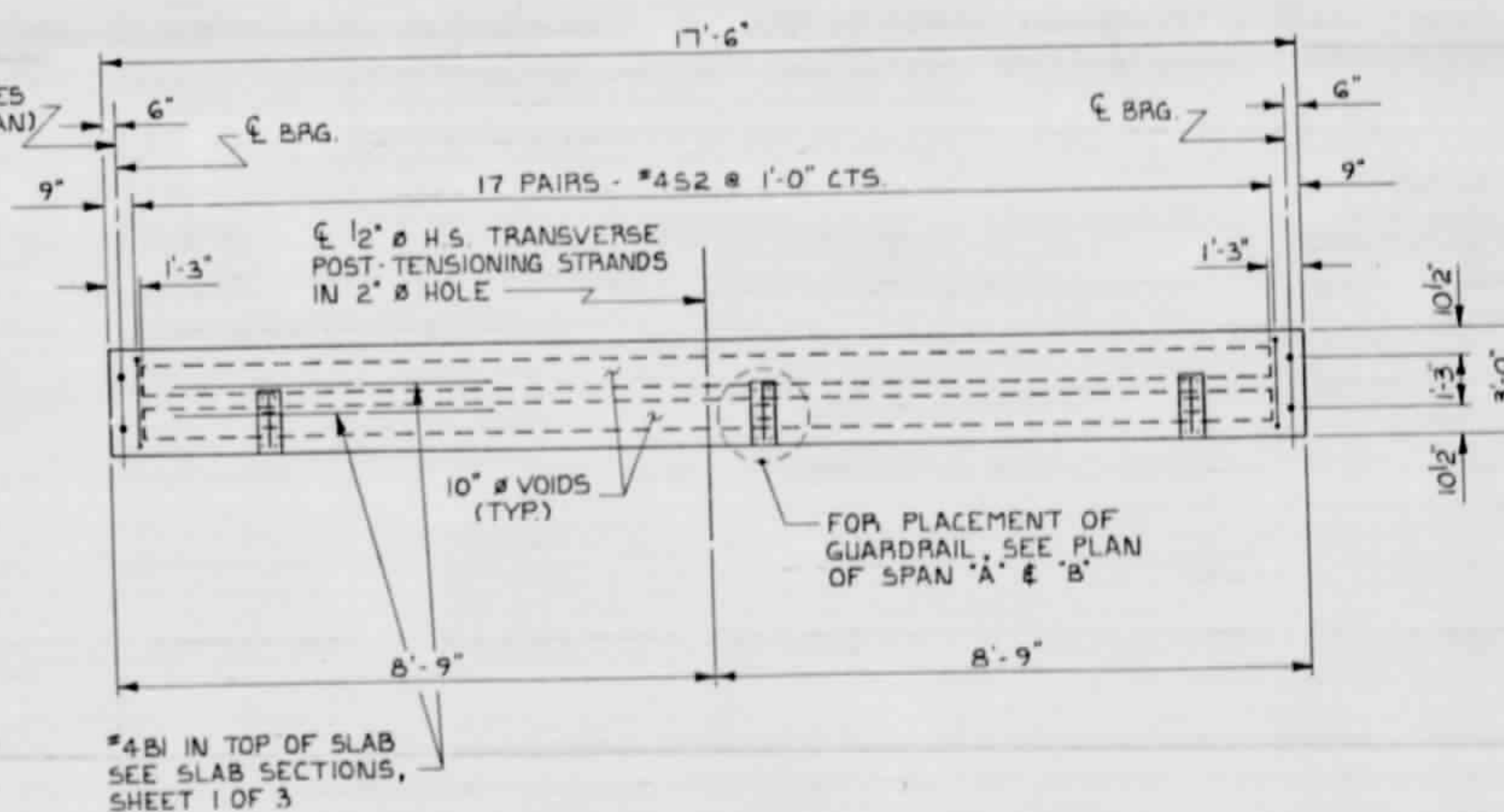


DETAIL 'A'



PLAN OF INTERIOR CORED SLAB UNIT

FOR LOCATION OF ADDITIONAL REINFORCING STEEL AT ENDS OF SLAB, SEE 'PART PLAN - EXTERIOR SECTION'



PLAN OF EXTERIOR CORED SLAB UNIT

FOR LOCATION OF ADDITIONAL REINFORCING STEEL AT ENDS OF SLAB, SEE 'PART PLAN - EXTERIOR SECTION'

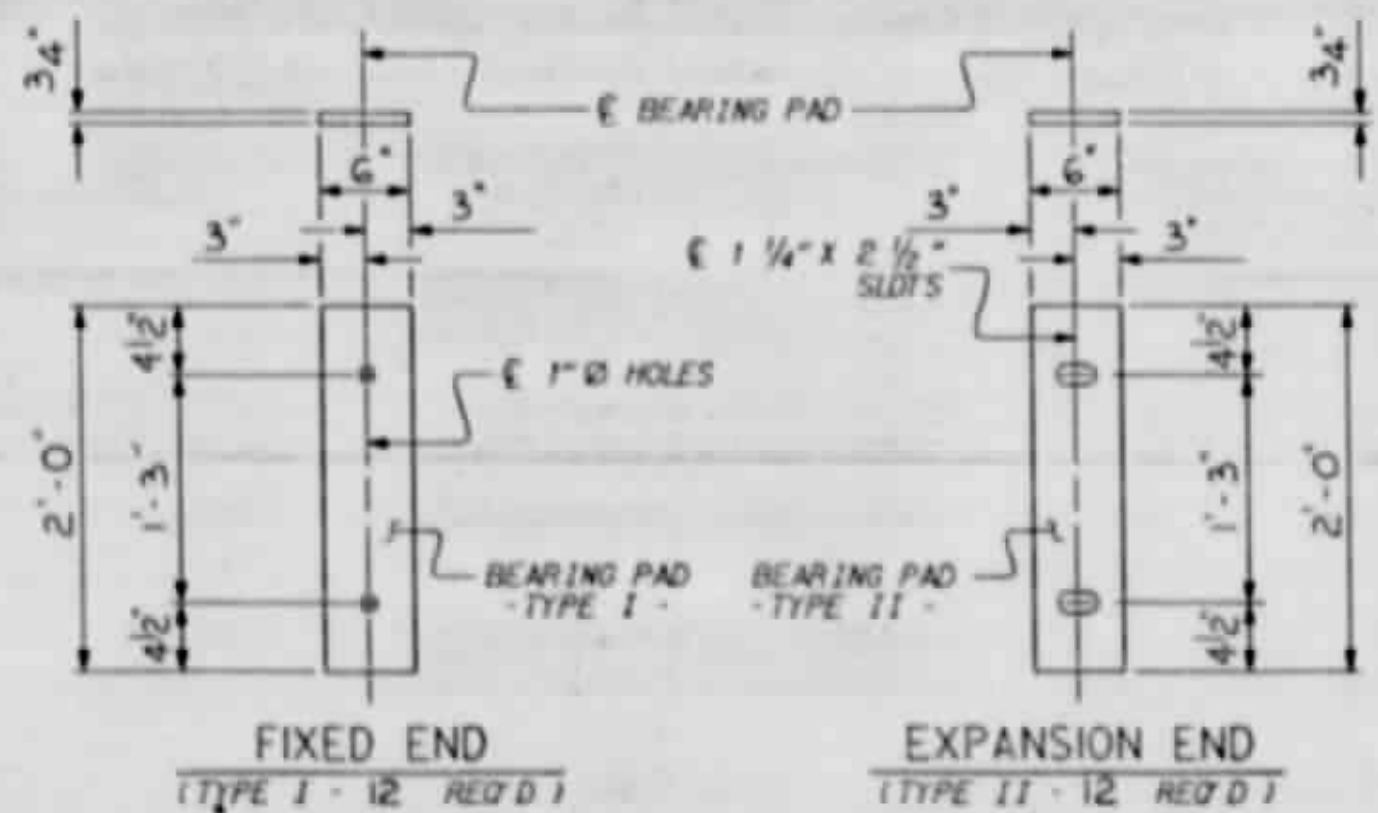
PROJECT NO. 81150701
BEAUFORT COUNTY
STATION: 10+00.00 -T- NR
SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PLAN OF SPANS CORED SLAB DETAILS NORTH RAMP					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
TOTAL SHEETS					26

DRAWN BY L. A. HALL DATE 9-8-92
CHECKED BY F. B. Mims DATE 1-11-92

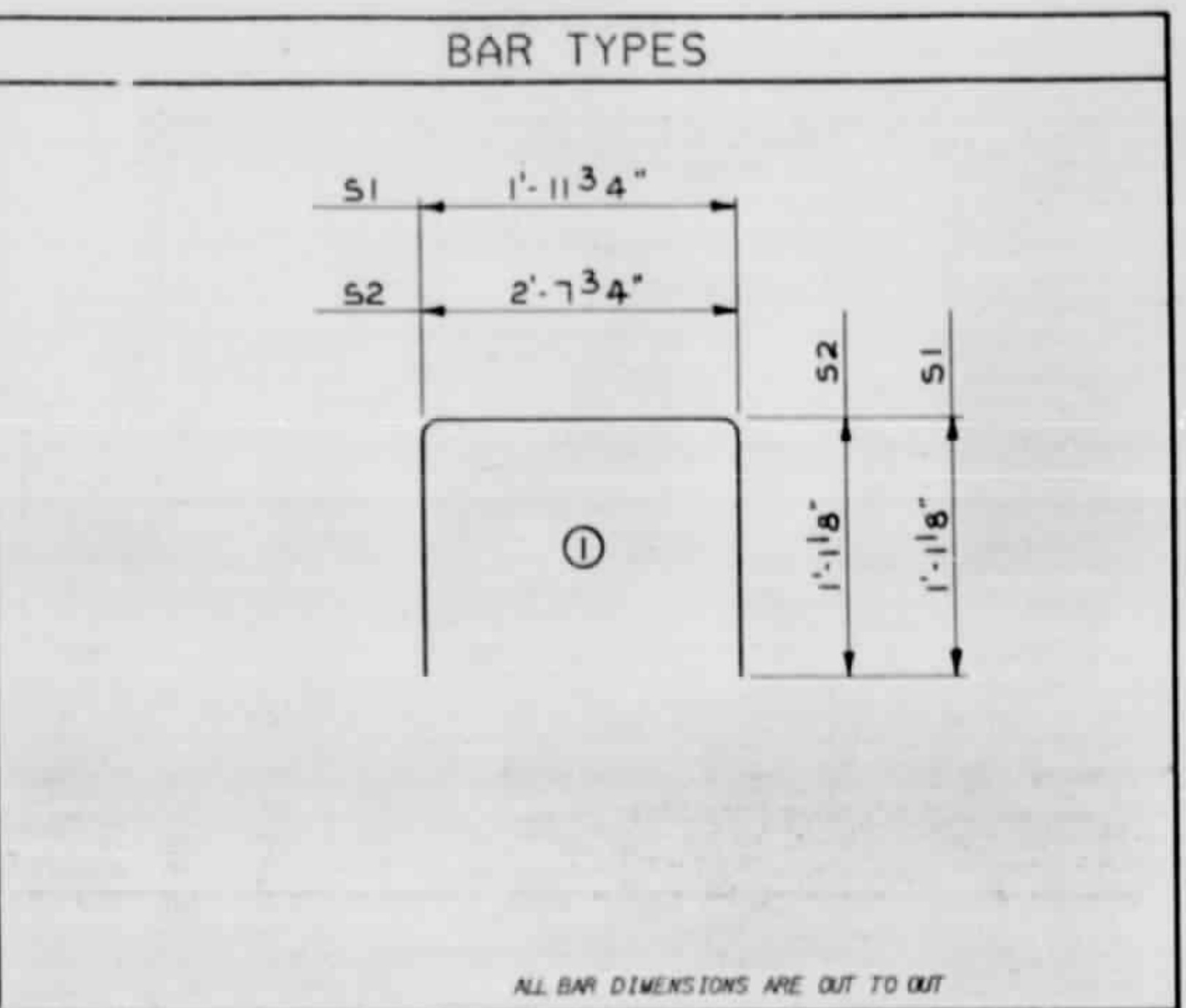
REVISED BY E.L.R. CHECKED BY G.A.P. 11-13-91 R
REVISED BY E.L.R. CHECKED BY G.A.P. 5-15-91
REVISED BY E.L.R. CHECKED BY G.A.P. 10-15-90
REVISED BY W.J.H. CHECKED BY F.C.J. 3-1-90
REVISED BY W.J.H. CHECKED BY F.C.J. 8-22-89
REVISED BY W.J.H. CHECKED BY F.C.J. 8-22-89

ASSEMBLED BY: L.A. HALL	DATE: 2-6-92	SPECIAL
CHECKED BY: F.A. MUMFIS	DATE: 3-11-92	
DRAWN BY: W.J. HARRIS	DATE: 4-31-89	STANDARD
CHECKED BY: F.C. JONES	DATE: 5-16-89	



ELASTOMERIC BEARING DETAILS

GRADE 270 STRANDS		
	1/2" Ø S.R.	1/2" Ø L.R.
AREA (SQUARE INCHES)	0.153	0.153
ULTIMATE STRENGTH (LBS. PER STRAND)	41,300	41,300
APPLIED PRESTRESS (LBS. PER STRAND)	28,900	30,980



BILL OF MATERIAL FOR ONE CORED SLAB SECTION							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B1	2	# 4	STR	17'-2"	23	17'-2"	23
S1	8	# 4	I	4'-2"	22	4'-2"	22
S2	34	# 4	I	4'-10"	110	4'-10"	110
REINFORCING STEEL			LBS.	155		155	
1/2" Ø S.R. STRANDS			No.	10		10	
1/2" Ø L.R. STRANDS			No.	10		10	

DEAD LOAD DEFLECTION AND CAMBER			
	3'-0" x 1'-6"		3'-0" x 1'-9"
	1/2" Ø S.R. STRAND	1/2" Ø L.R. STRAND	1/2" Ø S.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	3/16" ↑	3/16" ↑	3/16" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	0" ↓	0" ↓	0" ↓
FINAL CAMBER	3/16" ↑	3/16" ↑	3/16" ↑

** INCLUDES FUTURE WEARING SURFACE

Rev No. 1: Changed Number of Strand For One Cored Slab in Bill of Material. By F.A.M. date 7-14-93 / B.Y. 107443

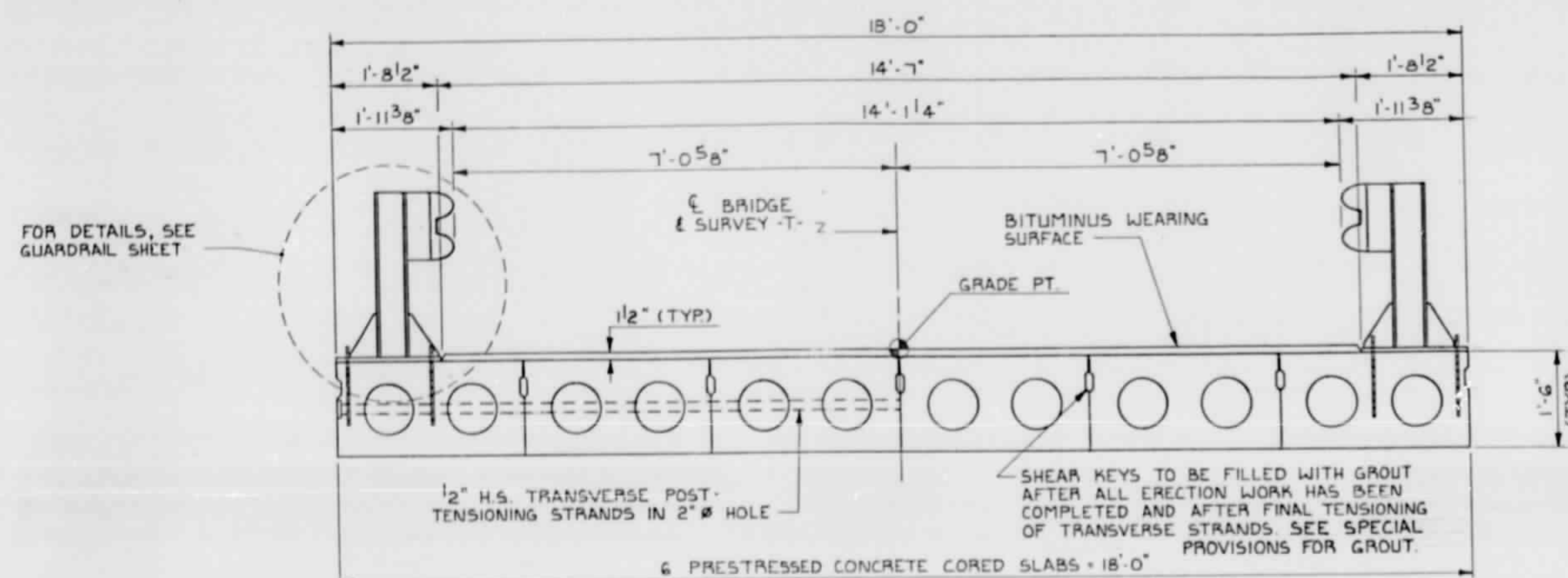
NOTES

- THE CONTRACTOR MAY USE EITHER 1/2" DIA. STRESS RELIEVED OR 1/2" DIA. LOW RELAXATION STRANDS ACCORDING TO LAYOUTS SHOWN ON THIS SHEET.
- THE SAME TYPE AND SAME SIZE STRANDS SHALL BE USED FOR ALL CORED SLAB UNITS IN THE STRUCTURE.
- ALL PRESTRESSING STRANDS SHALL BE 7-WIRE STRESS RELIEVED OR LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO ASTM A-416 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.
- RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.
- THE 2 1/2" DIA. DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT. THE 2 1/2" DIA. DOWEL HOLES AT EXPANSION ENDS OF SLAB SECTIONS SHALL BE FILLED WITH HOT POURED RUBBER ASPHALT MATERIAL TO 1 1/2" ABOVE TOP OF DOWELS AND THEN FILLED WITH GROUT. FOR GROUT FOR PRESTRESSED CORED SLABS, SEE SPECIAL PROVISIONS.
- THE HOT POURED RUBBER ASPHALT MATERIAL SHALL CONFORM TO THE REQUIREMENTS FOR JOINT SEALER, SEE STANDARD SPECIFICATIONS.
- FOR PRESTRESSED CORED SLABS, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR ENDS OF PRESTRESSED CORED SLABS, SEE SPECIAL PROVISIONS.
- FOR ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE 1/2" THICK EXPANSION JOINT MATERIAL IN THE JOINTS BETWEEN THE ENDS OF THE CORED SLAB SPANS IS 1/2" NOMINAL AND CAN BE EXPECTED TO VARY. THE CONTRACTOR MAY USE MORE THAN ONE LAYER OF EXPANSION JOINT MATERIAL, WITH A MINIMUM LAYER THICKNESS OF 3/8" TO PROVIDE THE THICKNESS REQUIRED.
- WHEN CORED SLABS ARE CAST, A POSITIVE HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT Voids FROM RISING OR MOVING SIDEWAYS. THIS SYSTEM SHALL BE DESIGNED TO BE LEFT IN PLACE UNTIL THE CONCRETE HAS REACHED RELEASE STRENGTH. AT LEAST THREE WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.
- THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI.
- FOR EPOXY COATED REINFORCING STEEL, SEE SPECIAL PROVISIONS.
- CALCIUM NITRATE CORROSION INHIBITOR SHALL BE USED IN ALL PRESTRESSED CONCRETE CORED SLAB UNITS. SEE SPECIAL PROVISIONS.
- THE COST OF THE 3/4" Ø ANCHOR BOLTS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR 3'-0" x 1'-6" PRESTRESSED CONCRETE CORED SLABS.

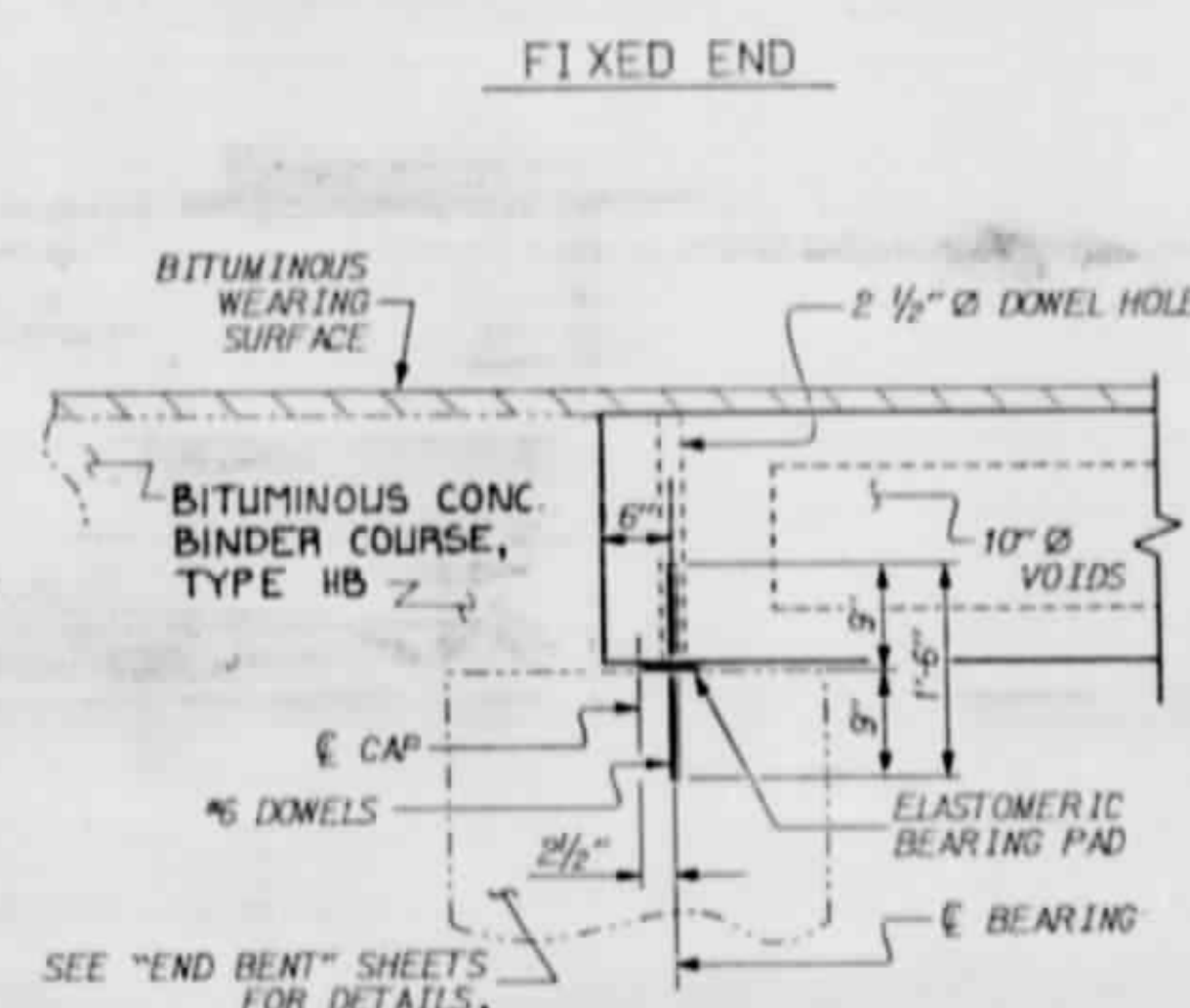
CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	4	17'-6"	70'-0"
INTERIOR C.S.	8	17'-6"	140'-0"
TOTAL	12		210'-0"

PROJECT NO. 8.1150701
BEAUFORT COUNTY
STATION: 10+00.00 - T. N.R.
SHEET 3 OF 3

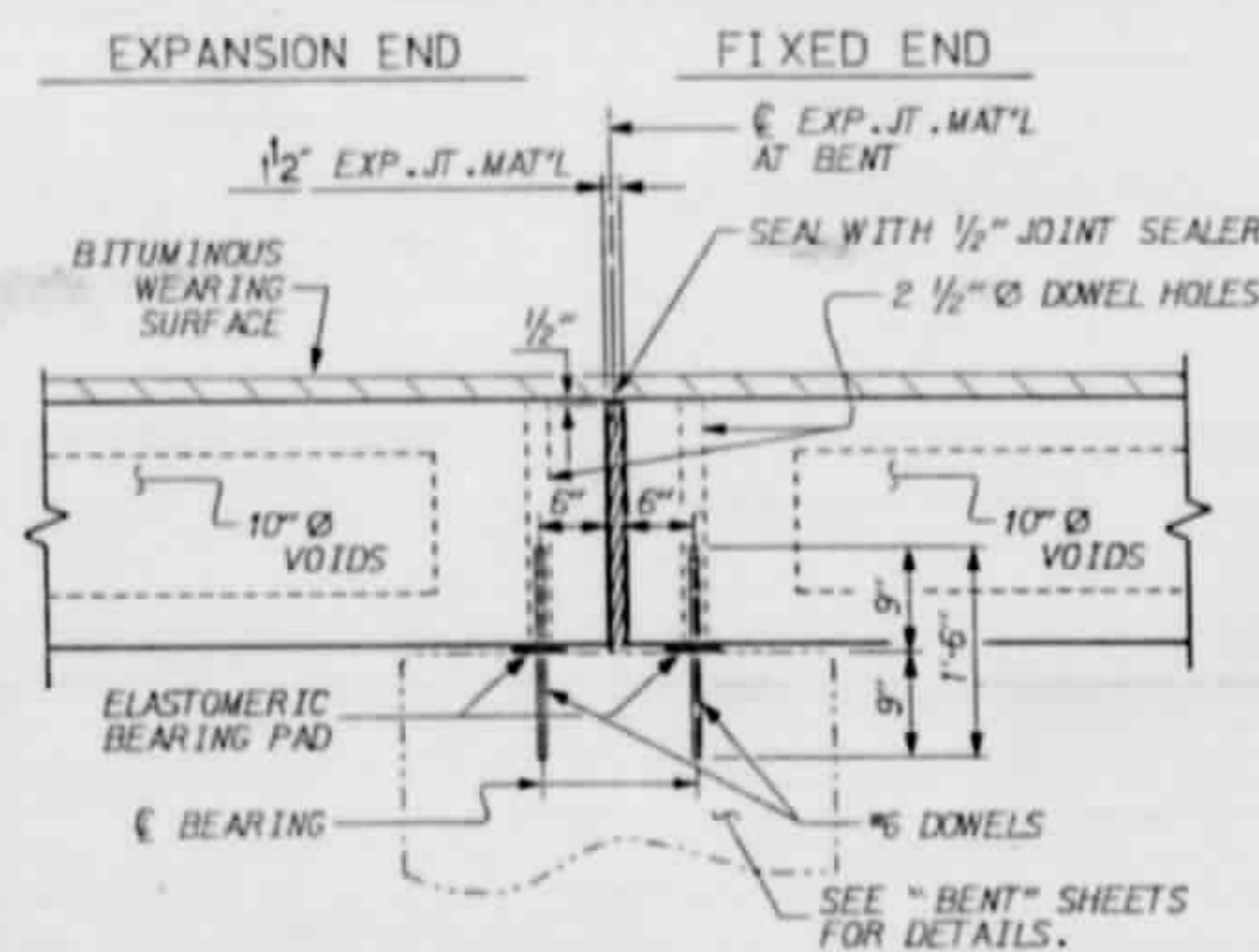
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HALESON					
STANDARD 3'-0" x 1'-6" PRESTRESSED CONCRETE CORED SLAB UNIT NORTH RAMP					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	FAM	7-14-93	2		
					SHEET NO. 2112



TYPICAL SECTION

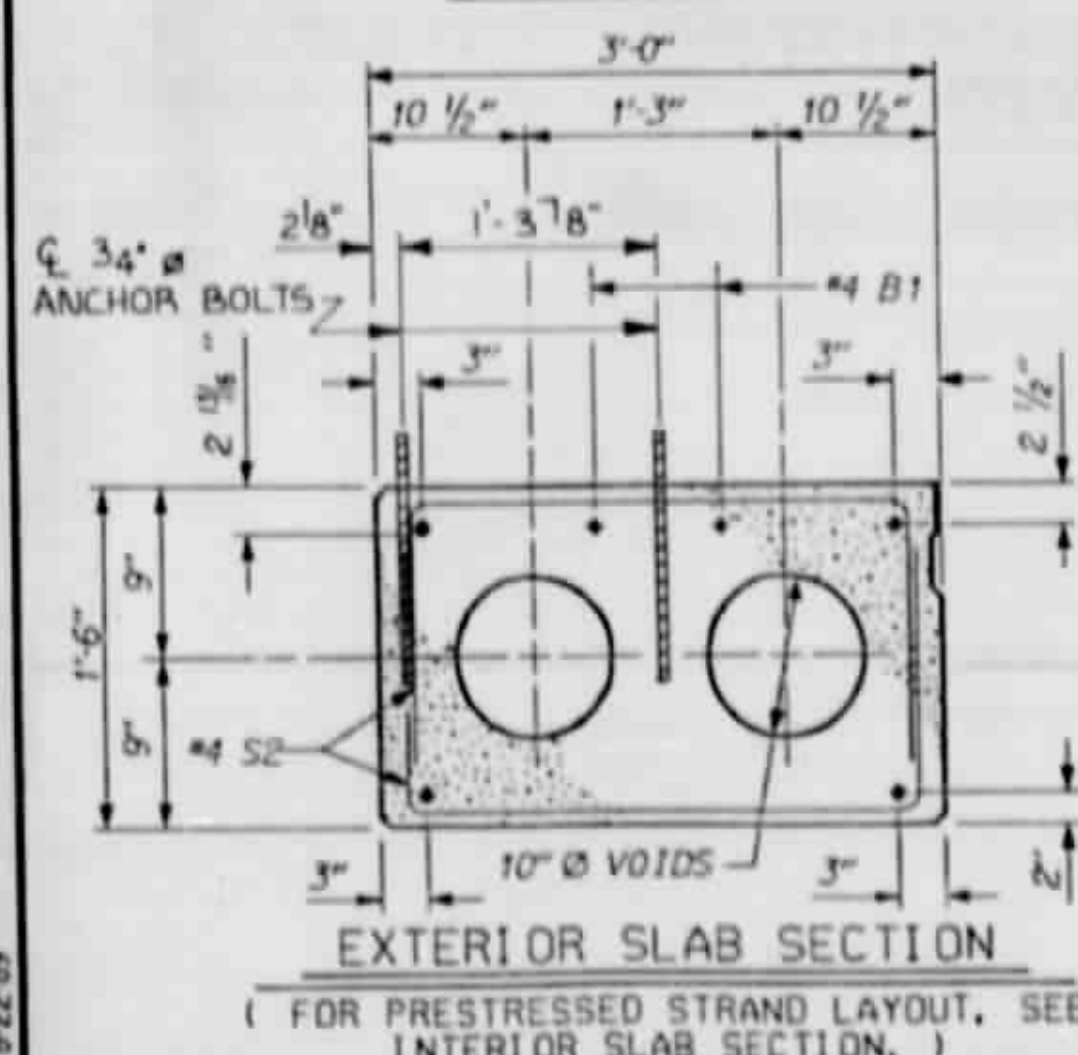


SECTION AT END BENT

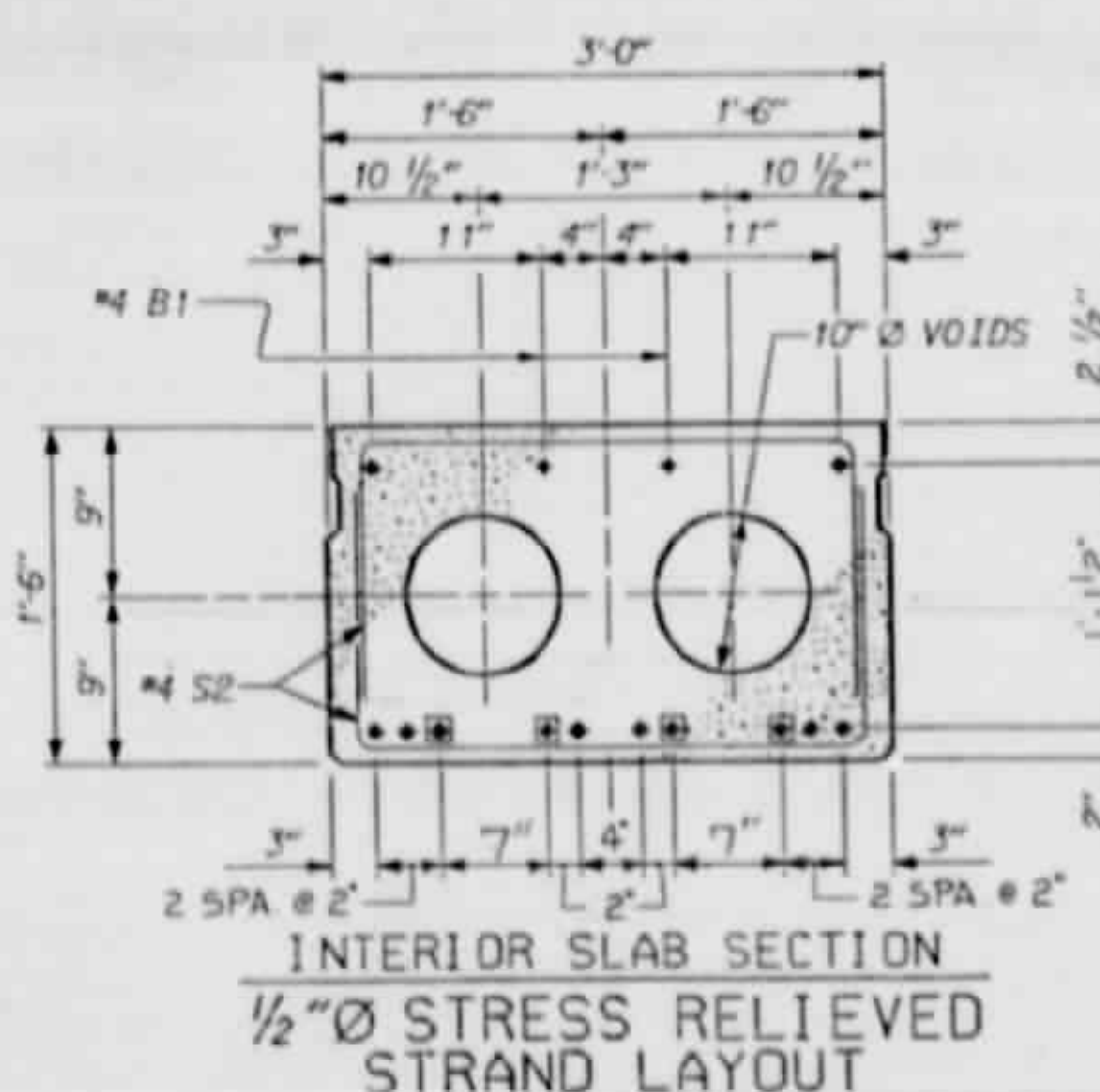


SECTION AT BENT

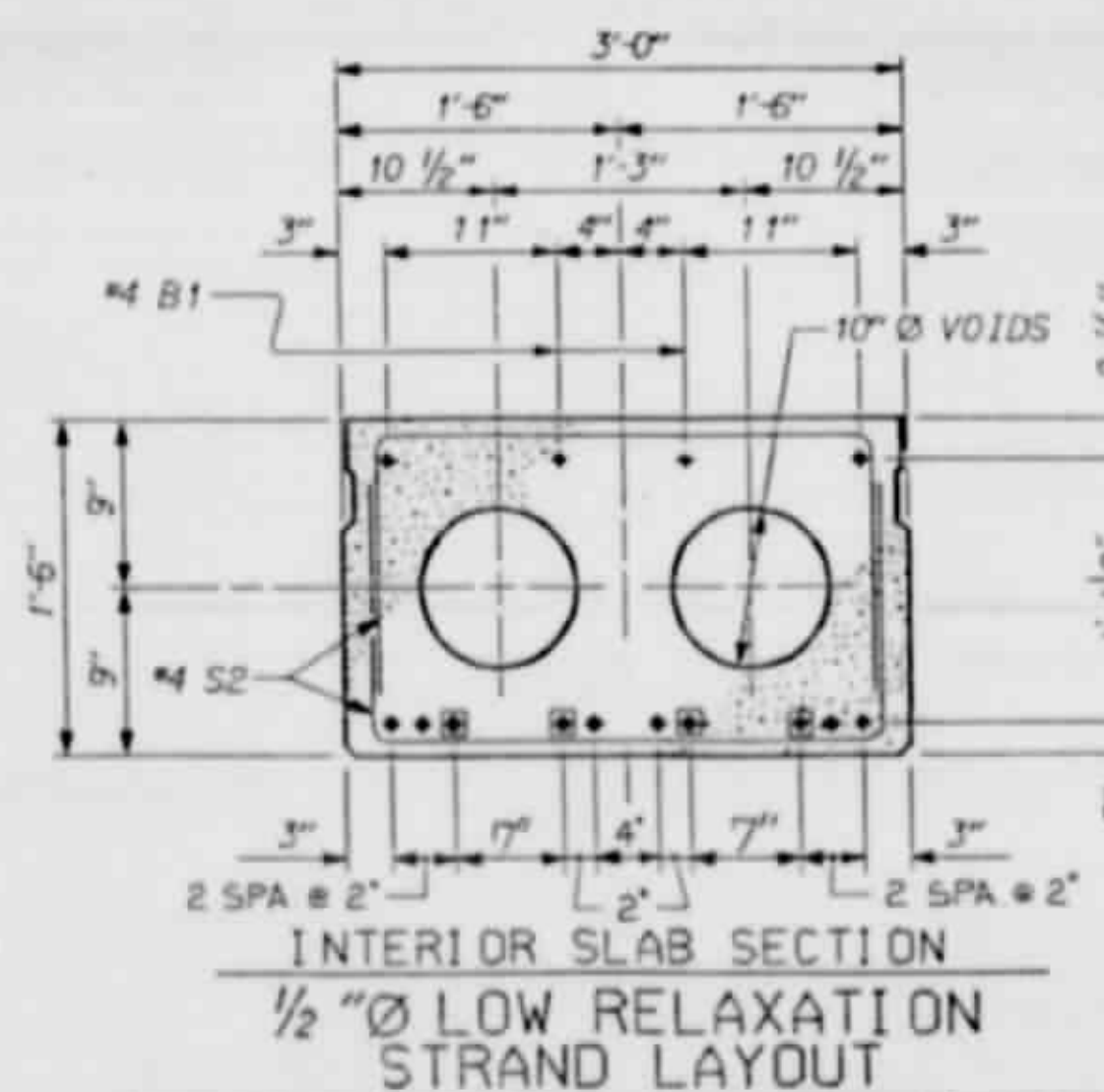
□ BOND SHALL BE BROKEN AT THESE STRANDS FOR A DISTANCE OF 4'-0" FROM END OF CORED SLAB UNIT.



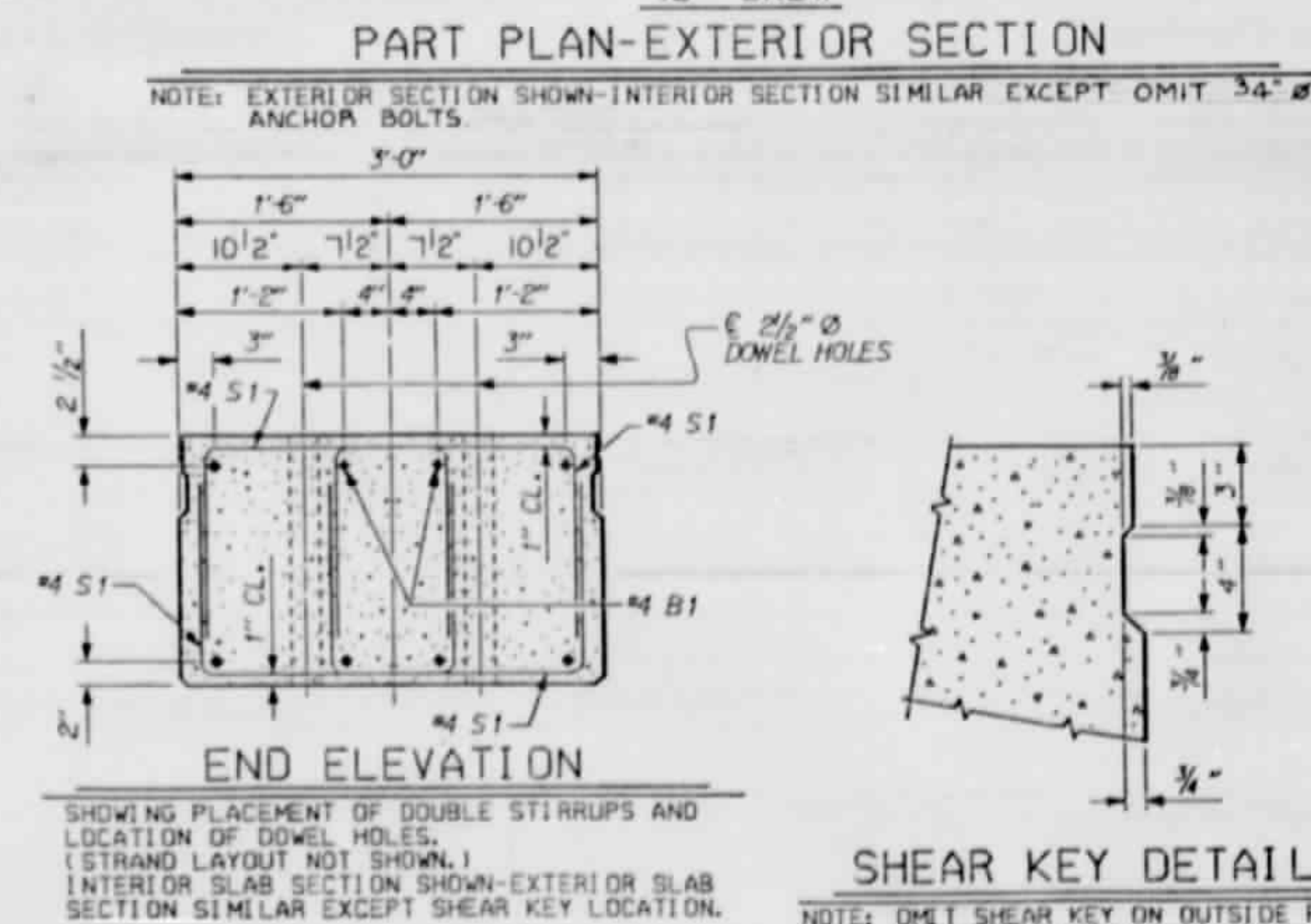
EXTERIOR SLAB SECTION
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)



INTERIOR SLAB SECTION
1/2" Ø STRESS RELIEVED STRAND LAYOUT



INTERIOR SLAB SECTION
1/2" Ø LOW RELAXATION STRAND LAYOUT



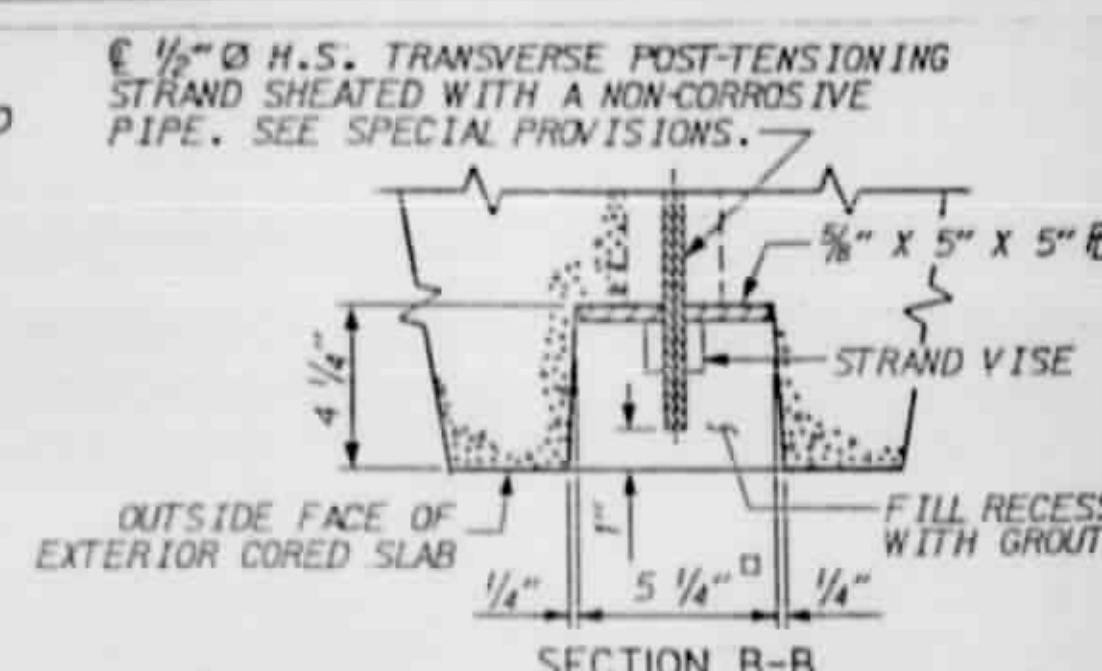
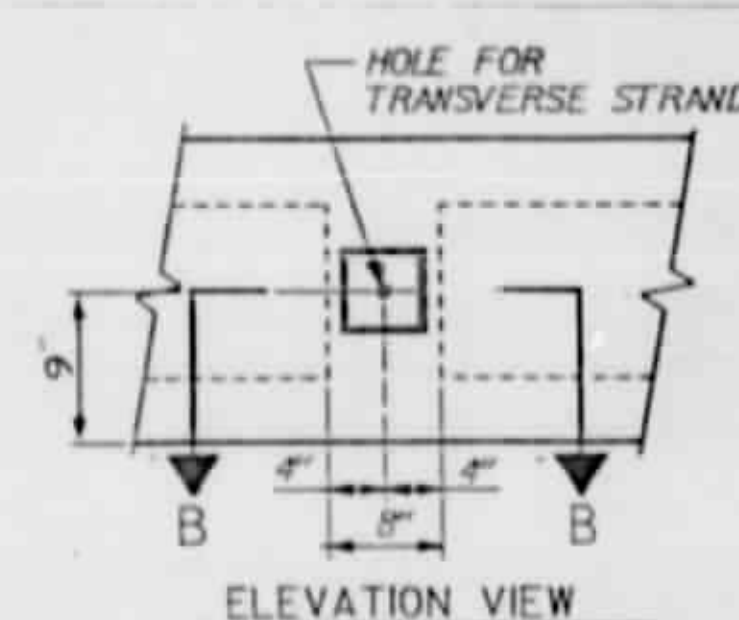
END ELEVATION

SHEAR KEY DETAIL

FILL THE RECESS WITH A NON-SHRINK, NON-METALLIC GROUT APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS.



GROUTED RECESS AT END OF PRETENSIONED STRAND-CORED SLABS



GROUTED RECESS AT END OF POST-TENSIONED STRAND-CORED SLABS

REVISED BY E.L.P. CHECKED BY G.R.P. 11-1991
REVISED BY W.J.H. CHECKED BY C.R.K. 3-1-90
REVISED BY J.A.H. CHECKED BY F.C.V. 8-2-89

ASSEMBLED BY: I.A. HALL	DATE: 9-3-92	SPECIAL
CHECKED BY: E.D. HARRIS	DATE: 7-11-92	
DRAWN BY: W.J. HARRIS	DATE: 4-11-88	STANDARD
CHECKED BY: F.C. JONES	DATE: 3-16-88	

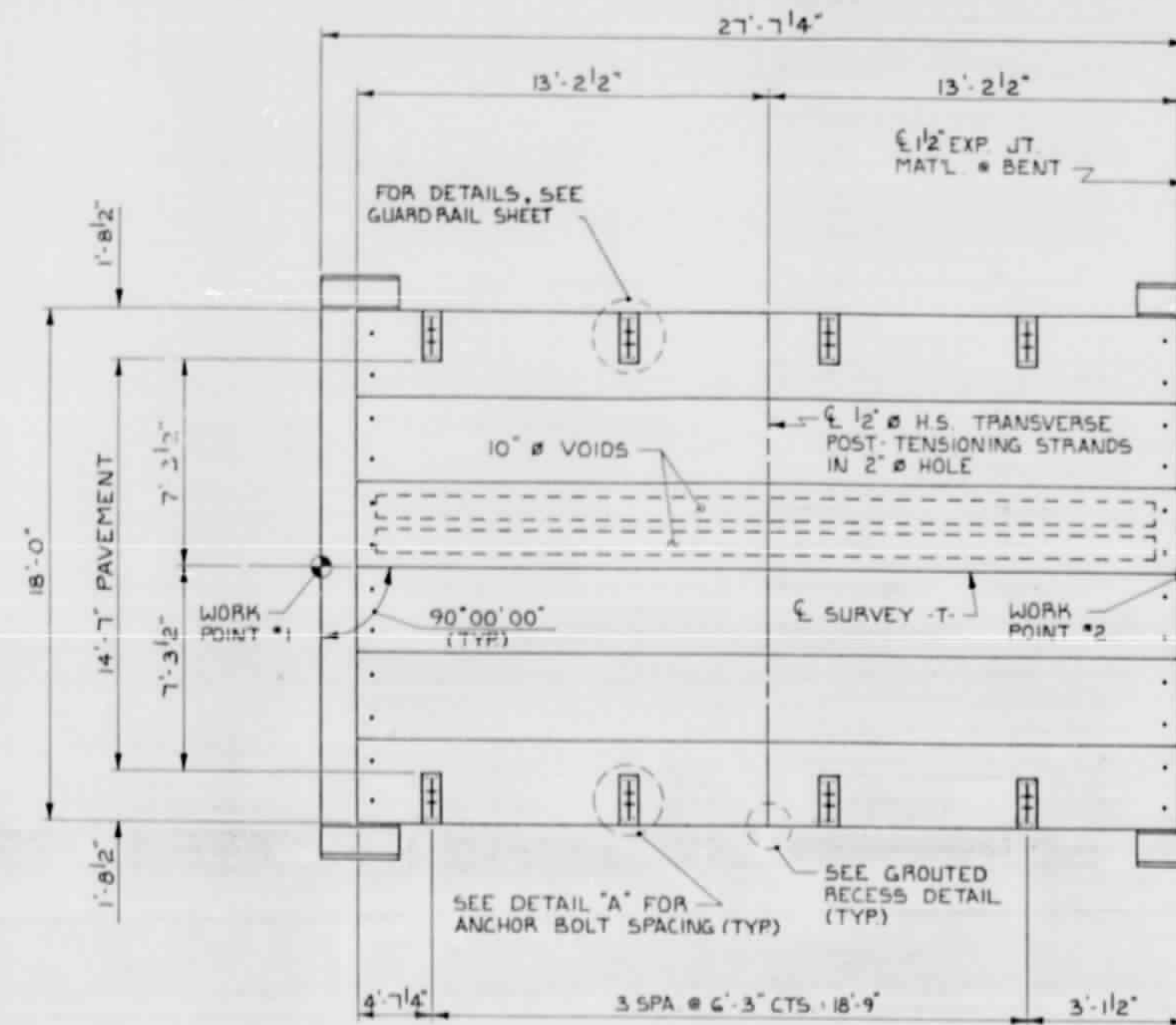
PROJECT NO. 81150701
BEAUFORT COUNTY
STATION: 10+00.00 T.S.R.
SHEET 10F 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HALEIGH

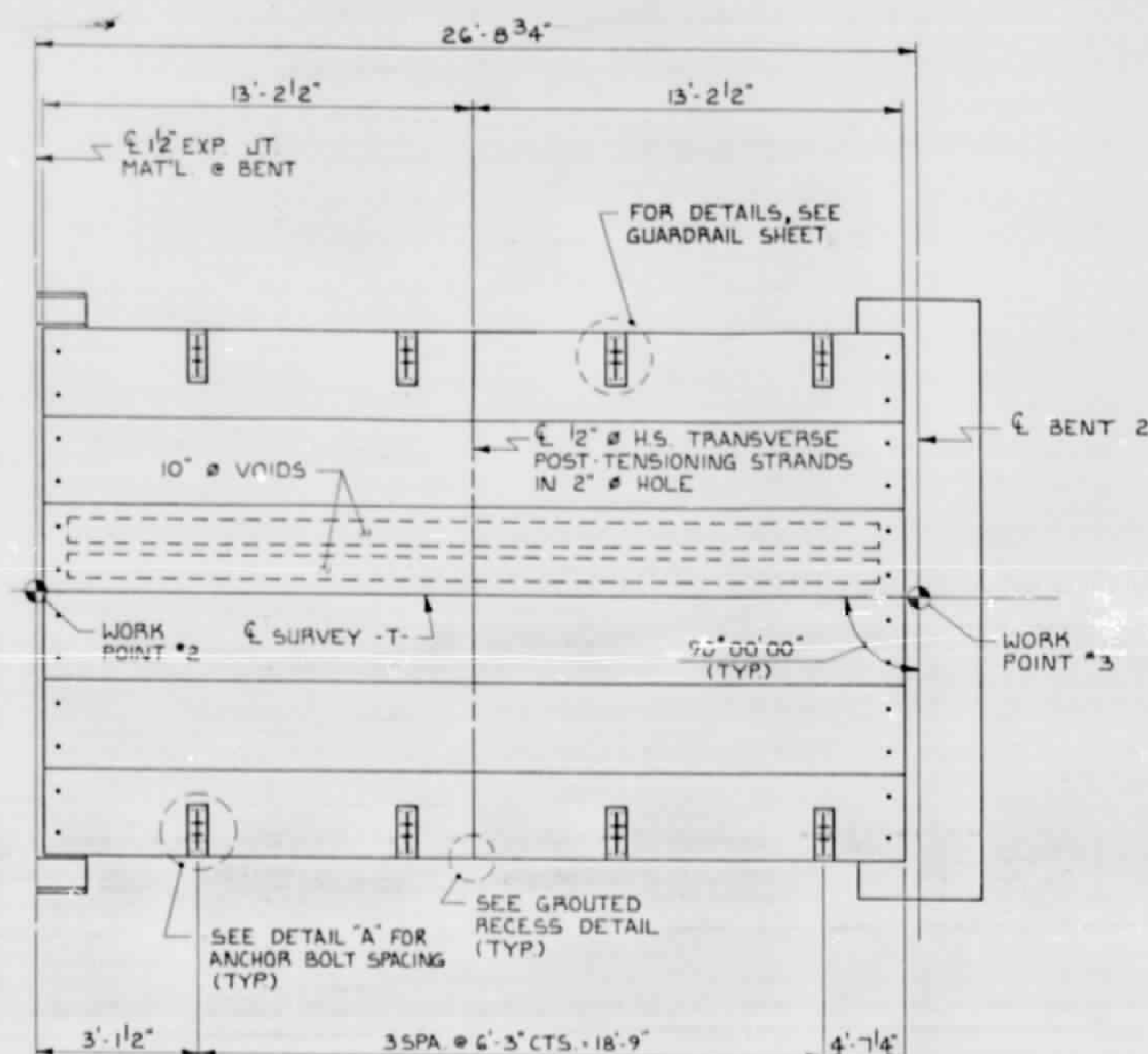
STANDARD
3'-0" X 1'-6"
PRESTRESSED CONCRETE
CORED SLAB UNIT
SOUTH RAMP

REVISIONS				SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE
1	FAM	7-14-93	3		
2			4		

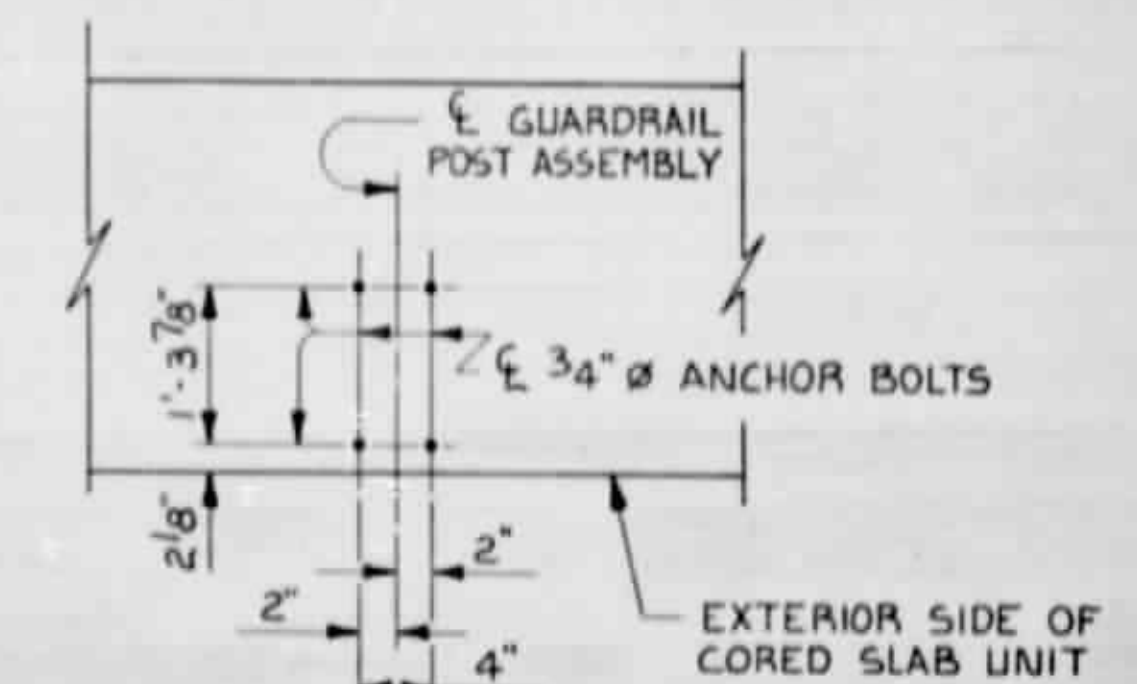
Rev. No. 1: Changed Strand Pattern. By: FAM Date: 7-14-93/8/18/11/93



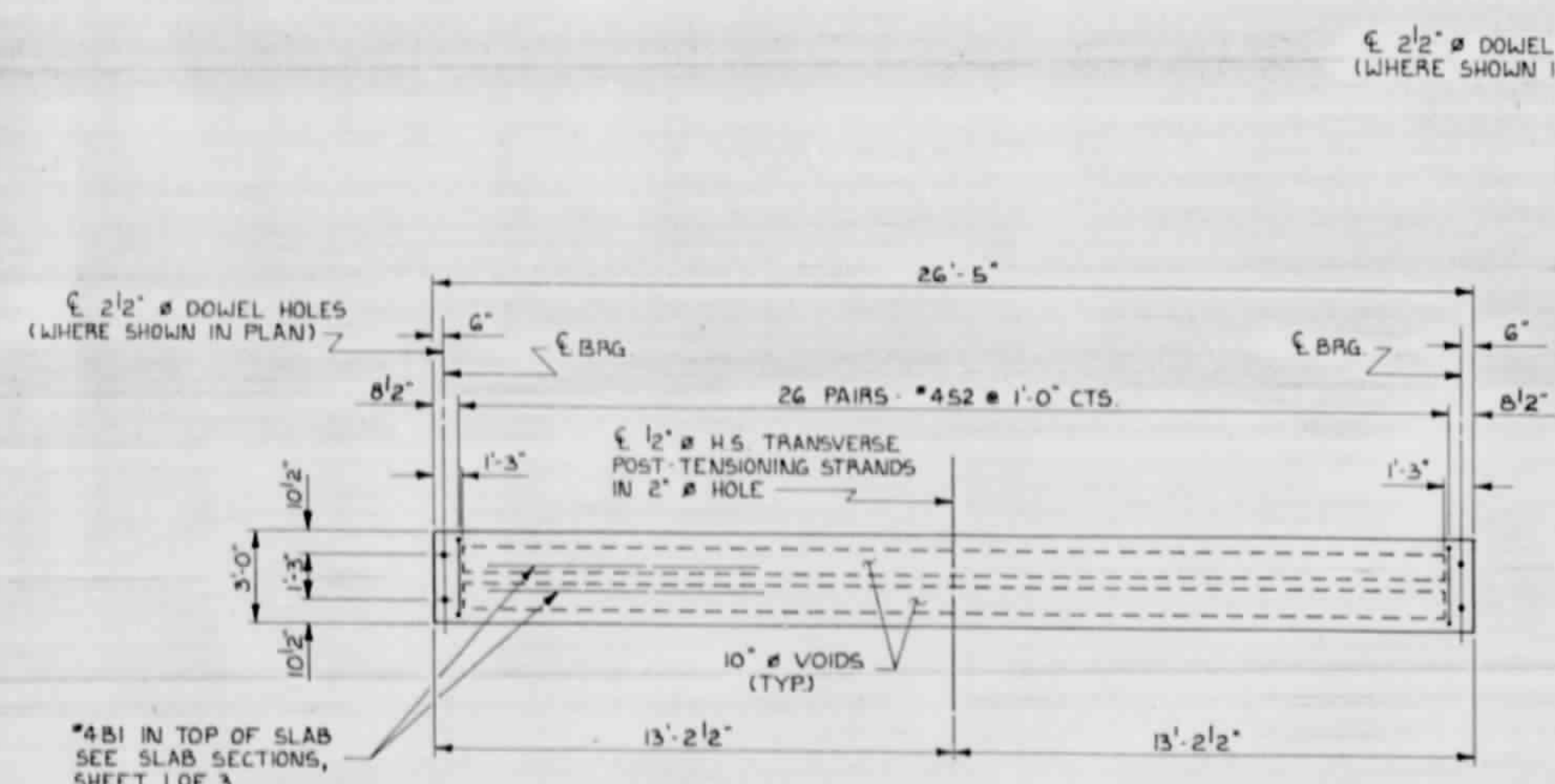
PLAN OF SPAN 'A'



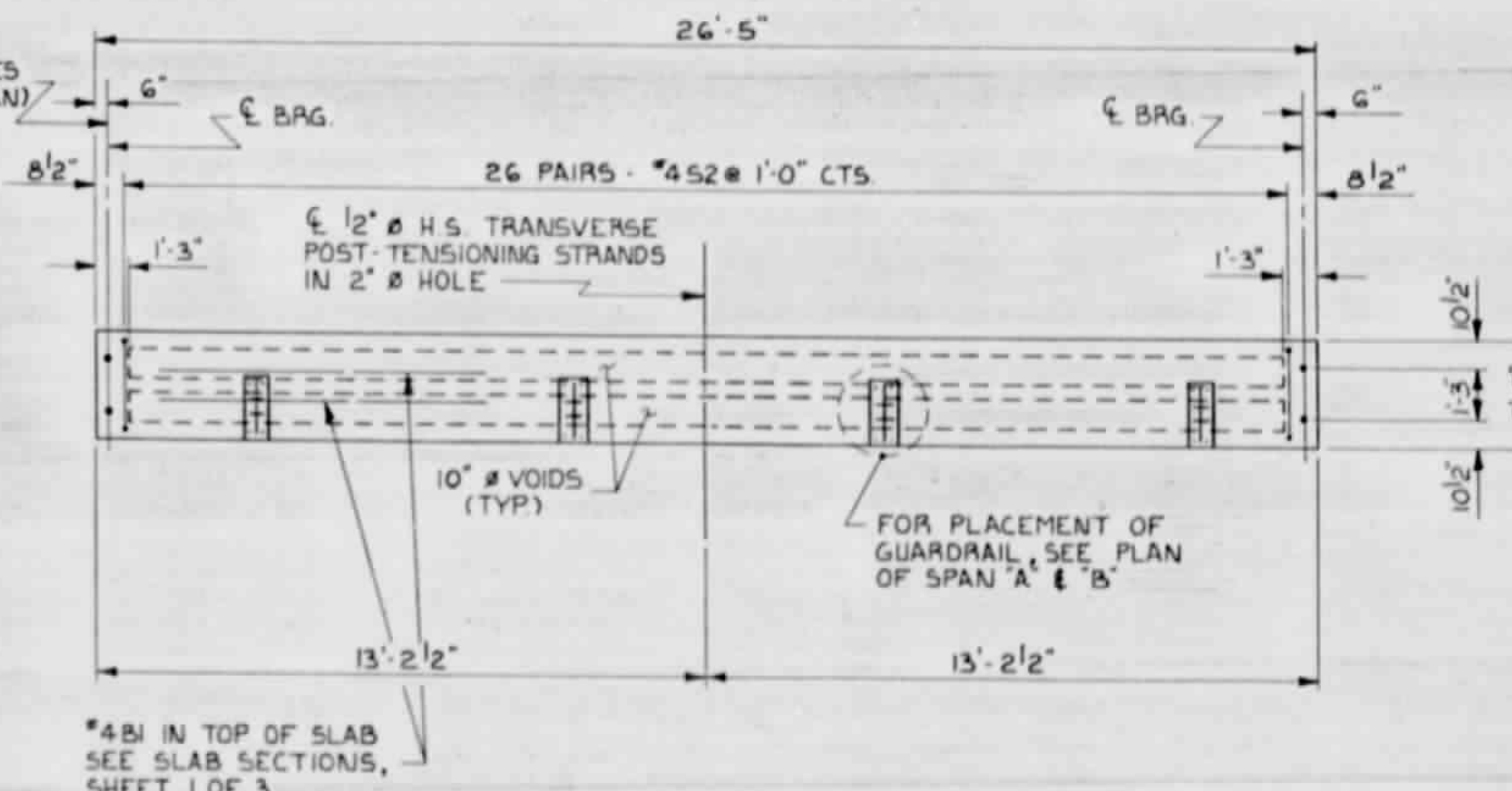
PLAN OF SPAN 'B'



DETAIL 'A'



PLAN OF INTERIOR CORED SLAB UNIT
FOR LOCATION OF ADDITIONAL REINFORCING STEEL
AT ENDS OF SLAB, SEE 'PART PLAN - EXTERIOR SECTION'



PLAN OF EXTERIOR CORED SLAB UNIT
FOR LOCATION OF ADDITIONAL REINFORCING STEEL
AT ENDS OF SLAB, SEE 'PART PLAN - EXTERIOR SECTION'

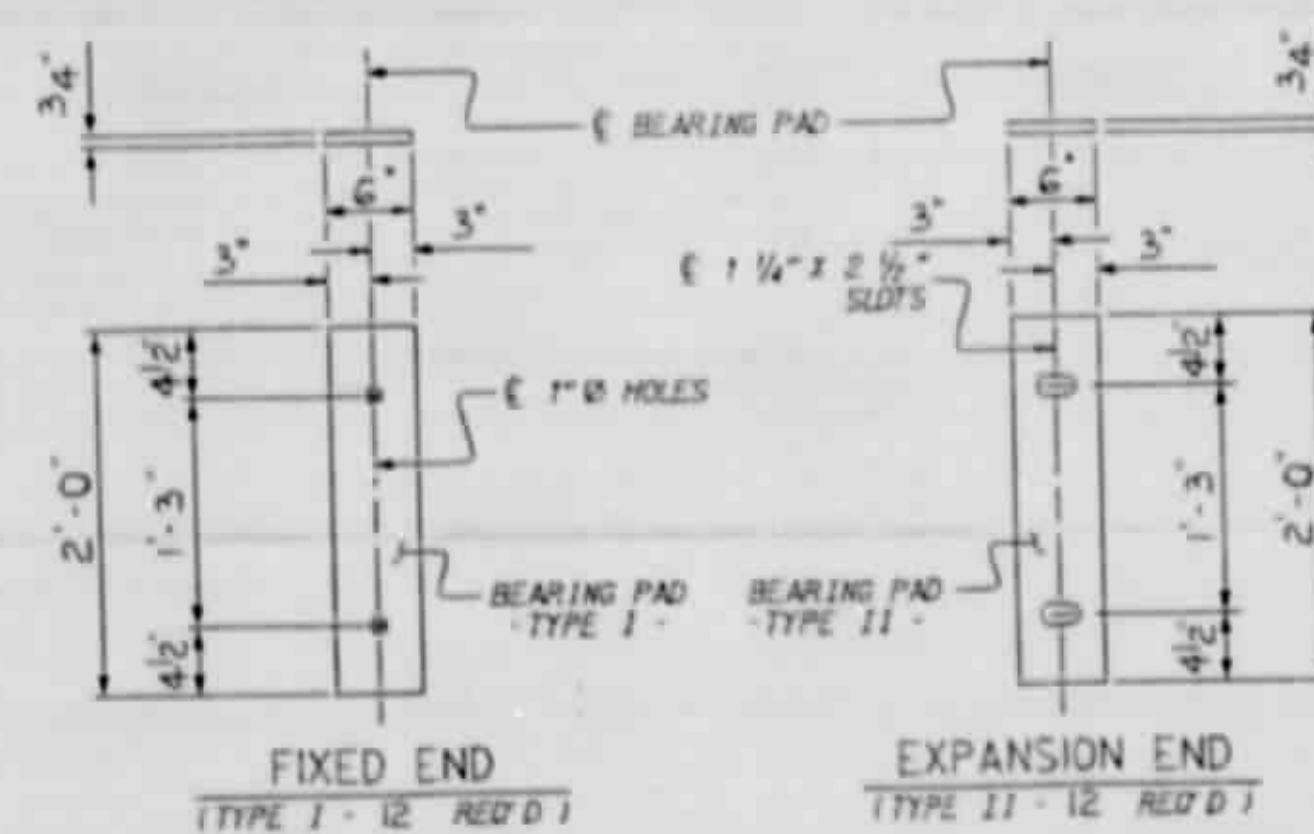
PROJECT No. 81150701
BEAUFORT COUNTY
STATION: 10+00.00 -T-SR
SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PLAN OF SPANS
CORED SLAB DETAILS
SOUTH RAMP

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			2			0-1314
2			3			TOTAL SHEETS

DRAWN BY: L. A. HALL
CHECKED BY: F. B. Dumas
DATE: 9-8-92
DATE: 9-11-92

REVISED BY S.J.M. CHECKED BY F.C.J. DATE: 3-1-89
 REVISED BY S.J.M. CHECKED BY F.C.J. DATE: 6-22-89
 REVISED BY S.J.M. CHECKED BY F.C.J. DATE: 10-1-89
 REVISED BY S.J.M. CHECKED BY F.C.J. DATE: 10-1-89

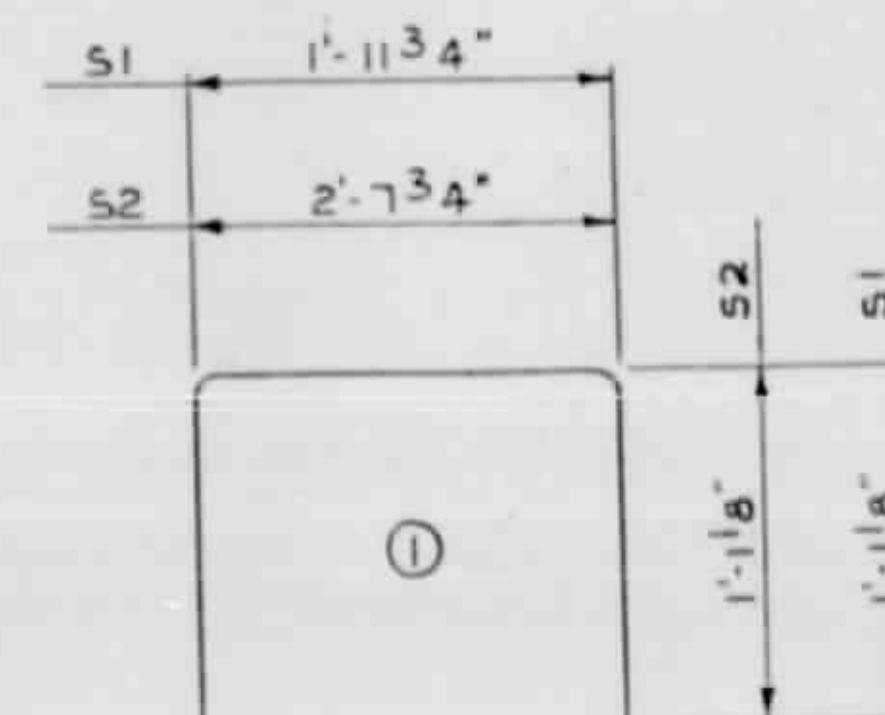


ELASTOMERIC BEARING DETAILS

ASSEMBLED BY: L.A. HALL	DATE: 9-9-92	SPECIAL
CHECKED BY: F.A. Mims	DATE: 9-10-92	
DRAWN BY: W.J. HARRIS	DATE: 6-11-89	STANDARD
CHECKED BY: F.C. JAMES	DATE: 6-10-89	

GRADE 270 STRANDS		
	1/2" Ø S.R.	1/2" Ø L.R.
AREA (SQUARE INCHES)	0.153	0.153
ULTIMATE STRENGTH (LBS. PER STRAND)	41,300	41,300
APPLIED PRESTRESS (LBS. PER STRAND)	28,900	30,880

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB SECTION

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B1	2	#4	STR	26'-0"	35	26'-0"	35
S1	8	#4	I	4'-2"	22	4'-2"	22
S2	52	#4	I	4'-10"	168	4'-10"	168
REINFORCING STEEL				LBS.	225	LBS.	225
1/2" Ø S.R. STRANDS				No.	12	No.	12
1/2" Ø L.R. STRANDS				No.	12	No.	12

DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 1'-6"		3'-0" x 1'-9"	
	1/2" Ø S.R. STRAND	1/2" Ø L.R. STRAND	1/2" Ø S.R. STRAND	1/2" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	1/16" ↑	1/2" ↑		
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	0" ↓	0" ↓		
FINAL CAMBER	1/16" ↑	1/2" ↑		

** INCLUDES FUTURE WEARING SURFACE

NOTES

THE CONTRACTOR MAY USE EITHER 1/2" DIA. STRESS RELIEVED OR 1/2" DIA. LOW RELAXATION STRANDS ACCORDING TO LAYOUTS SHOWN ON THIS SHEET.

THE SAME TYPE AND SAME SIZE STRANDS SHALL BE USED FOR ALL CORED SLAB UNITS IN THE STRUCTURE.

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE STRESS RELIEVED OR LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO ASTM A-416 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2 1/2" DIA. DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT. THE 2 1/2" DIA. DOWEL HOLES AT EXPANSION ENDS OF SLAB SECTIONS SHALL BE FILLED WITH HOT POURED RUBBER ASPHALT MATERIAL TO 1 1/2" ABOVE TOP OF DOWELS AND THEN FILLED WITH GROUT. FOR GROUT FOR PRESTRESSED CORED SLABS, SEE SPECIAL PROVISIONS.

THE HOT POURED RUBBER ASPHALT MATERIAL SHALL CONFORM TO THE REQUIREMENTS FOR JOINT SEALER, SEE STANDARD SPECIFICATIONS.

FOR PRESTRESSED CORED SLABS, SEE SPECIAL PROVISIONS.

FOR GROUT FOR ENDS OF PRESTRESSED CORED SLABS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE 1/2" THICK EXPANSION JOINT MATERIAL IN THE JOINTS BETWEEN THE ENDS OF THE CORED SLAB SPANS IS 1/2" NOMINAL AND CAN BE EXPECTED TO VARY. THE CONTRACTOR MAY USE MORE THAN ONE LAYER OF EXPANSION JOINT MATERIAL WITH A MINIMUM LAYER THICKNESS OF 3/8" TO PROVIDE THE THICKNESS REQUIRED.

WHEN CORED SLABS ARE CAST, A POSITIVE HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. THIS SYSTEM SHALL BE DESIGNED TO BE LEFT IN PLACE UNTIL THE CONCRETE HAS REACHED RELEASE STRENGTH. AT LEAST THREE WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI.

FOR EPOXY COATED REINFORCING STEEL, SEE SPECIAL PROVISIONS.

CALCIUM NITRATE CORROSION INHIBITOR SHALL BE USED IN ALL PRESTRESSED CONCRETE CORED SLAB UNITS. SEE SPECIAL PROVISIONS.

THE COST OF THE 3/4" Ø ANCHOR BOLTS SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR 3'-0" x 1'-6" PRESTRESSED CONCRETE CORED SLABS.

CORED SLABS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	4	26'-5"	105'-8"
INTERIOR C.S.	8	26'-5"	211'-4"
TOTAL	12		317'-0"

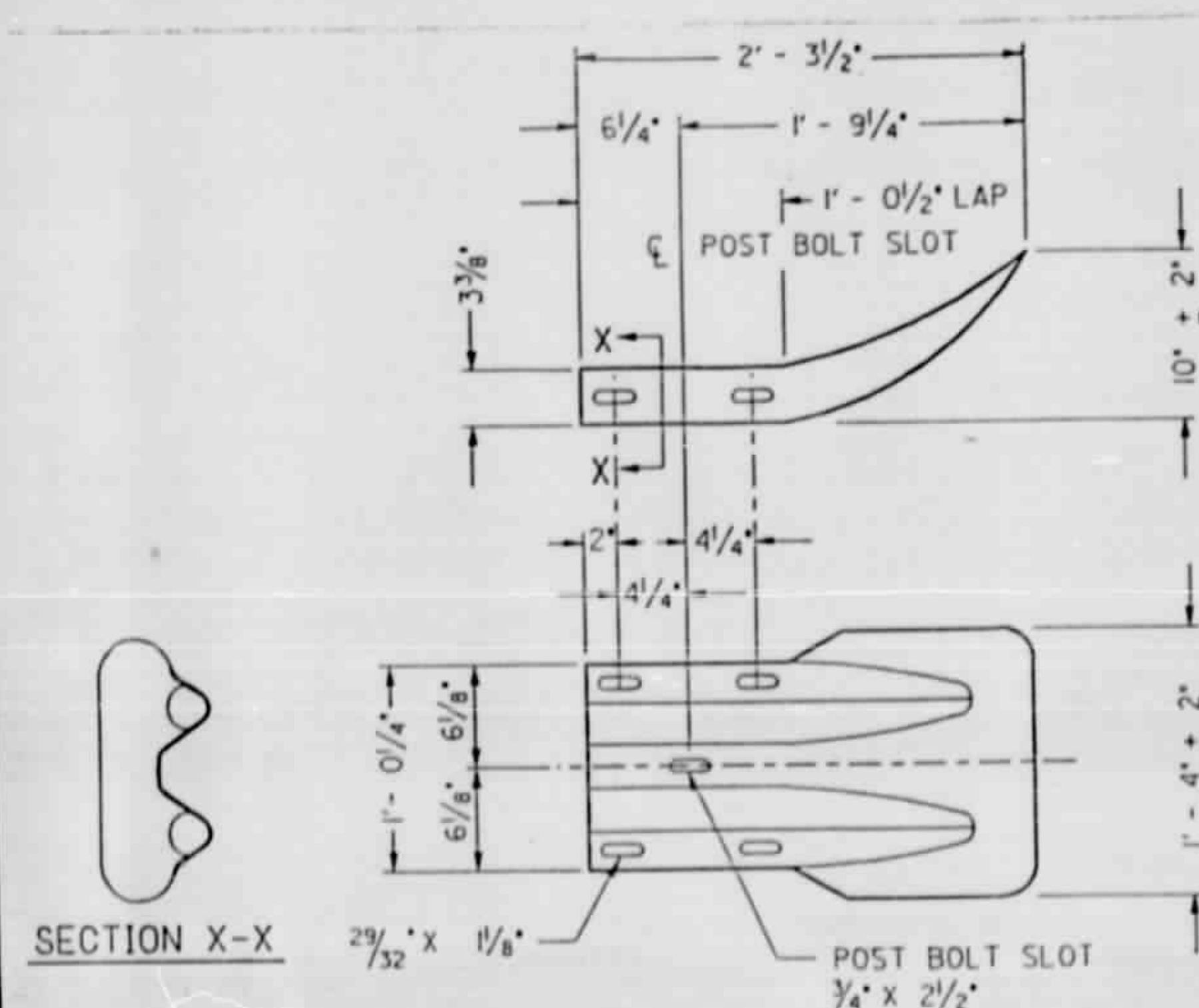
PROJECT NO. 81150701

BEAUFORT COUNTY

STATION: 10+00.00 - T - S.R.

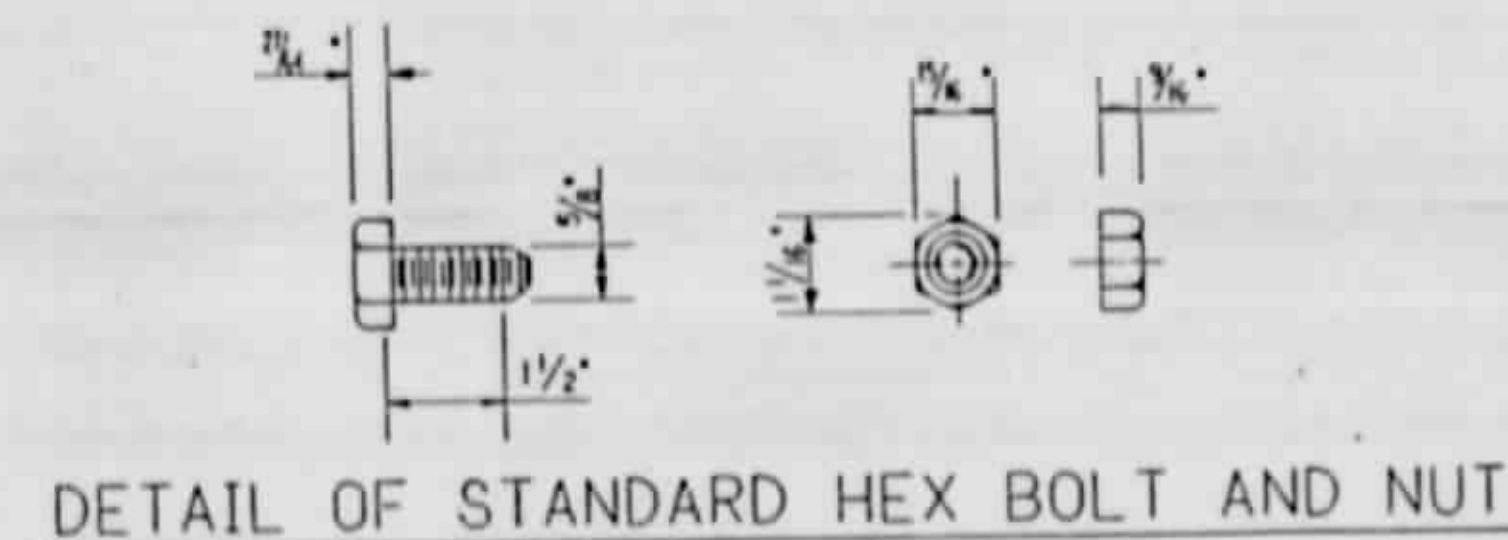
SHEET 3 OF 3

STATE OF NORTH CAROLINA			
DEPARTMENT OF TRANSPORTATION			
STANDARD			
3'-0" X 1'-6"			
PRESTRESSED			
CONCRETE CORED			
SLAB UNIT			
SOUTH RAMP			
REVISIONS			
NO.	BY	DATE	NO.
1			2
2			3
SHEET NO.			28

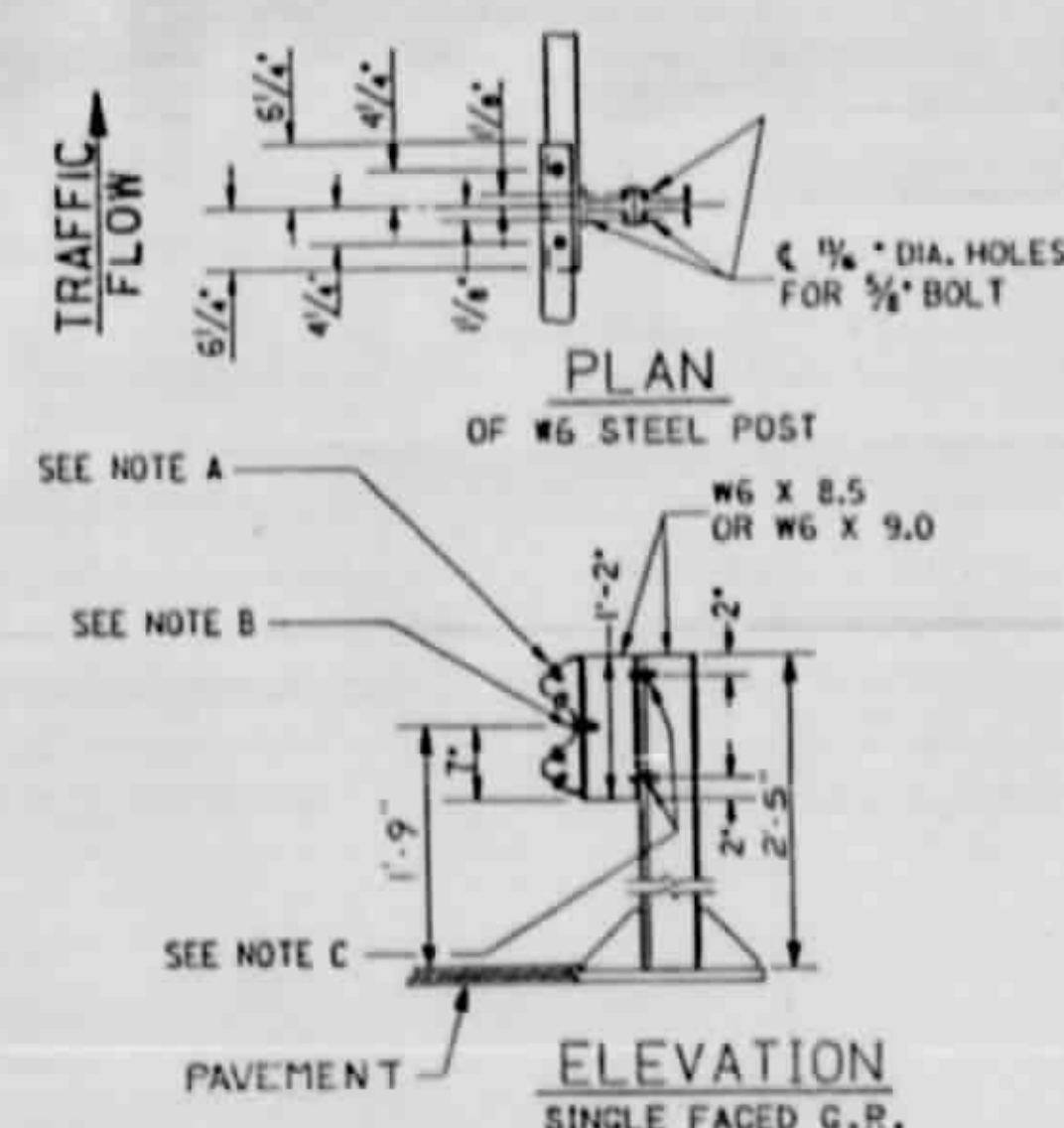


SECTION X-X

TERMINAL END SECTION

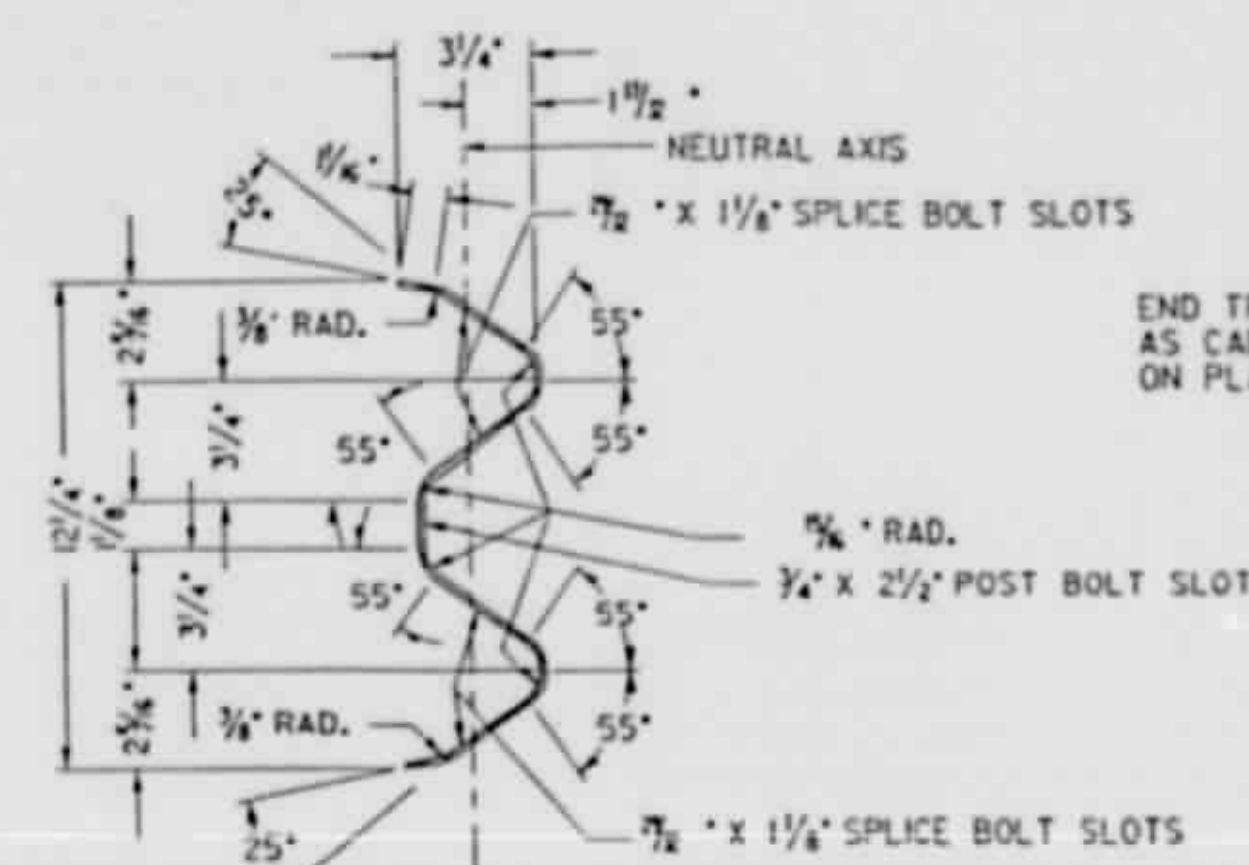


DETAIL OF STANDARD HEX BOLT AND NUT

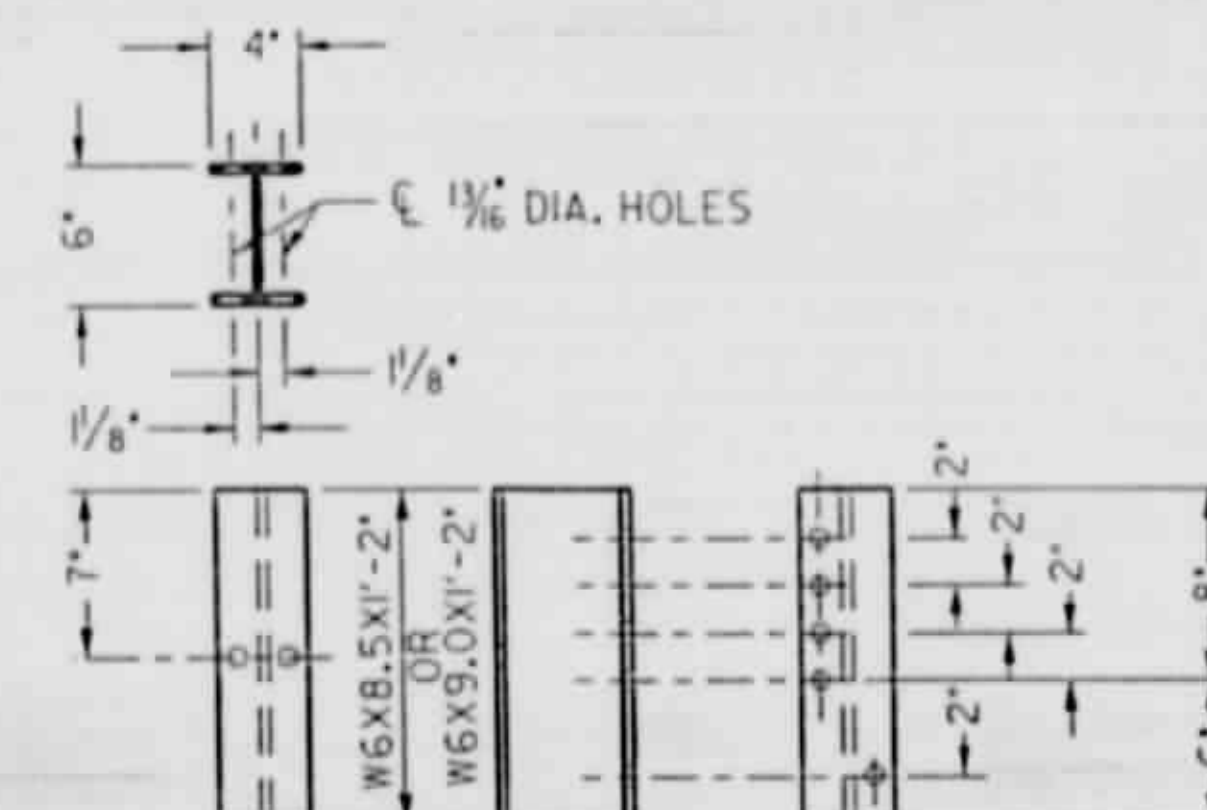


DETAIL OF STANDARD WASHER

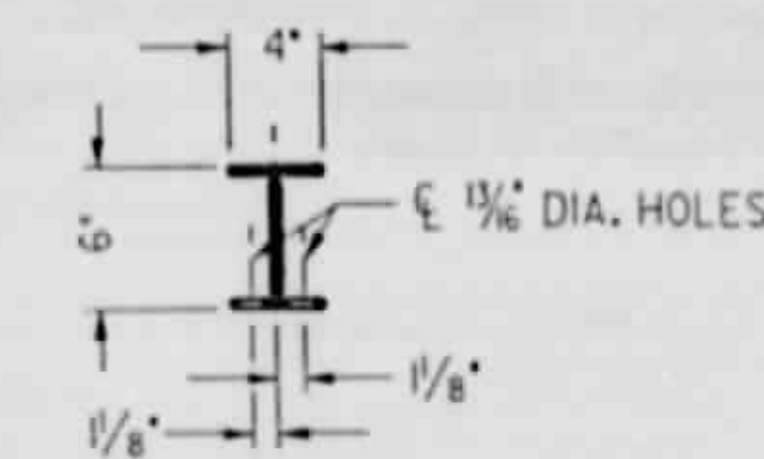
NOTE: A - 5/8" DIAMETER x 1 1/4" LARGE SPLICE BOLT, EIGHT (8) REQUIRED PER JOINT.
B - 5/8" DIAMETER x 2" LARGE BOLT.
C - 5/8" DIAMETER x 1 1/2" LARGE HEX BOLTS, TWO (2) REQUIRED PER POST WITH 2 MEDIUM WEIGHT GALVANIZED WASHERS EACH OR 2 5/8" DIAMETER x 1 1/2" LARGE HEAVY HEX BOLTS.



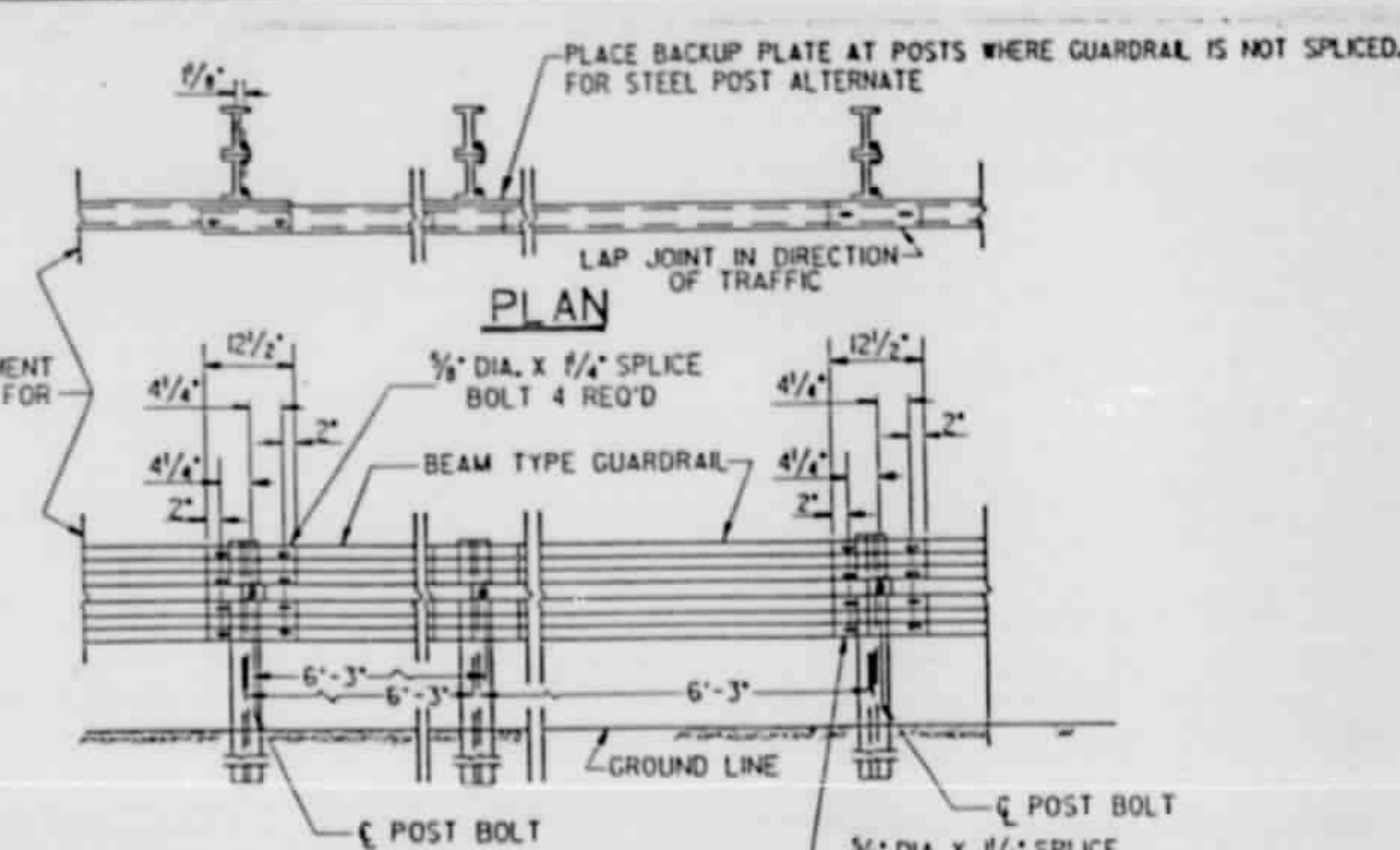
SECTION THRU RAIL ELEMENT



FRONT - SIDE - BACK
DETAIL OF 'W' STEEL
OFFSET BLOCK

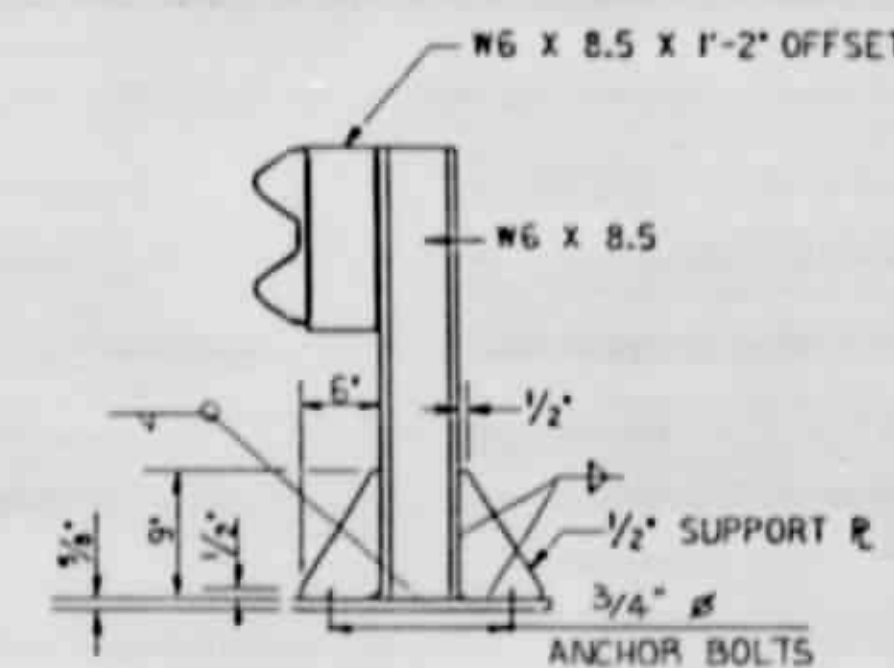


FRONT - SIDE - BACK
DETAIL OF 'W' STEEL POST

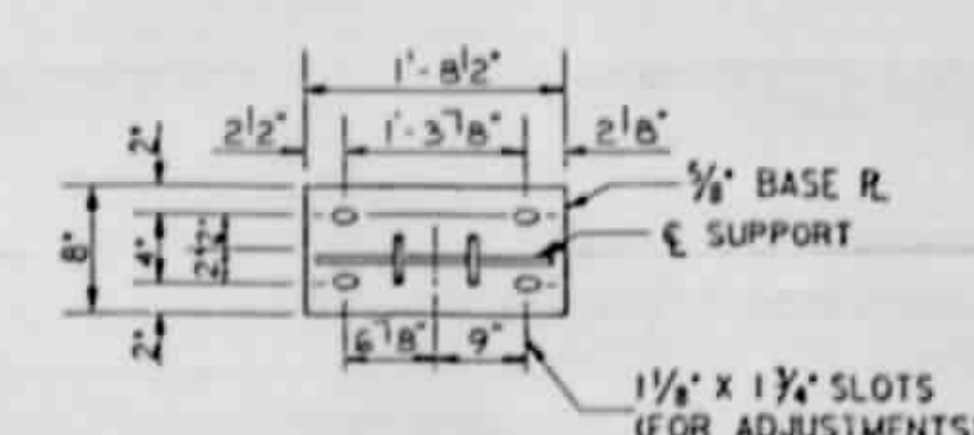


TYPICAL ELEVATION

NOTES FOR GUARDRAIL POST ANCHORED TO STRUCTURE:
POST AND POST BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. A-36 AND SHALL BE GALVANIZED AFTER FABRICATION TO CONFORM TO THE REQUIREMENTS OF A.S.T.M. A-123.
FOR NEW STRUCTURES: THE POST SHALL BE ATTACHED TO ANCHOR BOLTS THAT ARE CAST IN THE CORED SLAB AT THE TIME THE CORED SLAB IS POURED.
ANCHORS SHALL BE GALVANIZED TO CONFORM TO THE REQUIREMENTS OF ASTM A-153.



ELEVATION



PLAN

ANCHORAGE FOR GUARDRAIL POST

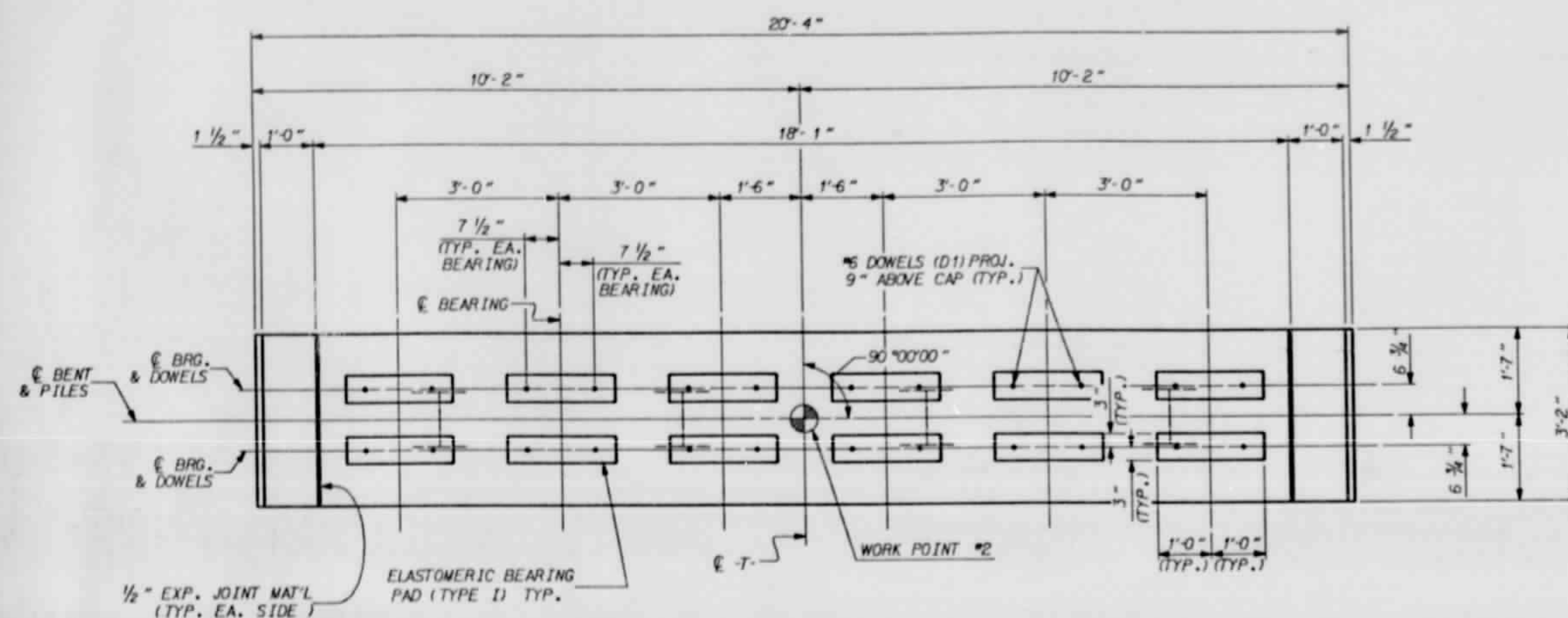
NOTE: THE CONTRACTOR'S ATTENTION IS DRAWN TO THE FACT THAT THE BOLT SPACING IN THE BASE PLATE IS UNSYMMETRICAL.

GUARDRAIL QUANTITIES	
	LIN. FT.
NORTH RAMP	69'-7"
SOUTH RAMP	94'-7"

PROJECT No. B 1150701
BEAUFORT COUNTY
STATION: 10+00.00-T-NR
10+00.00-T-SR

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH			
GUARDRAIL DETAILS NORTH RAMP & SOUTH RAMP			
REVISIONS			
NO.	BY	DATE	NO.
1			3
2			4
			SHEET NO. 275/6
			TOTAL SHEETS 60

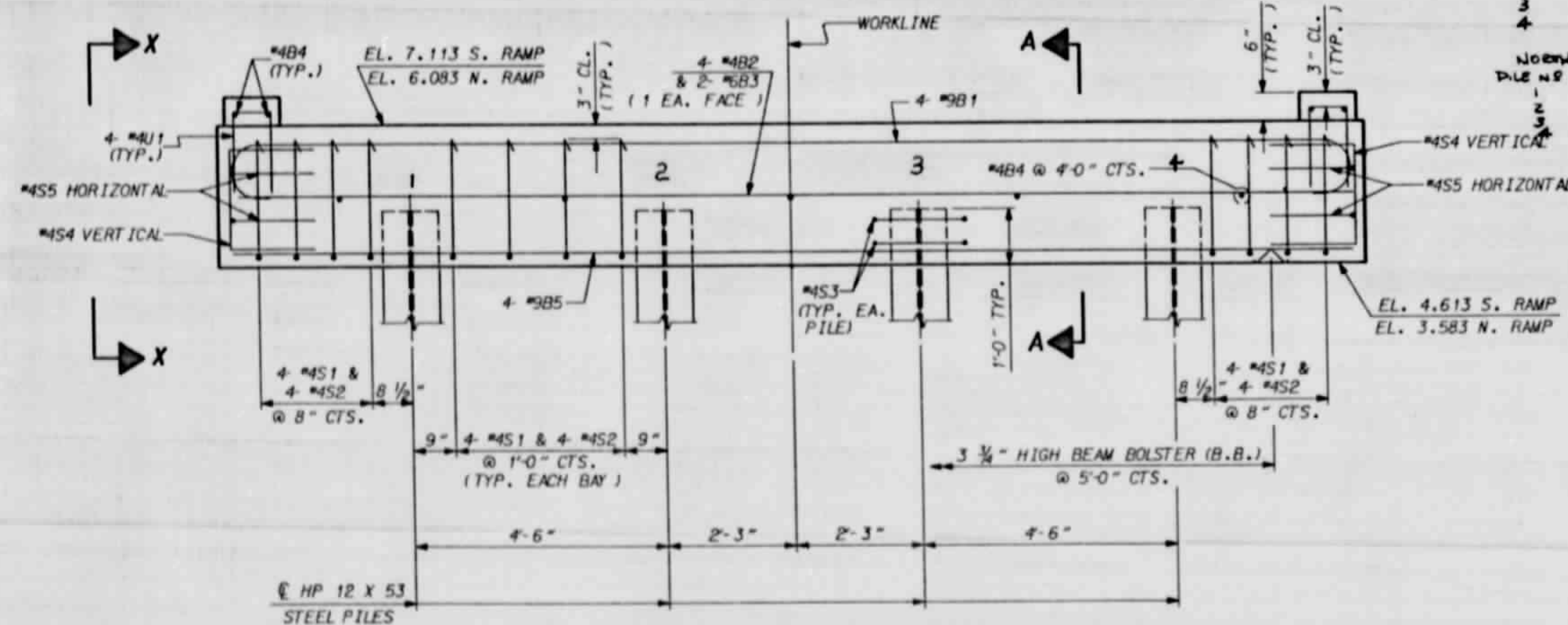
1-SEP-92 08:50
Z:\012007\BENT1.DGN
BOWEN



PLAN

NOTES

ALL REINFORCING STEEL SHALL BE GRADE 60.
HP 12 X 53 STEEL PILES SHALL BE
INSTALLED TO HAVE A MINIMUM BEARING
CAPACITY OF 25 TONS PER PILE.
ALL REINFORCING STEEL SHALL BE EPOXY COATED.



ELEVATION

BAR TYPES

BILL OF MATERIAL

BENT #1

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	
B1	4	9	1	22'-4"	304
B2	4	4	STR	19'-10"	53
B3	2	6	STR	19'-10"	60
B4	9	4	STR	2'-8"	16
B5	4	9	STR	19'-10"	270

D1	24	6	STR	1'-6"	54
----	----	---	-----	-------	----

S1	20	4	2	3'-5"	46
S2	20	4	3	7'-4"	98
S3	8	4	4	6'-6"	35
S4	6	4	5	4'-10"	19
S5	4	4	5	5'-6"	15

U1	8	4	5	3'-6"	19
----	---	---	---	-------	----

EPOXY COATED

REINFORCING STEEL LBS. 989

CLASS "A" CONCRETE
POUR #1 CAP C.Y. 6.1

ABOVE QUANTITIES ARE FOR 1 BENT

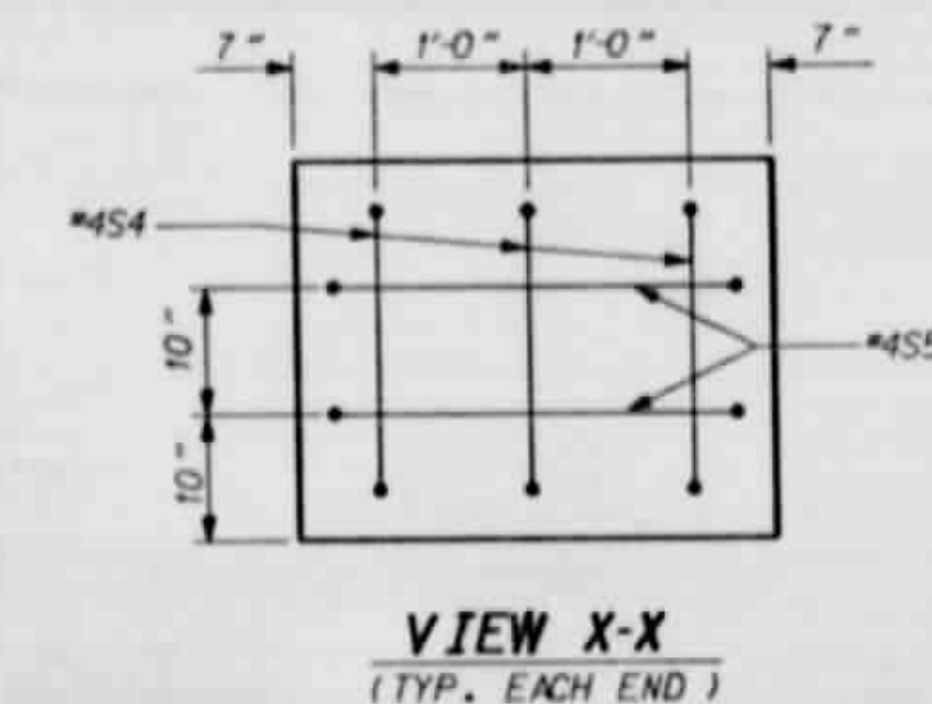
HP 12 X 53 STEEL PILES

NORTH RAMP NO. 4 LIN. FEET 184

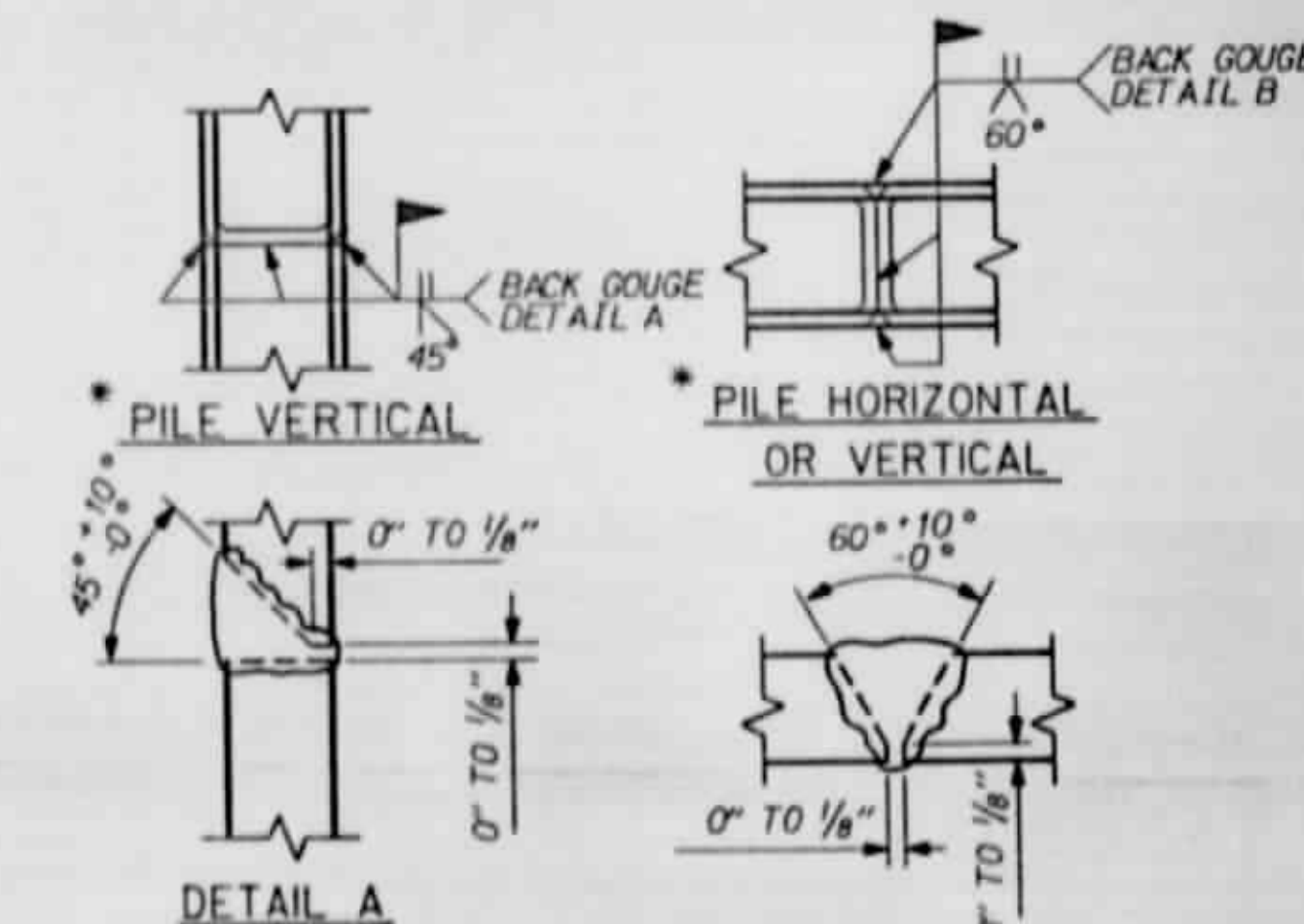
SOUTH RAMP NO. 4 LIN. FEET 164

ALL BAR DIMENSIONS ARE OUT TO OUT.

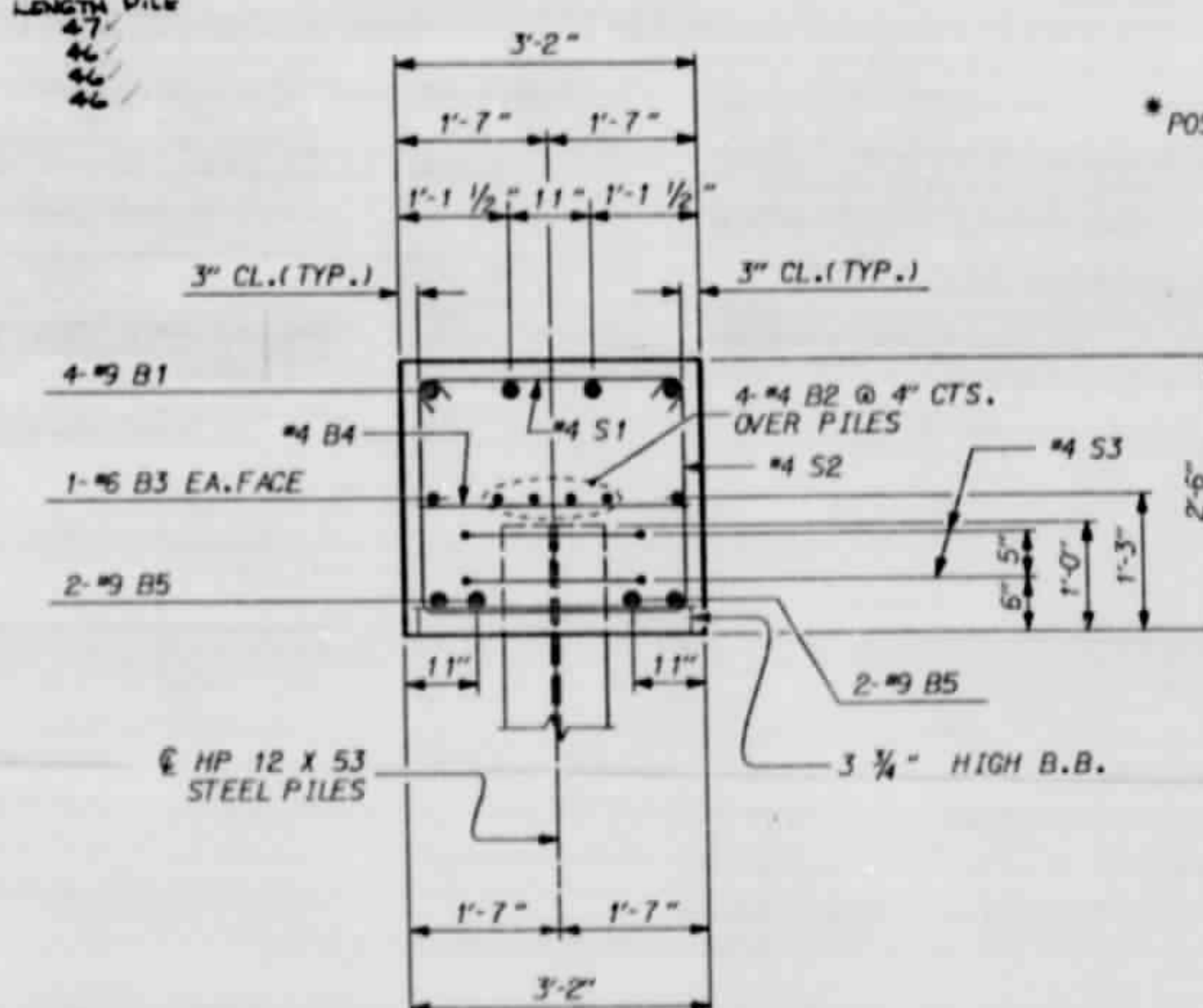
ALL BAR DIMENSIONS ARE OUT TO OUT.



VIEW X-X
(TYP. EACH END)



PILE SPLICE DETAILS

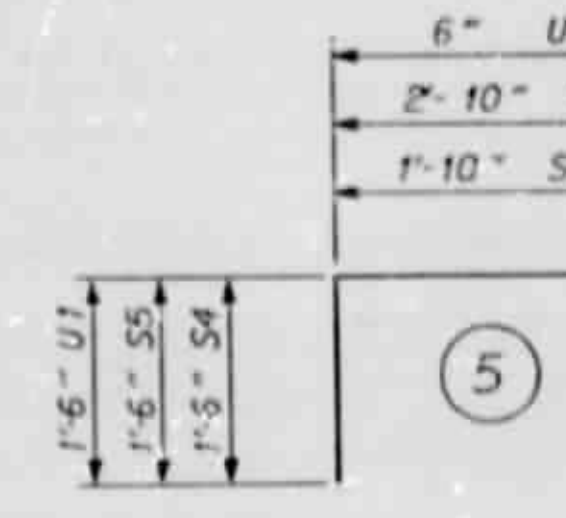
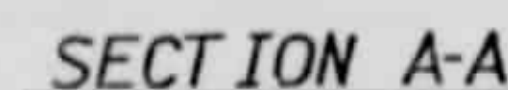
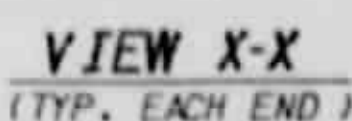


SECTION A-A

PROJECT NO. 8.1150701
BEAUFORT COUNTY
STATION: 10+00.00 -T-NR
10+00.00-T-SR

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH			
PAMLICO RIVER FERRY SOUTH RAMP AND NORTH RAMP BENT #1			
SEPTEMBER	REVISIONS	SHEET NO. 5-111	
NO.	DATE	NO.	DATE
1		2	
2		3	

DRAWN BY: D.K. BOWEN DATE: 9/3/92
CHECKED BY: P.E. KELLY DATE: 9/14/92



PILE SPLICE DETAILS

NORTH RAMP	
PILE NO	LENGTH PILE
1	31'
2	31'
3	31'
4	31'

SOUTH RAMP	
PILE NO	LENGTH PILE
1	32'
2	32'
3	32'
4	32'

BENT #2

SOUTH RAMP:	NO. 4	LIN. FEET	208
NORTH RAMP:	NO. 4	LIN. FEET	204

NOTES

ALL REINFORCING STEEL SHALL BE GRADE 60.

HF 12X53 STEEL PILES SHALL BE
INSTALLED TO HAVE A MINIMUM BEARING
CAPACITY OF 25 TONS PER PILE.

ALL REINFORCING STEEL SHALL BE EPOXY COATED.

PROJECT NO. 8.1150701

BEAUFORT COUNTY

STATION: 10+00.00 - T - NR
10+00.00 - T - SR

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PAMLICO RIVER FERRY
NORTH AND SOUTH RAMP
BENT #2

SEPTMBER

1992

REVISIONS

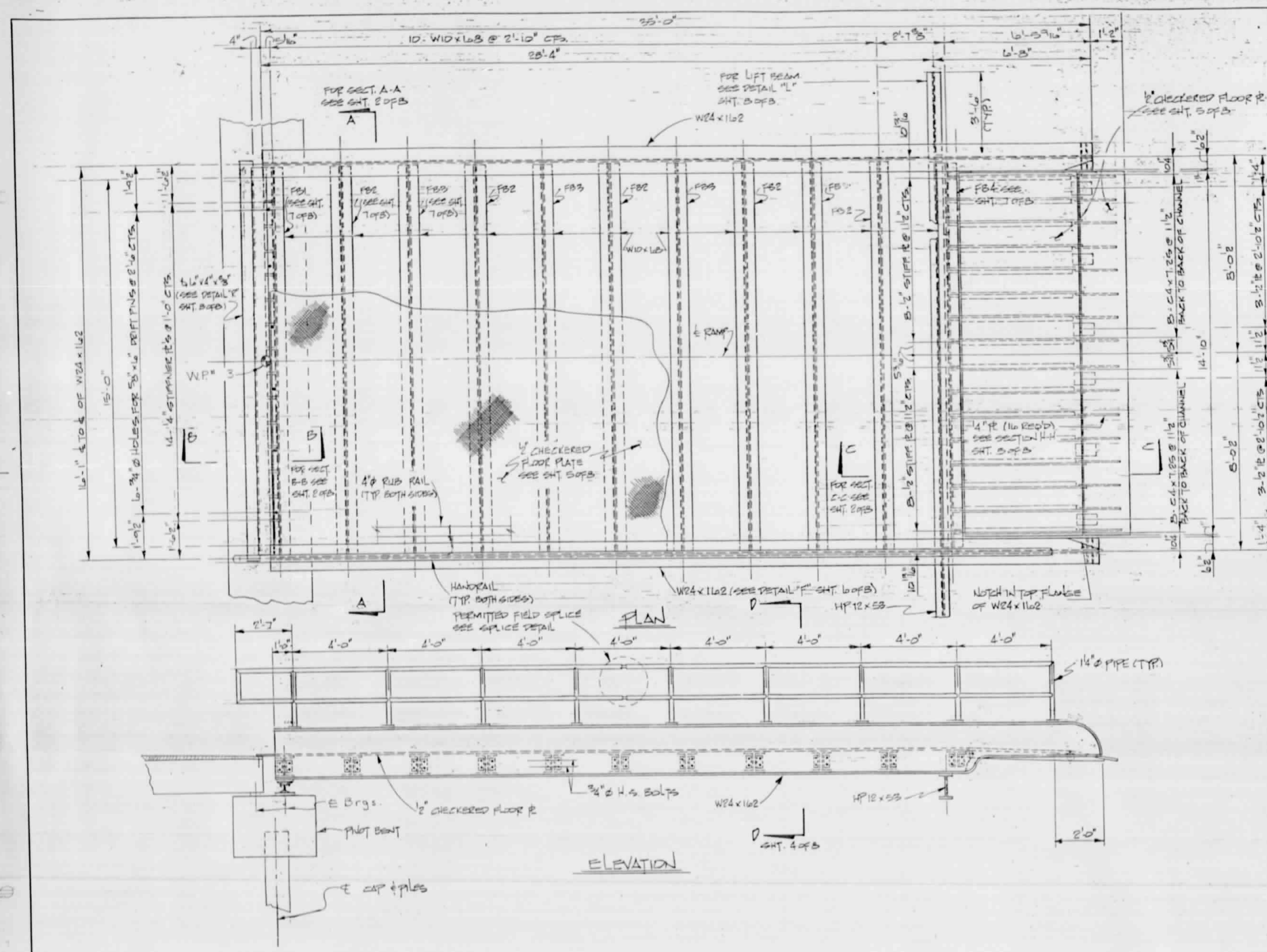
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2		4	

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DRAWN BY : W.D. CRUTCHER DATE : 9/4/92
CHECKED BY : P.E. KELLY DATE : 9/8/92



NOTES

ALL BOLTS, WASHERS, NUTS, AND OTHER HARDWARE TO BE GALVANIZED.

ALL BOLTS TO BE HIGH STRENGTH (A325) UNLESS NOTED OTHERWISE.

DECK BOLTS TO BE A307 CARRIAGE BOLTS, SQUARE NECK WITH WASHER, NUT, AND JAM NUT.

ALL DECK PLATES TO BE GALVANIZED AFTER FABRICATION. ALL WELDING REQUIRED ON END RAMP TO BE COMPLETED BEFORE GALVANIZING.

ALL STEEL A36 UNLESS NOTED OTHERWISE.

ALL GIRDERS, BEAMS, ANGLES, CHANNELS, PLATES, RODS, AND PIPES TO BE GALVANIZED.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL, UNLESS OTHERWISE NOTED.

AT FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS SHALL BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

DECK PLATES SHALL RECEIVE AN EPOXY SKID RESISTANT OVERLAY.

FOR EPOXY SKID RESISTANT OVERLAY, SEE SPECIAL PROVISIONS.

CHARPY V-NOTCH TEST REQUIRED FOR W24 X 162 GIRDERS AND W10 X 49 FLOOR BEAMS, SEE SPECIAL PROVISIONS.

1-1/4" PIPE RAIL TO BE GALVANIZED AFTER FABRICATION.

SPICE DETAIL

Panel Length Panel Length

1/4" GALV. STL. PIPE RAIL

1/4" GALV. STL. PIPE RAIL

STANDARD COMMERCIAL PIPE SPICE LOCK (GALV.)

NOTES

ALL HOT DIPPED GALVANIZED CONTACT SURFACES IN BOLTED CONNECTIONS USING HIGH STRENGTH BOLTS SHALL BE FREE OF OIL OR OTHER COATINGS AND SHALL BE ROUGHENED BY A LIGHT SANDBLASTING PRIOR TO ASSEMBLY. THE SANDBLASTING SHALL BE A LIGHT "BRUSH OFF" WHICH WILL PRODUCE A LIGHT GRAY APPEARANCE. THE SANDBLASTING SHALL NOT BE SEVERE ENOUGH TO PRODUCE ANY BREAK OR DISCONTINUITY IN THE ZINC SURFACE.

FOR VINYL PAINT SYSTEM FOR GALVANIZED STRUCTURAL STEEL, SEE SPECIAL PROVISIONS.

PROJECT NO. 8.1150701

BEAUFORT COUNTY

STATION: 10+00.0 T-SR
10+00.0 T-UR

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PAMLICO RIVER FERRY
NORTH RAMP AND SOUTH RAMP

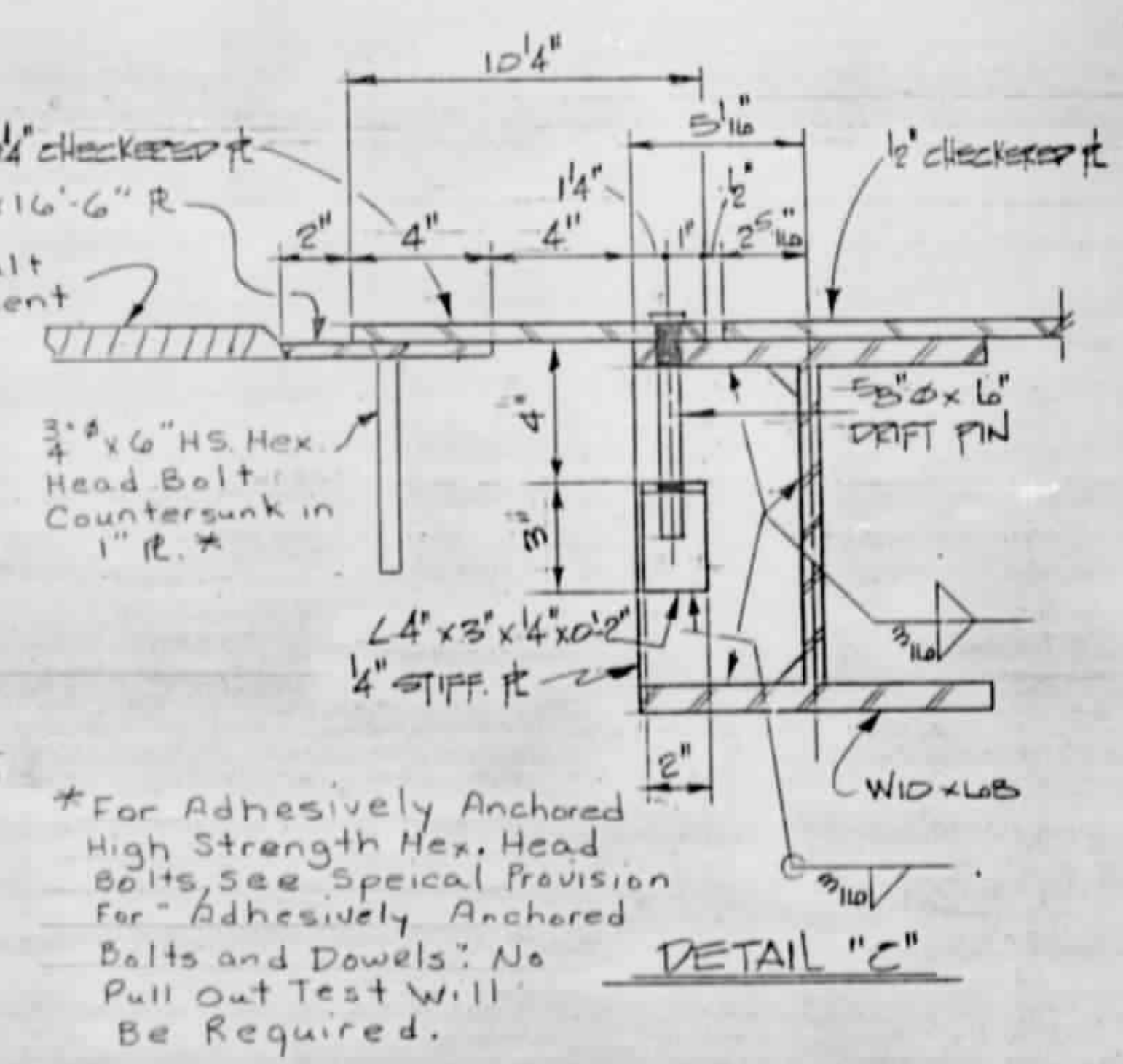
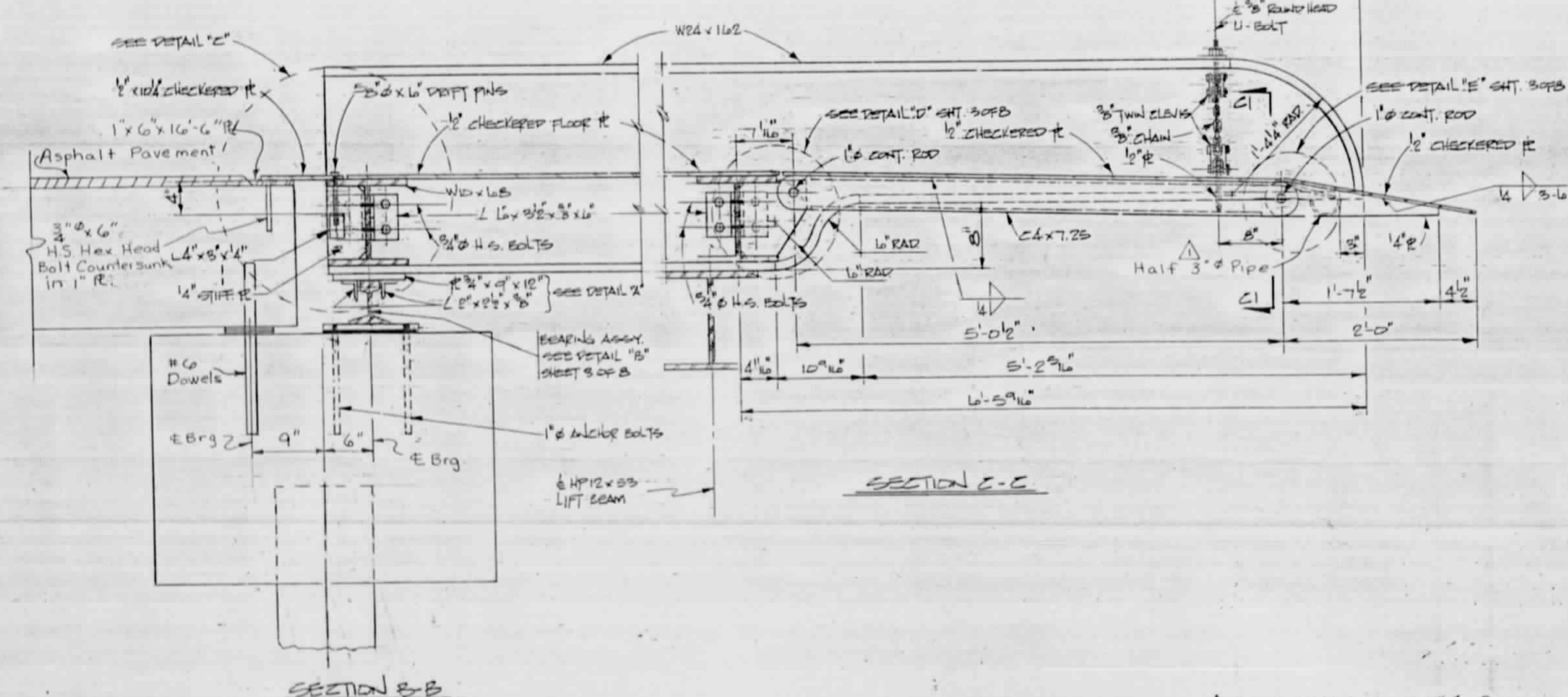
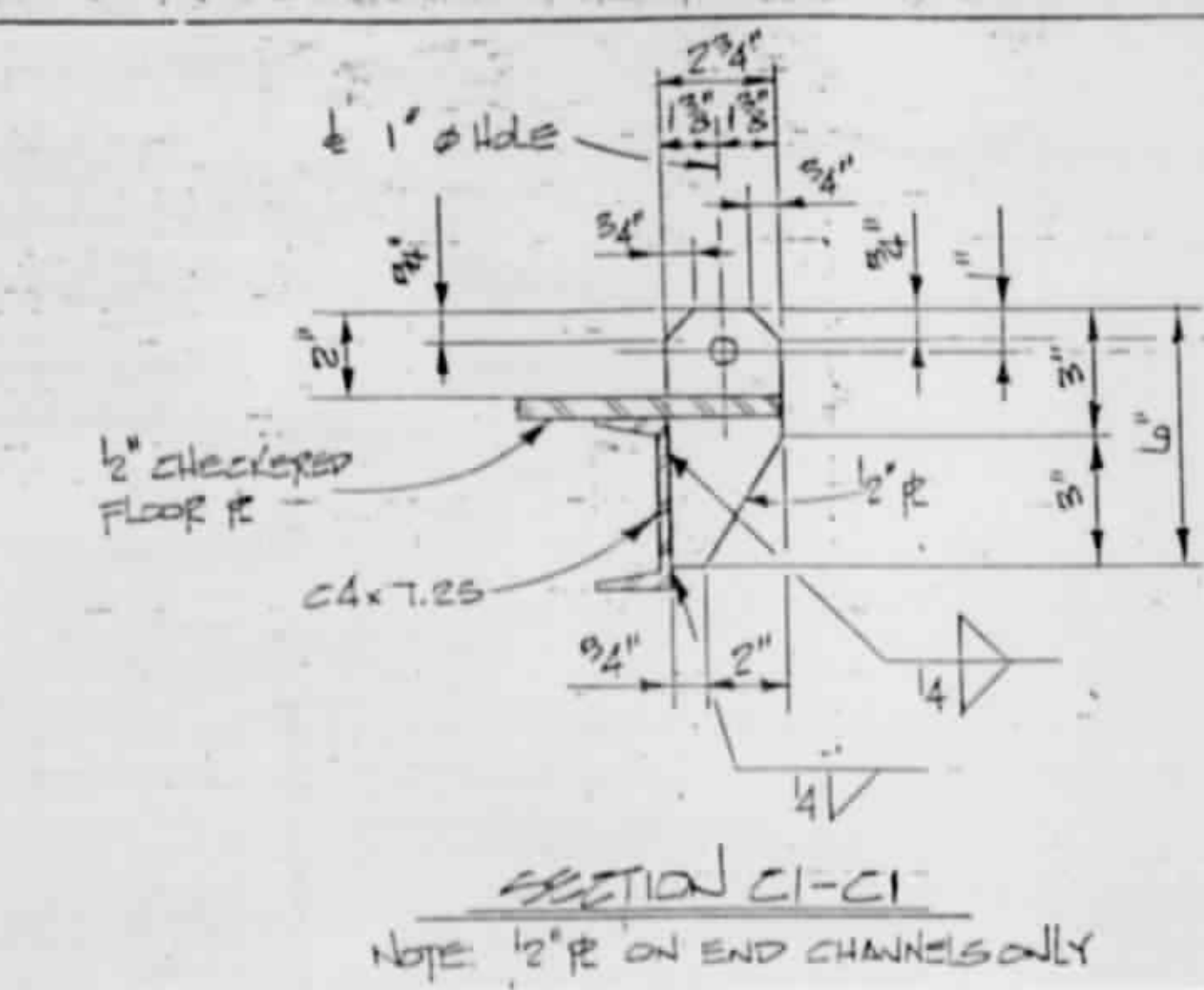
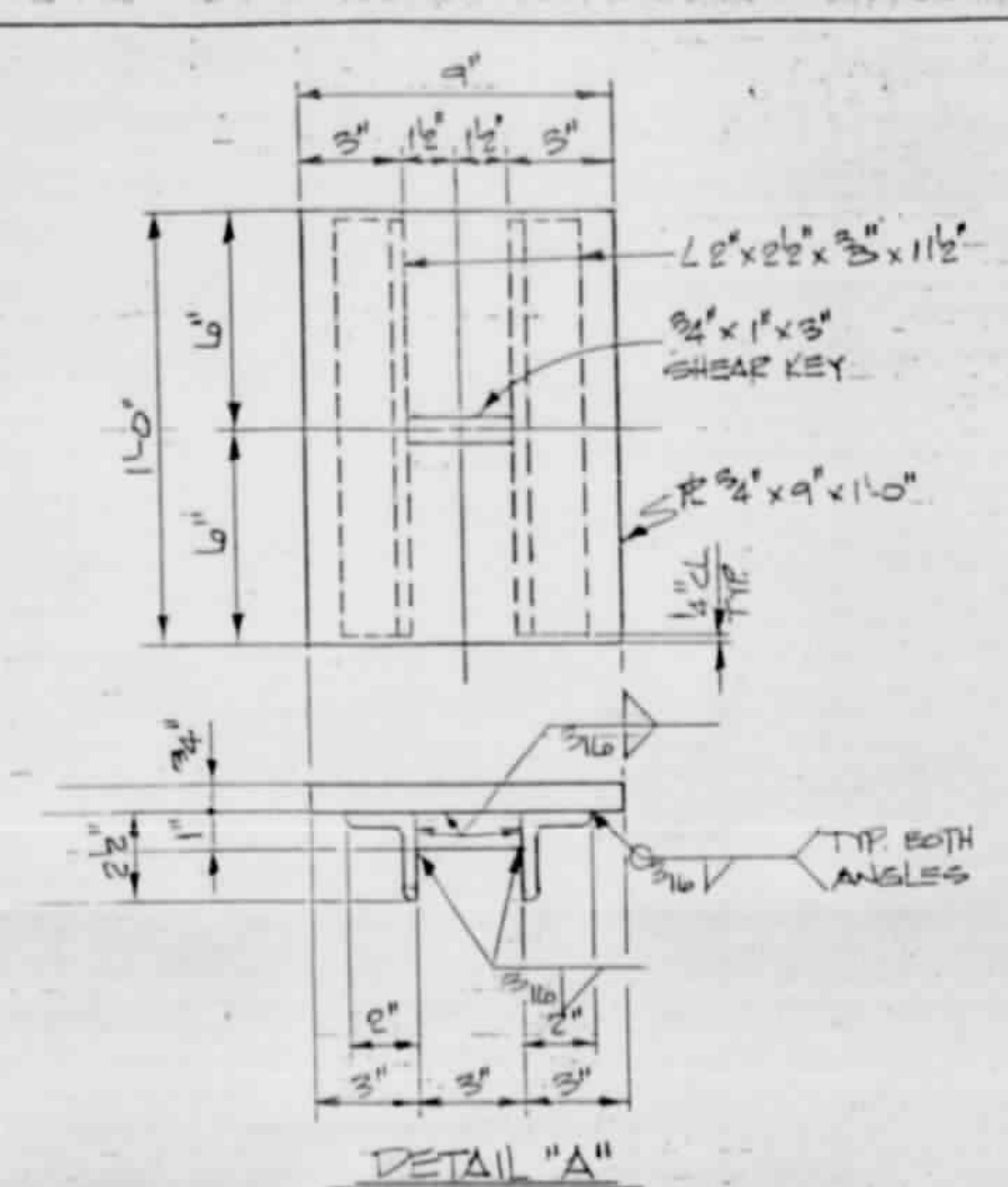
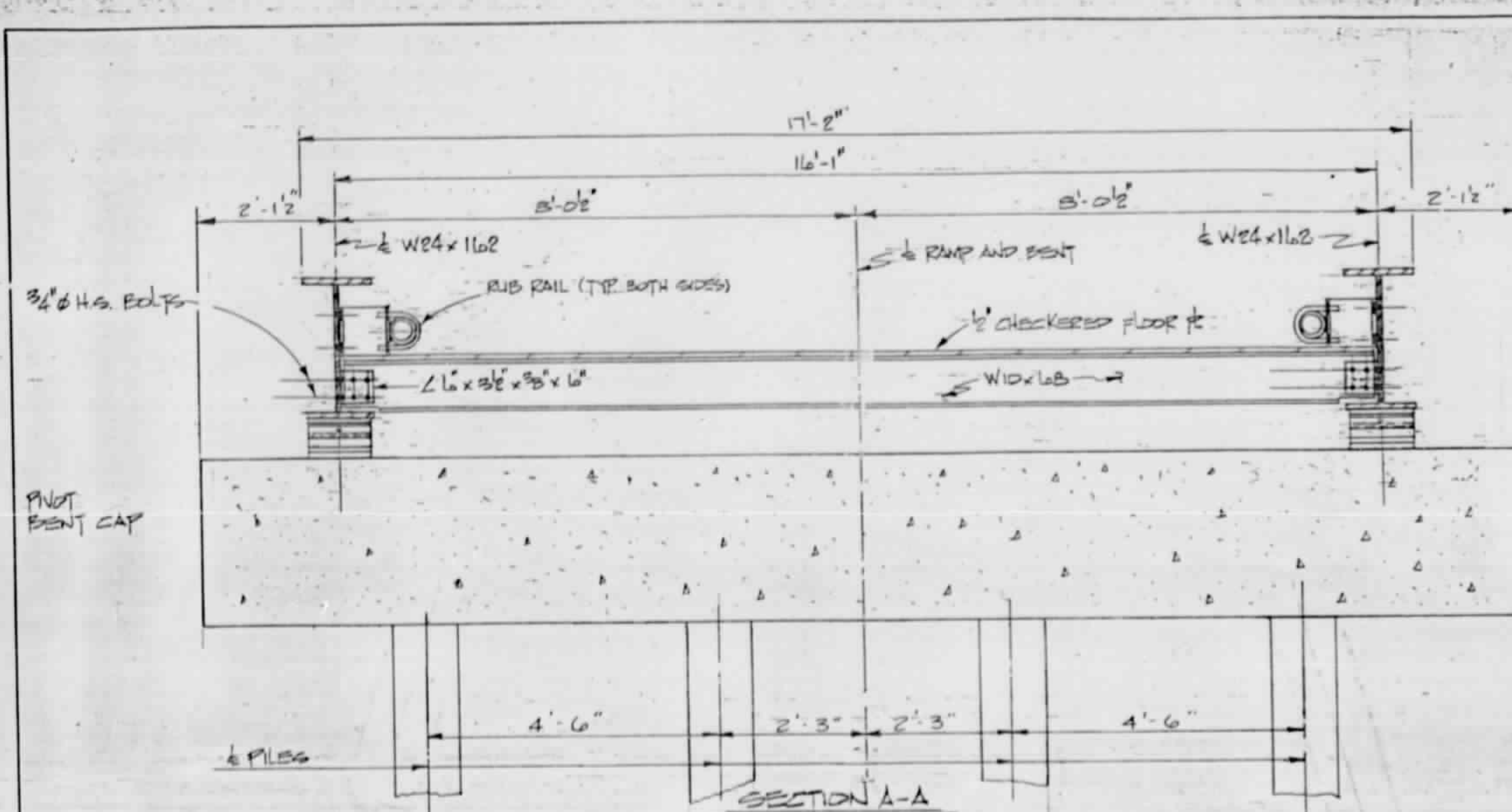
SEPT 1992

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

SHEET NO. 374

TOTAL SHEETS 20

DRAWN BY: F.A. MATHIAS DATE: 9-1-92
CHECKED BY: W.L. CRITCHFIELD DATE: 9-8-92



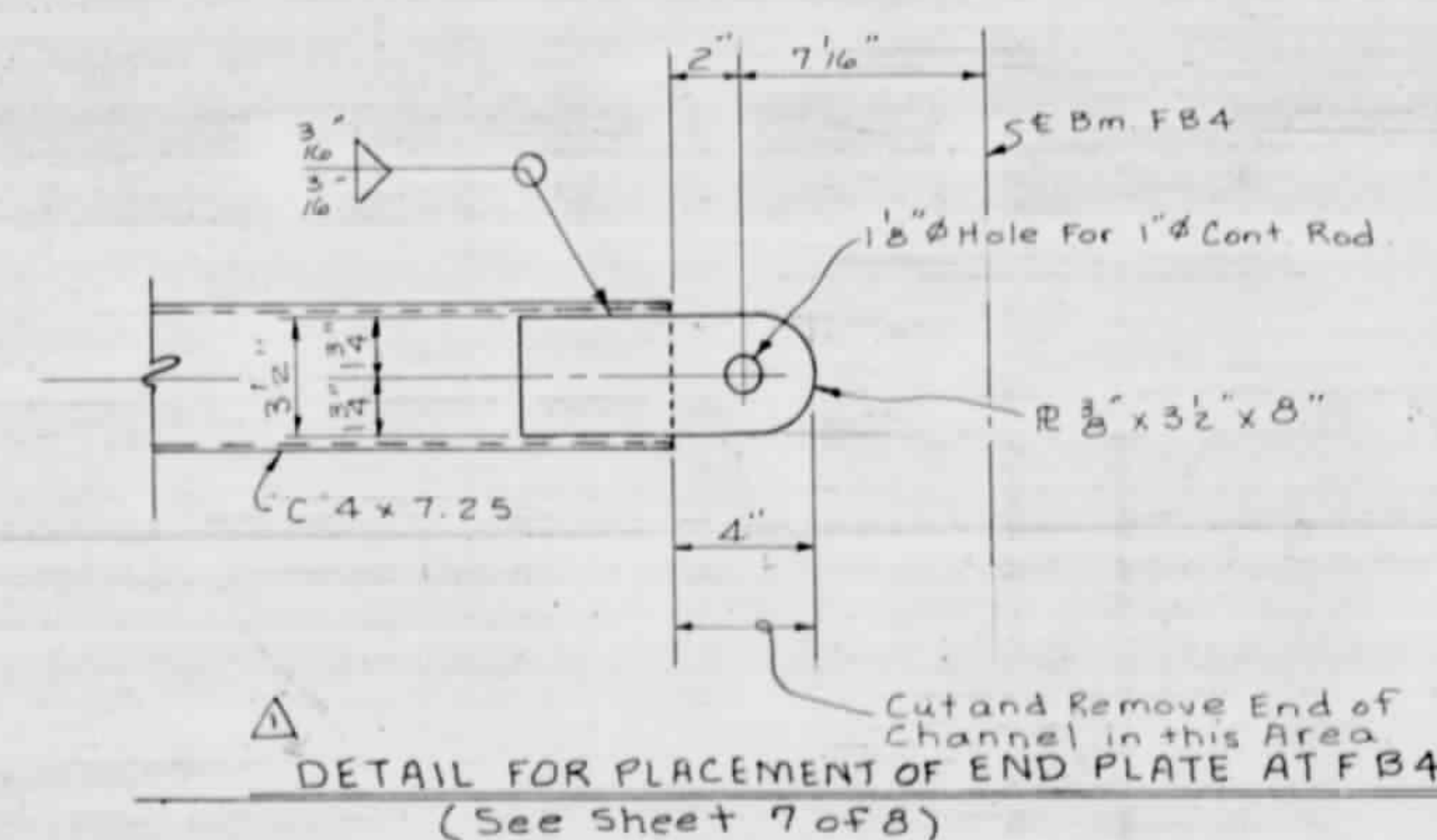
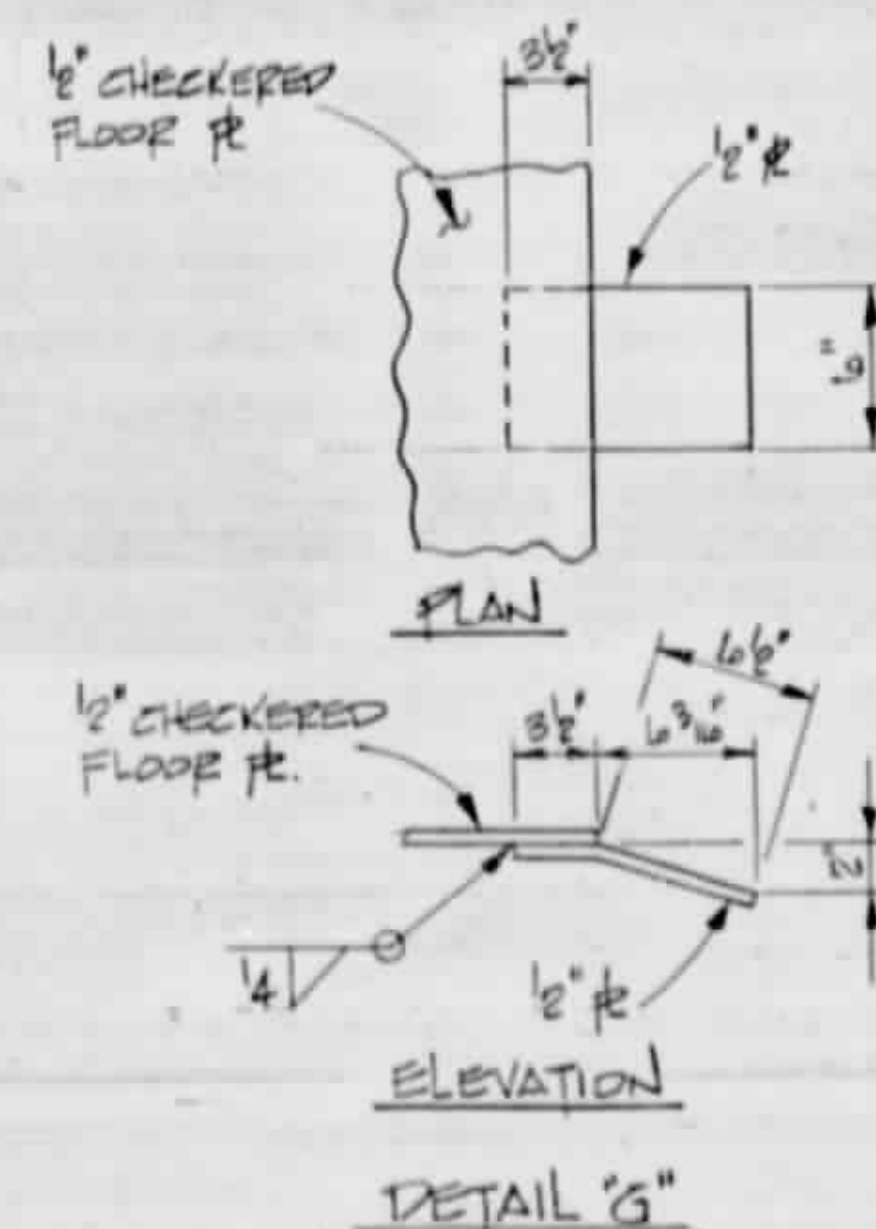
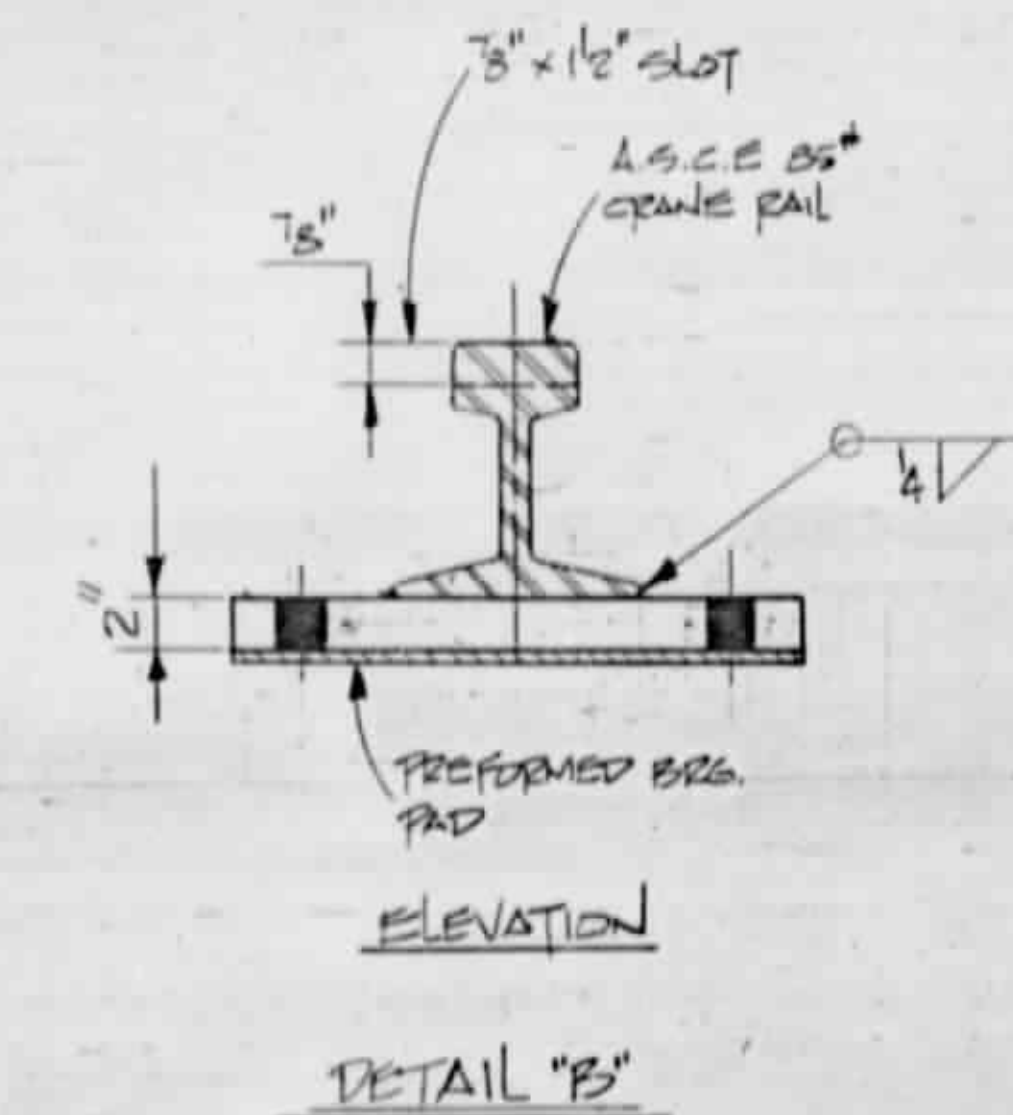
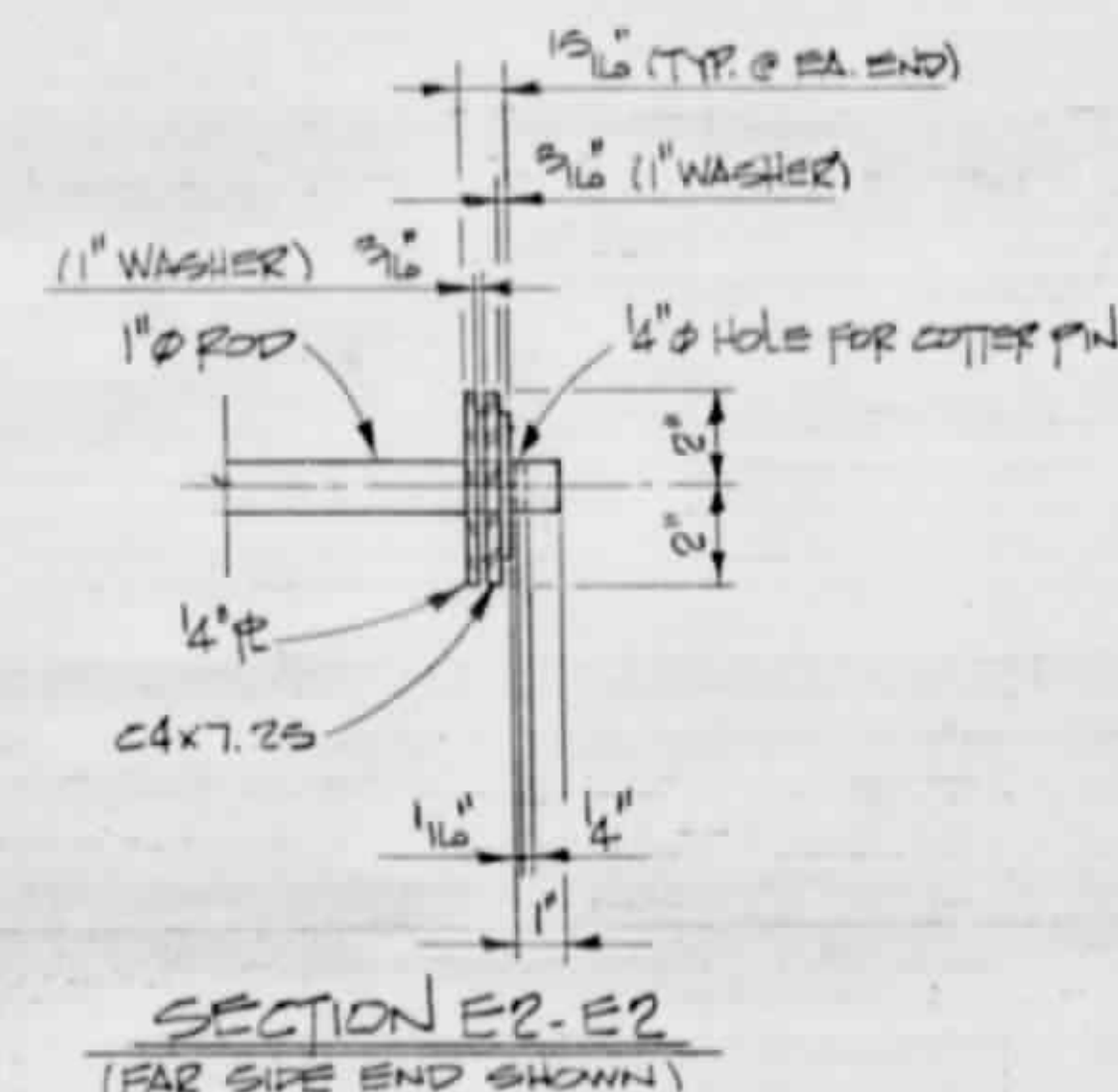
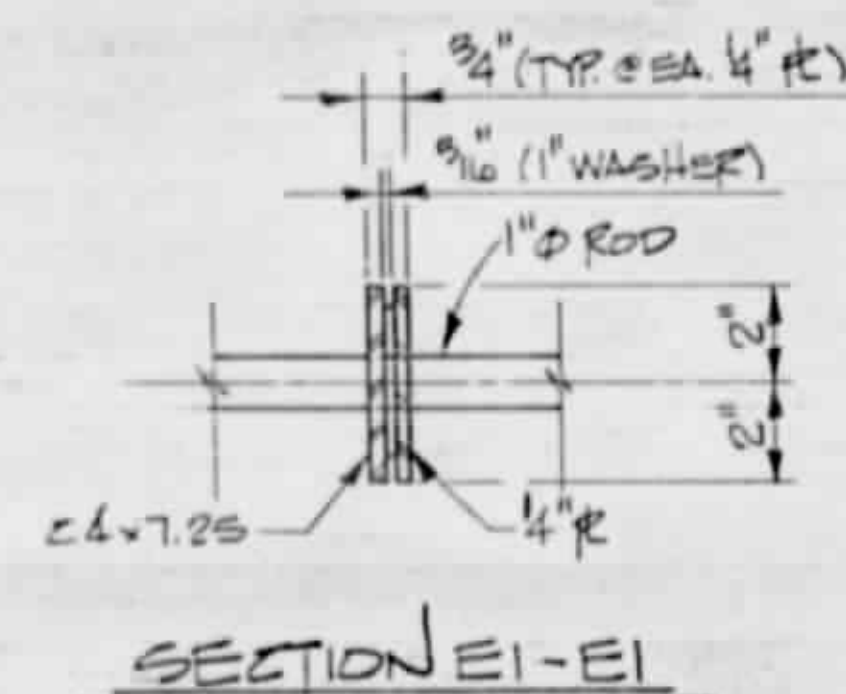
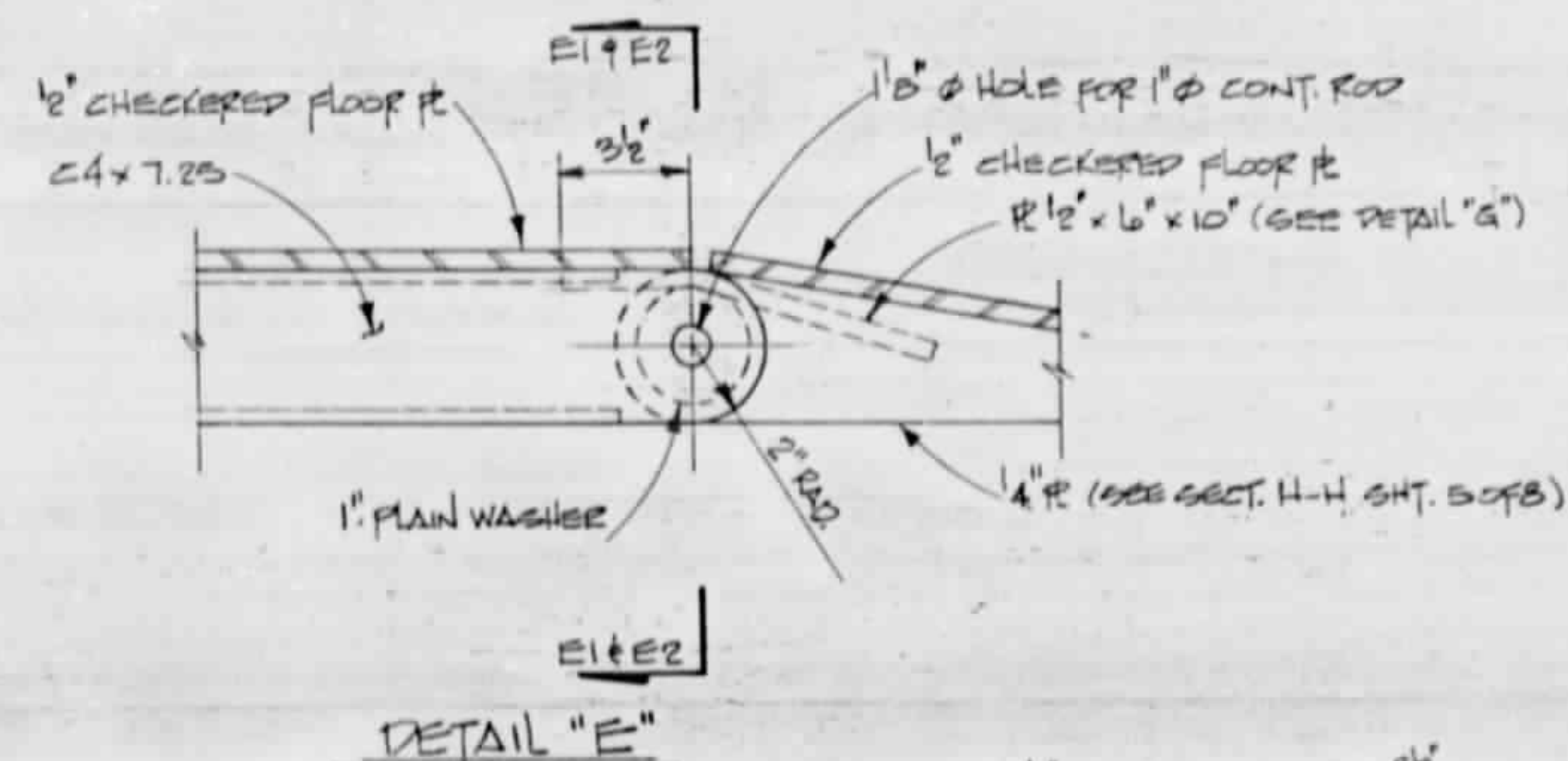
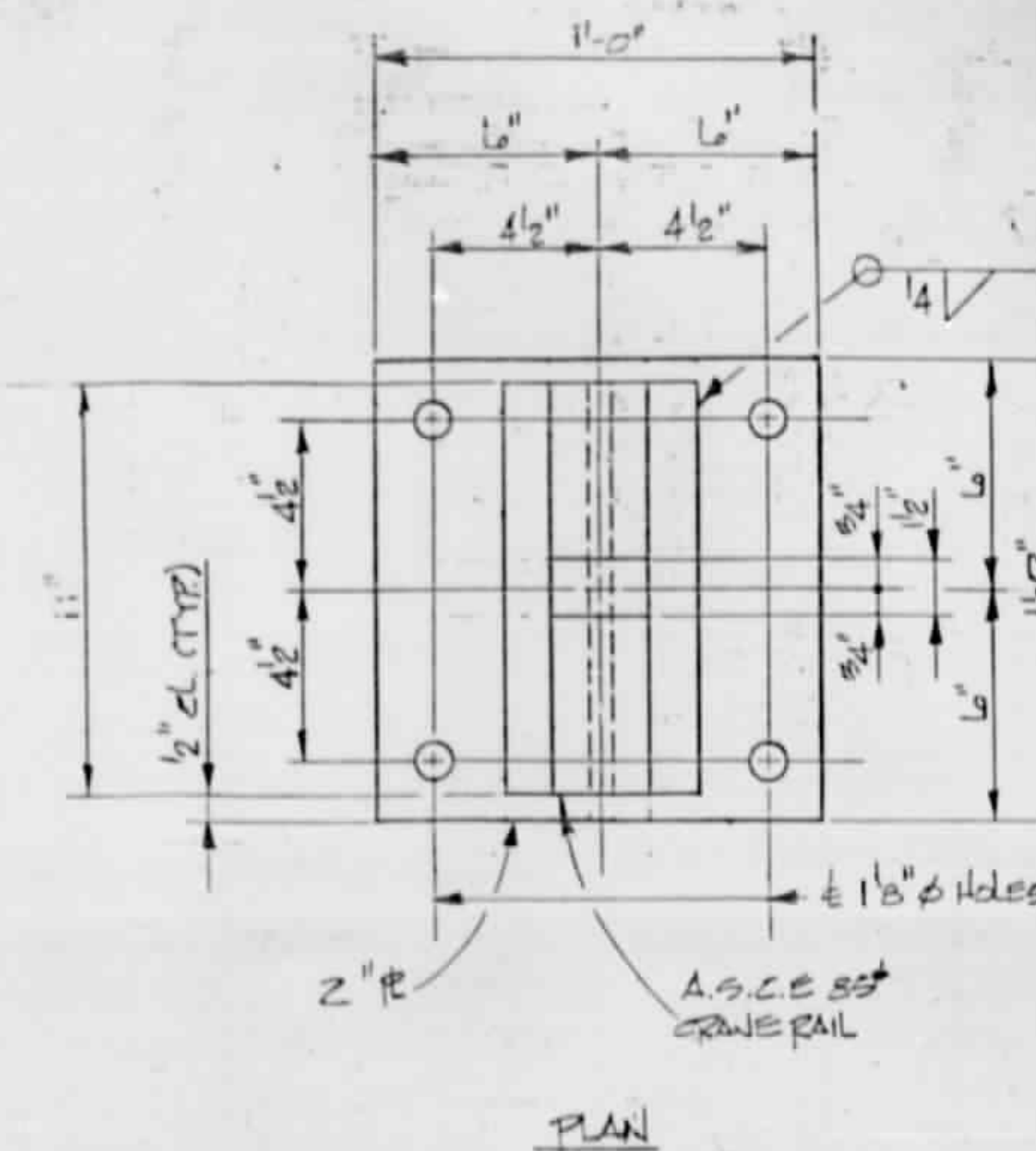
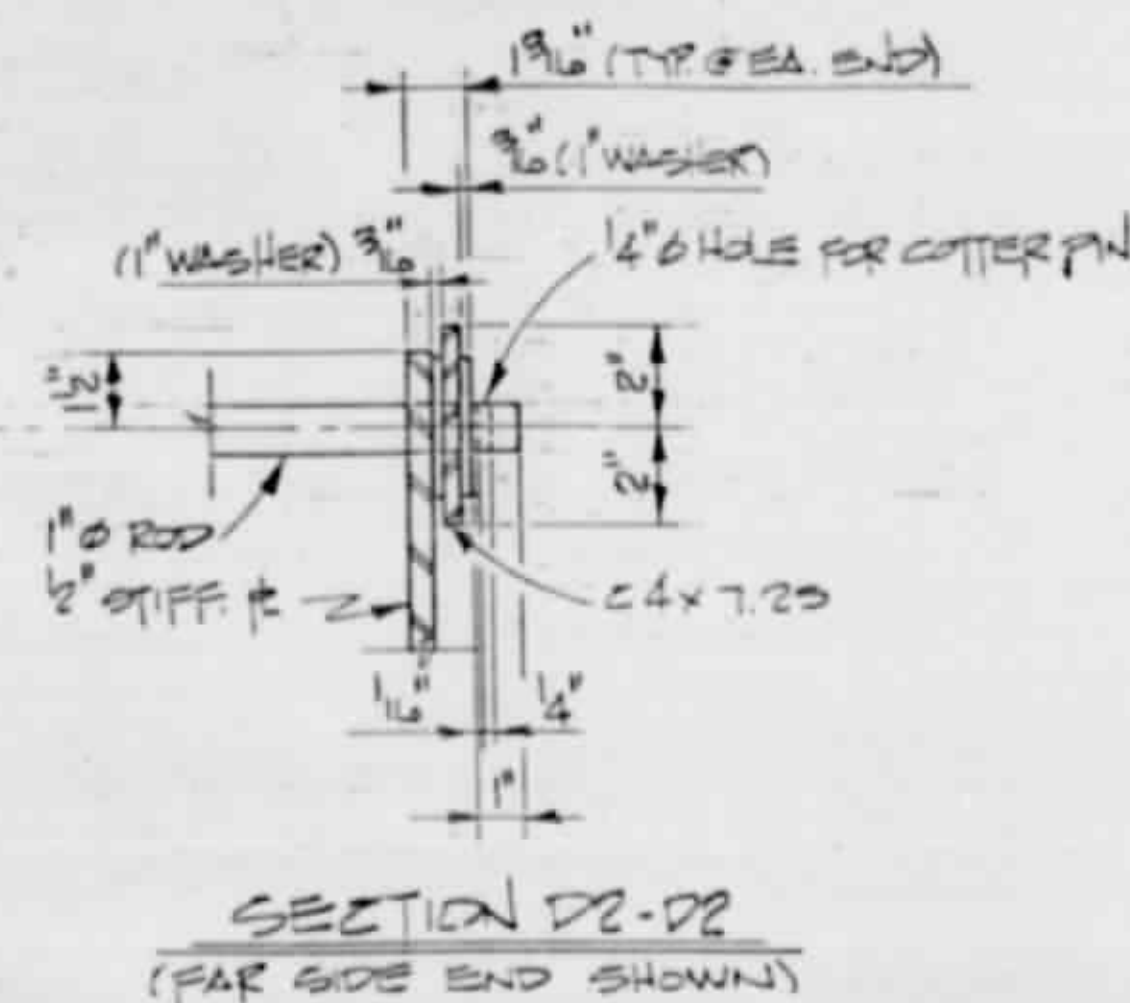
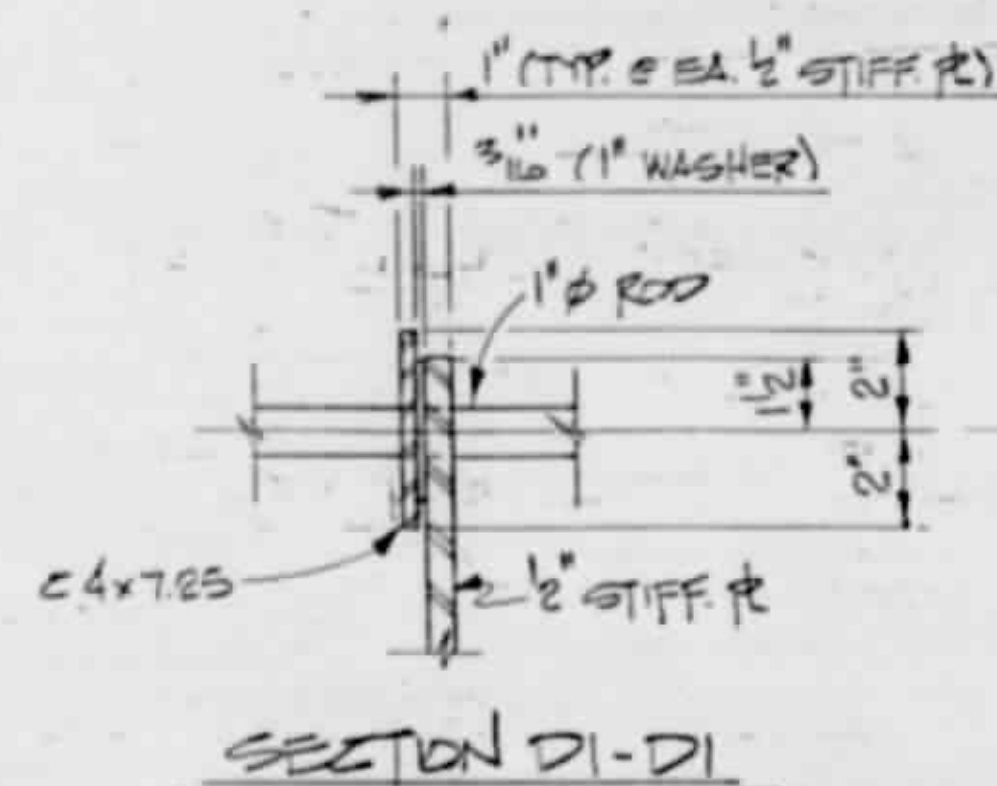
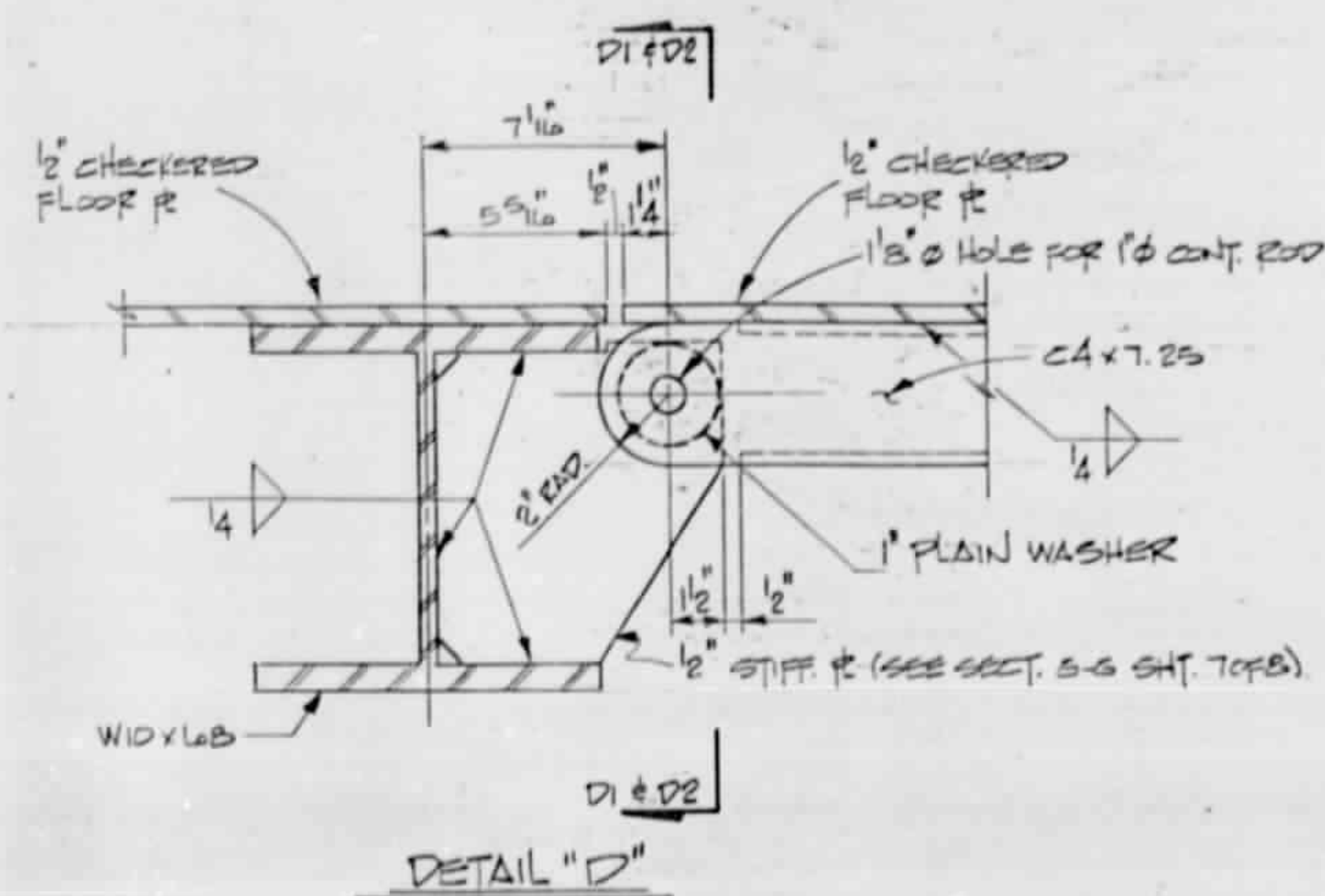
*For Adhesively Anchored High Strength Hex. Head Bolts, See Special Provision For "Adhesively Anchored Bolts and Dowels". No Pull Out Test Will Be Required.

PROJECT No. 8 1150701
BEAUFORT COUNTY
STATION: 10+00.0 T-SR
10+00.0 T-U.R.

STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
PAMLICO RIVER FERRY					
NORTH RAMP AND SOUTH RAMP					
SEPT			1992		
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	FAM	1-7-94	3		
2			4		
TOTAL SHEETS					20

△ Rev No.1 Added Half 3" Pipe in Section C-C By FAM v By PER

DRAWN BY E.A. MILLERS DATE 9-1-92
CHECKED BY W.D. CRITCHER DATE 9-5-92



DRAWN BY F A MIMMS DATE 9-2-92
CHECKED BY WD CRUTCHER DATE 9-4-92

PROJECT NO. 81150701
BEAUFORT COUNTY
 STATION: 10+00.0 T-S.R.
10+00.0 T-U.R.
 SHEET 3 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PAMLICO RIVER FERRY
NORTH RAMP AND SOUTH
RAMP

SEPT 1992

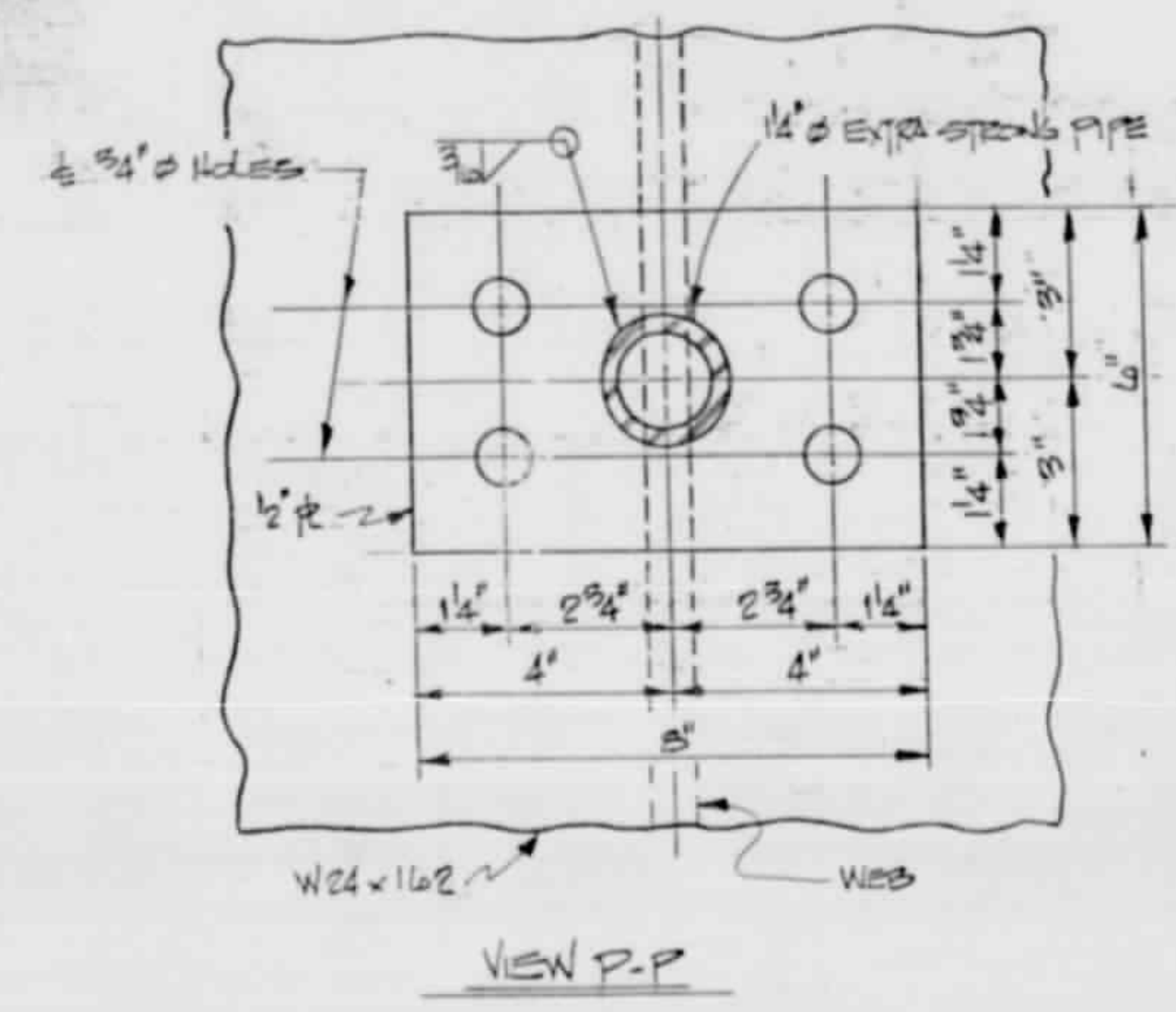
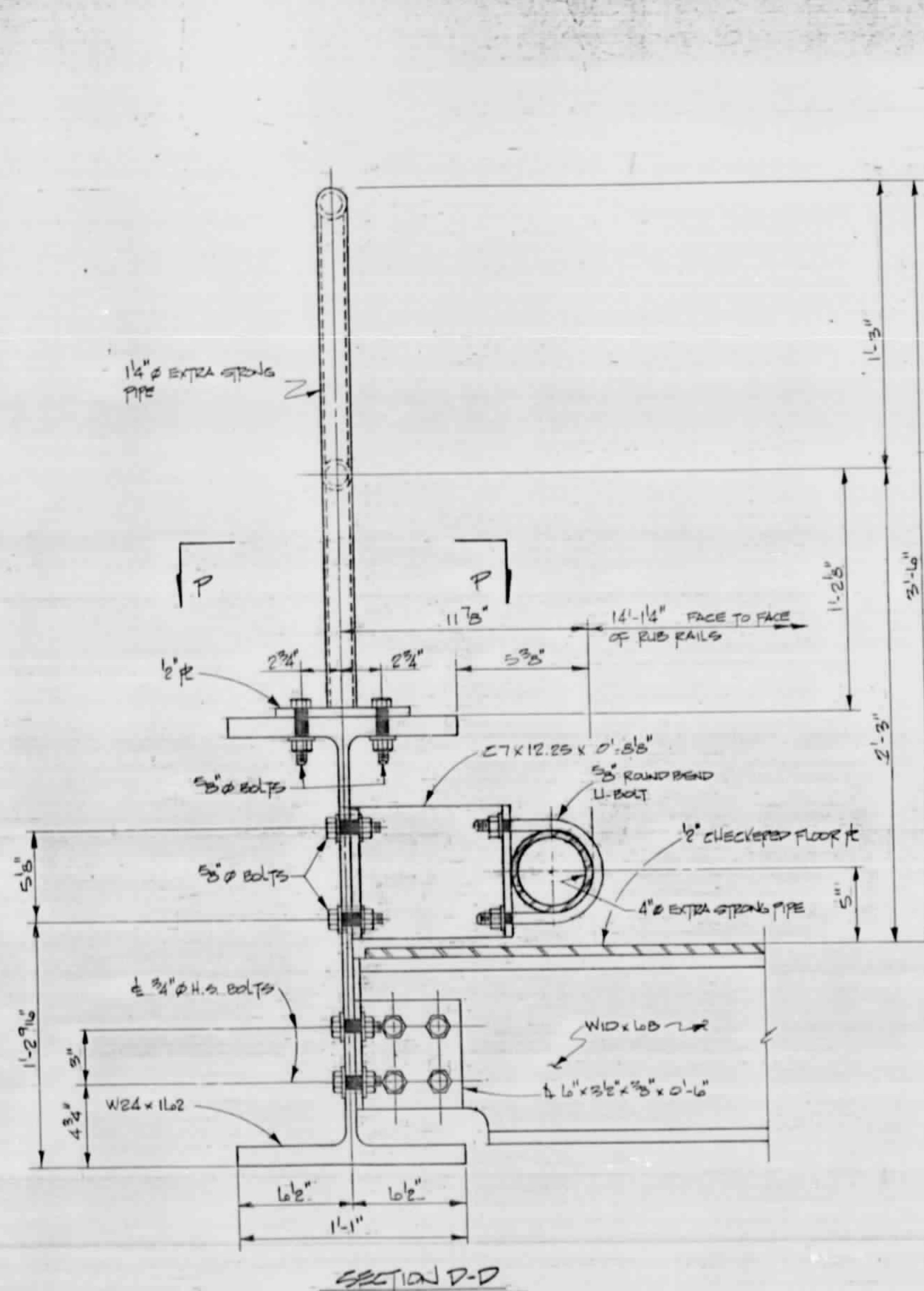
REVISIONS	SHEET 2
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NO.	BY	DATE	NO.	BY	DATE

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2			4			

07-08

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 CHECKED BY: W.D. CRUTEHER DATE: 9-4-92

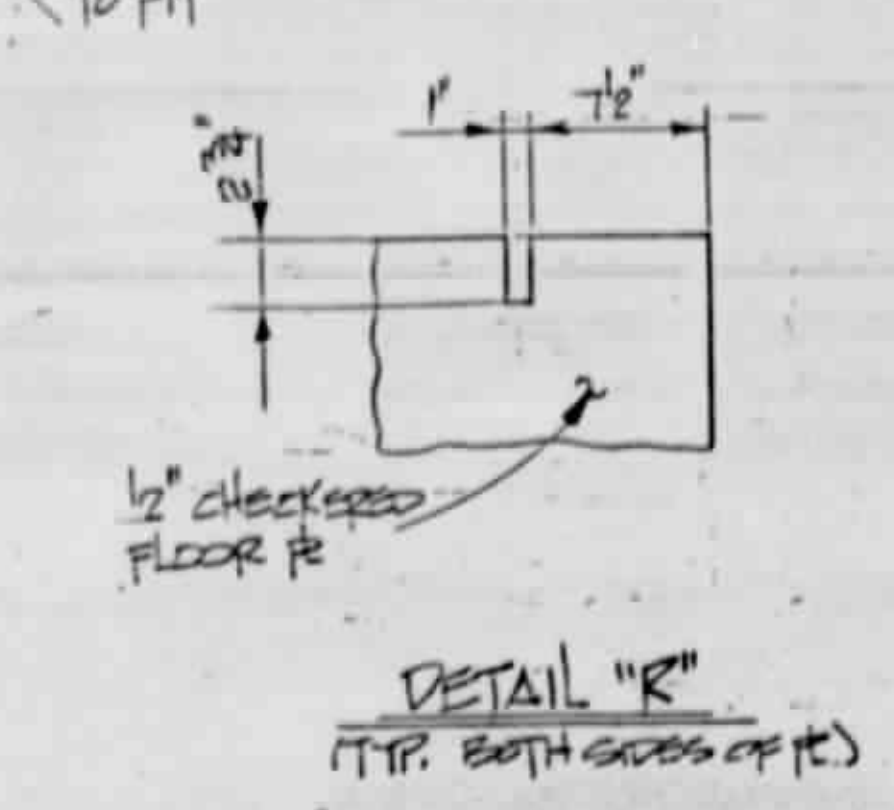
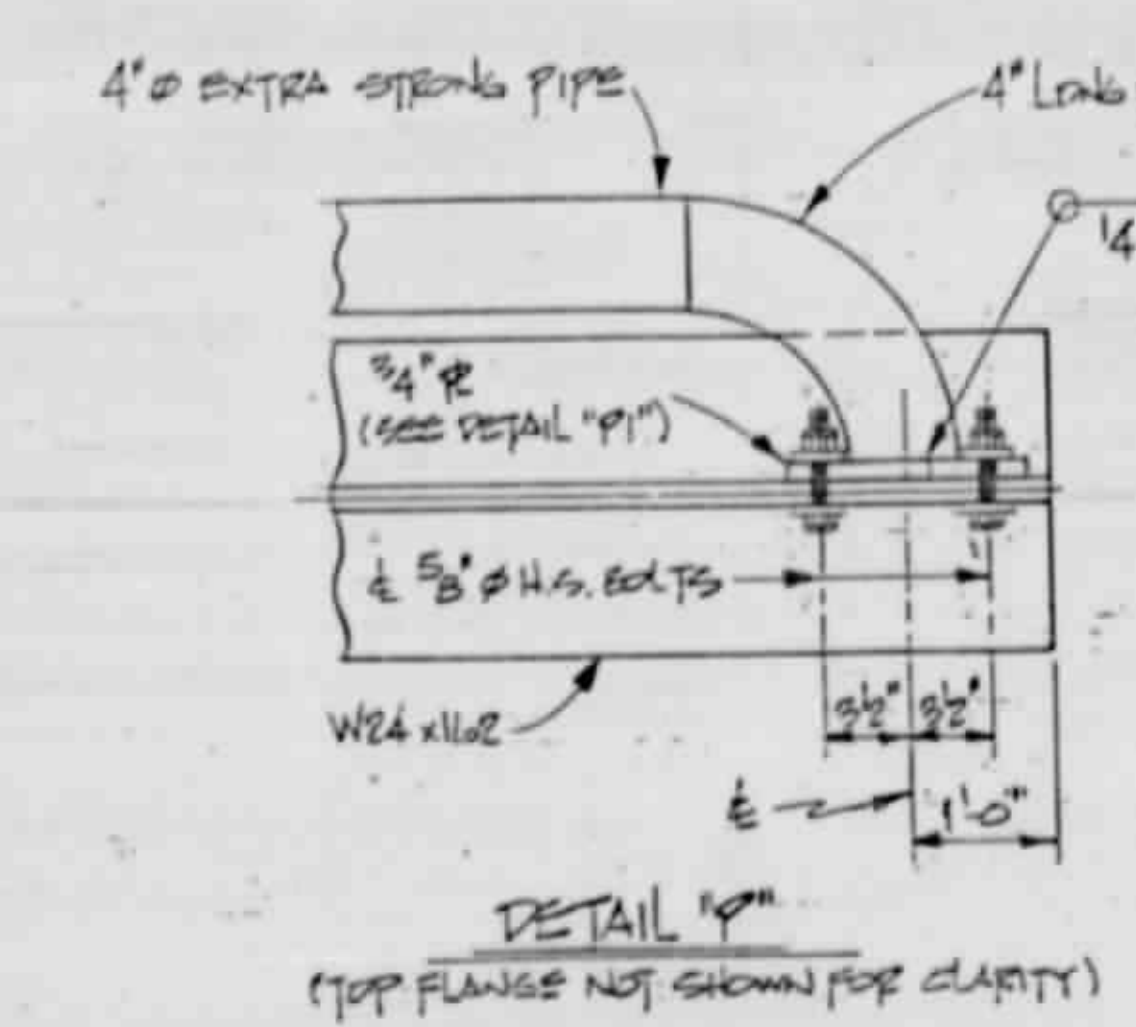
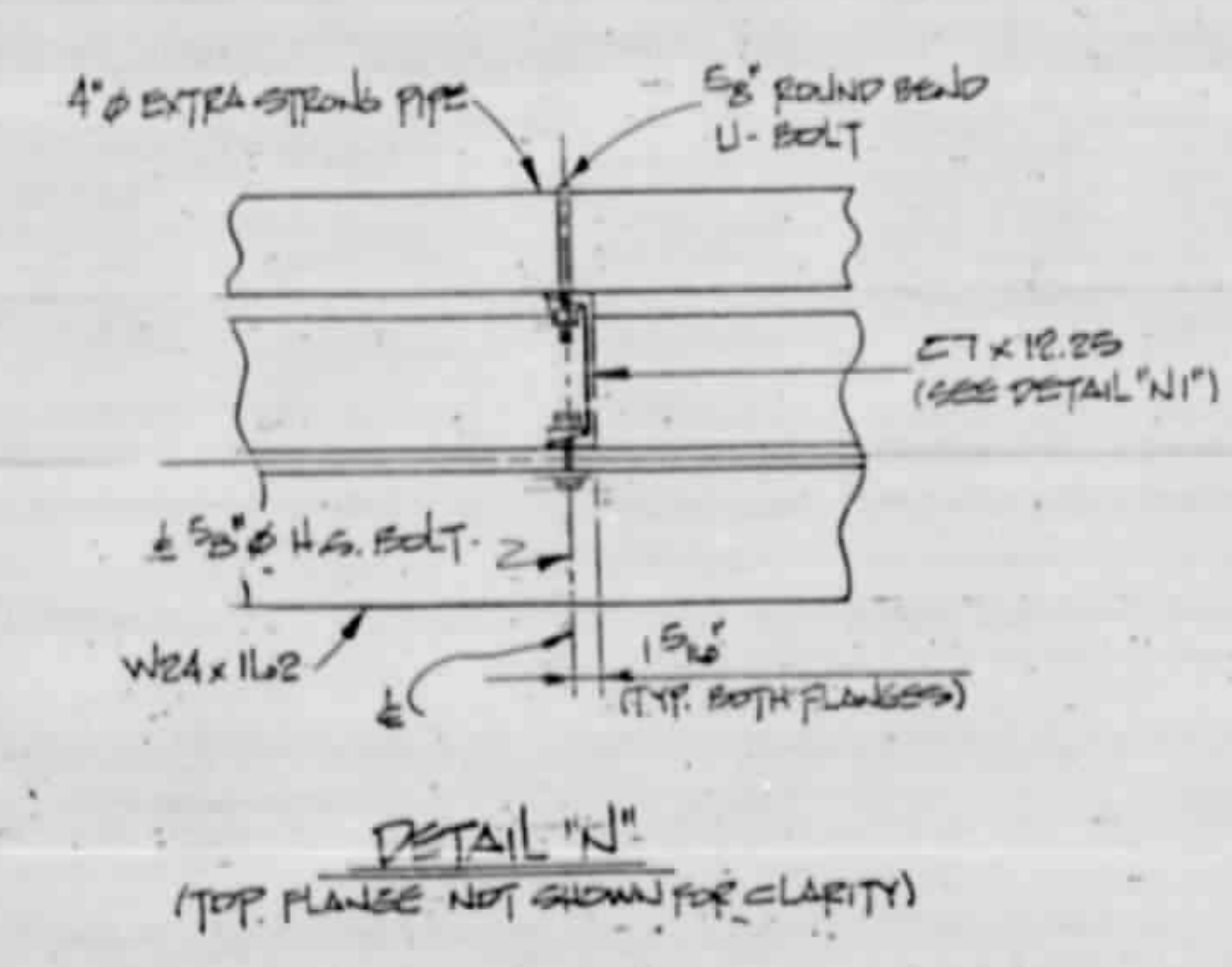
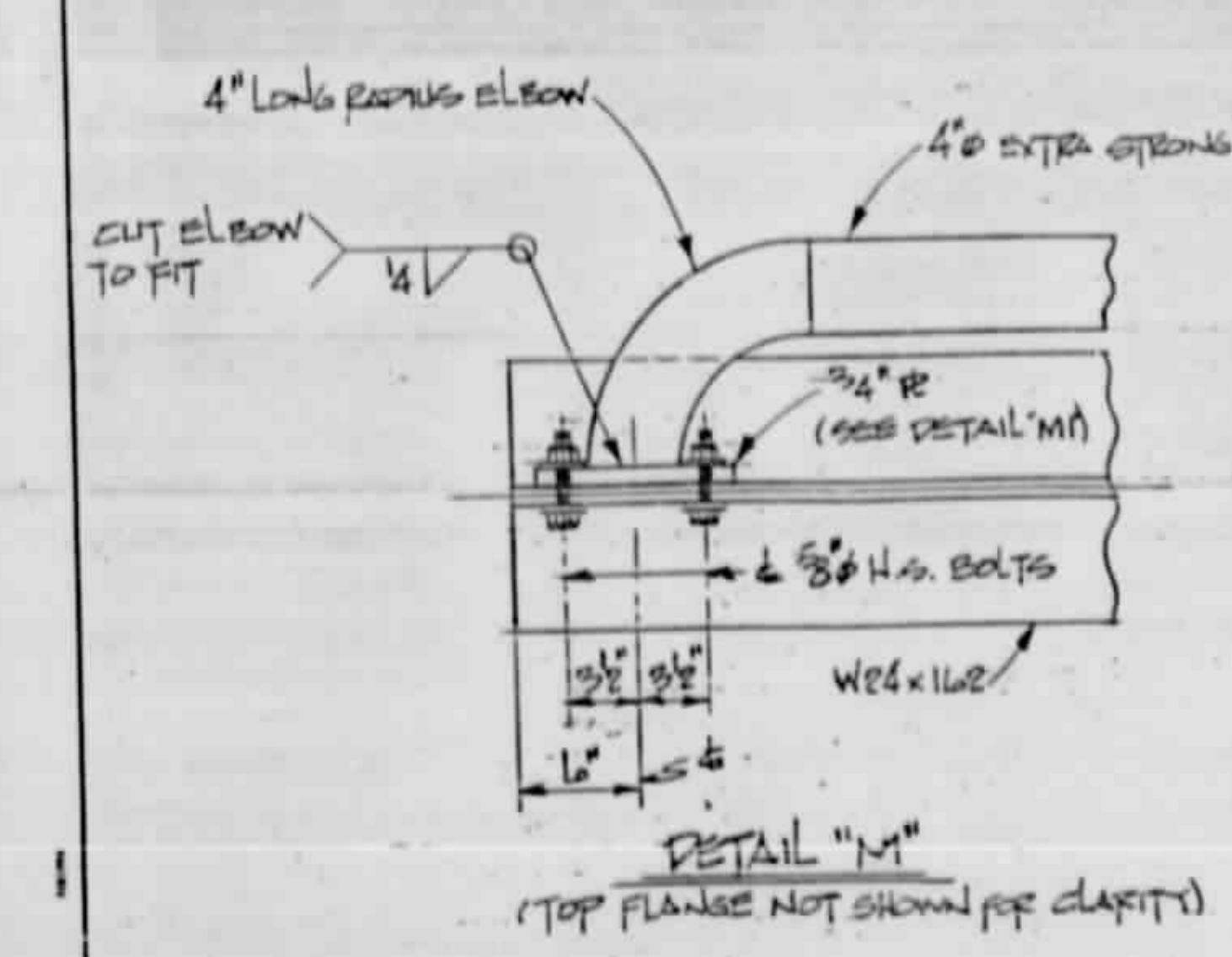
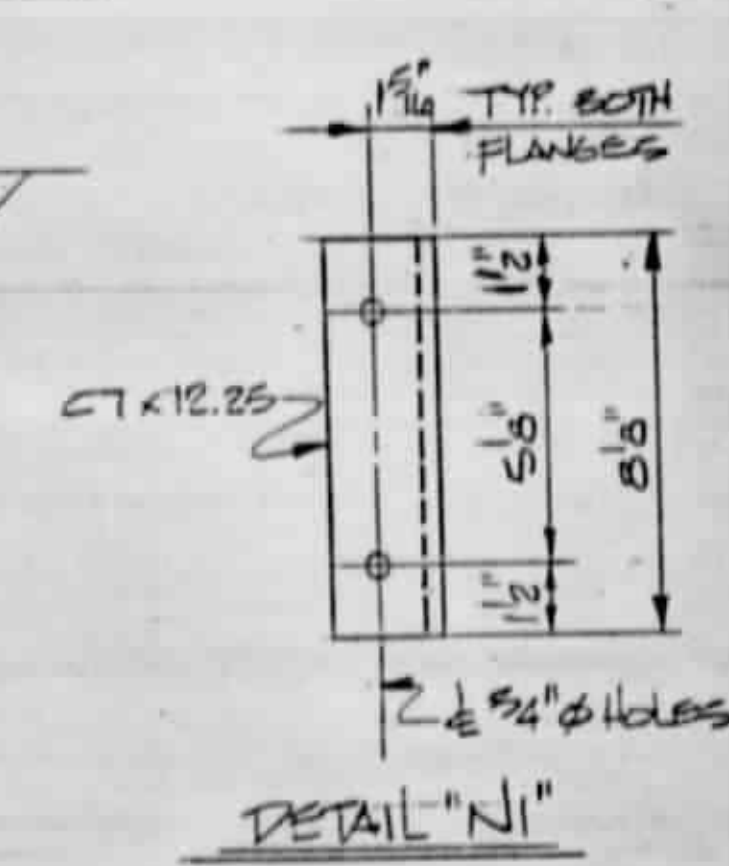
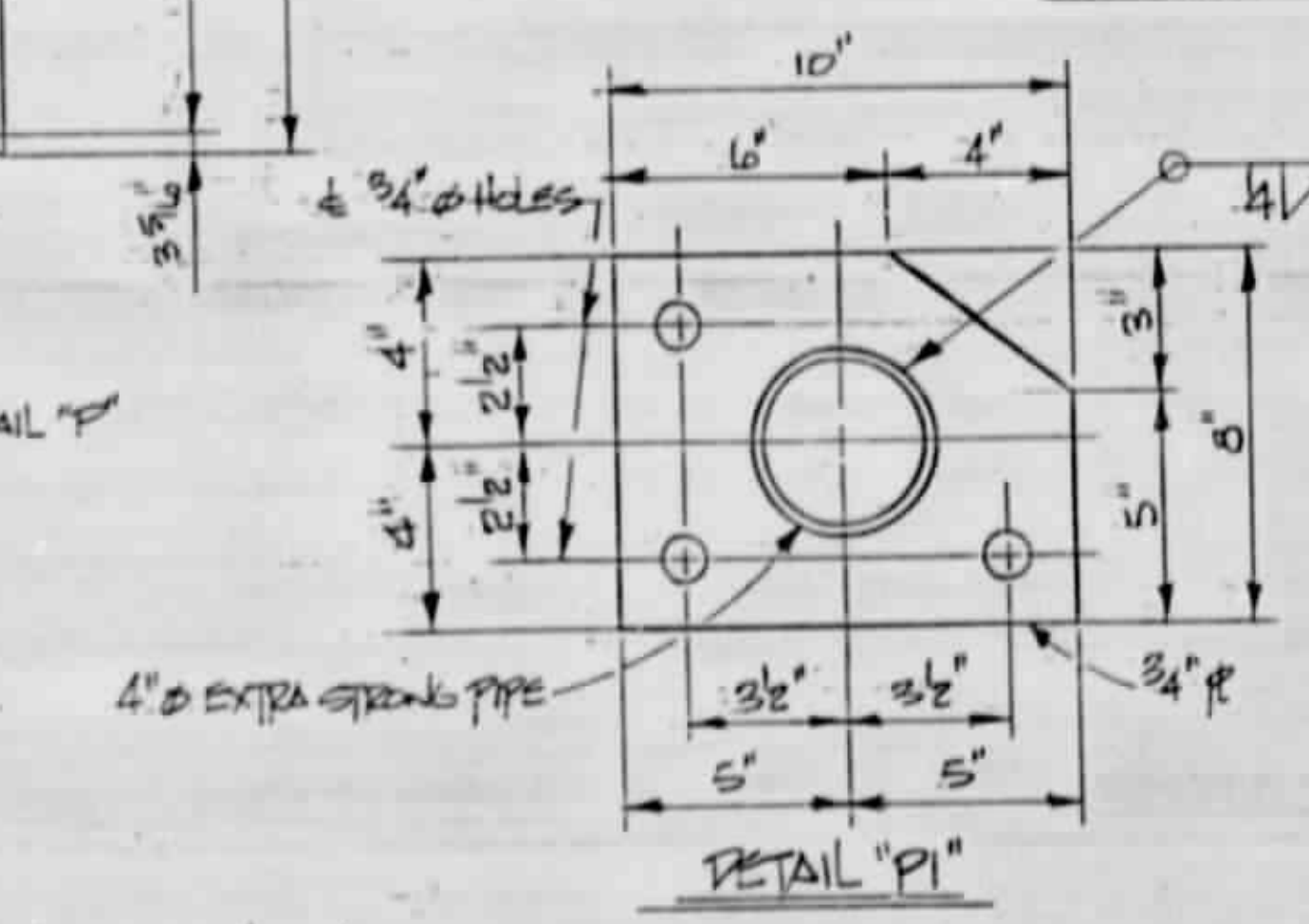
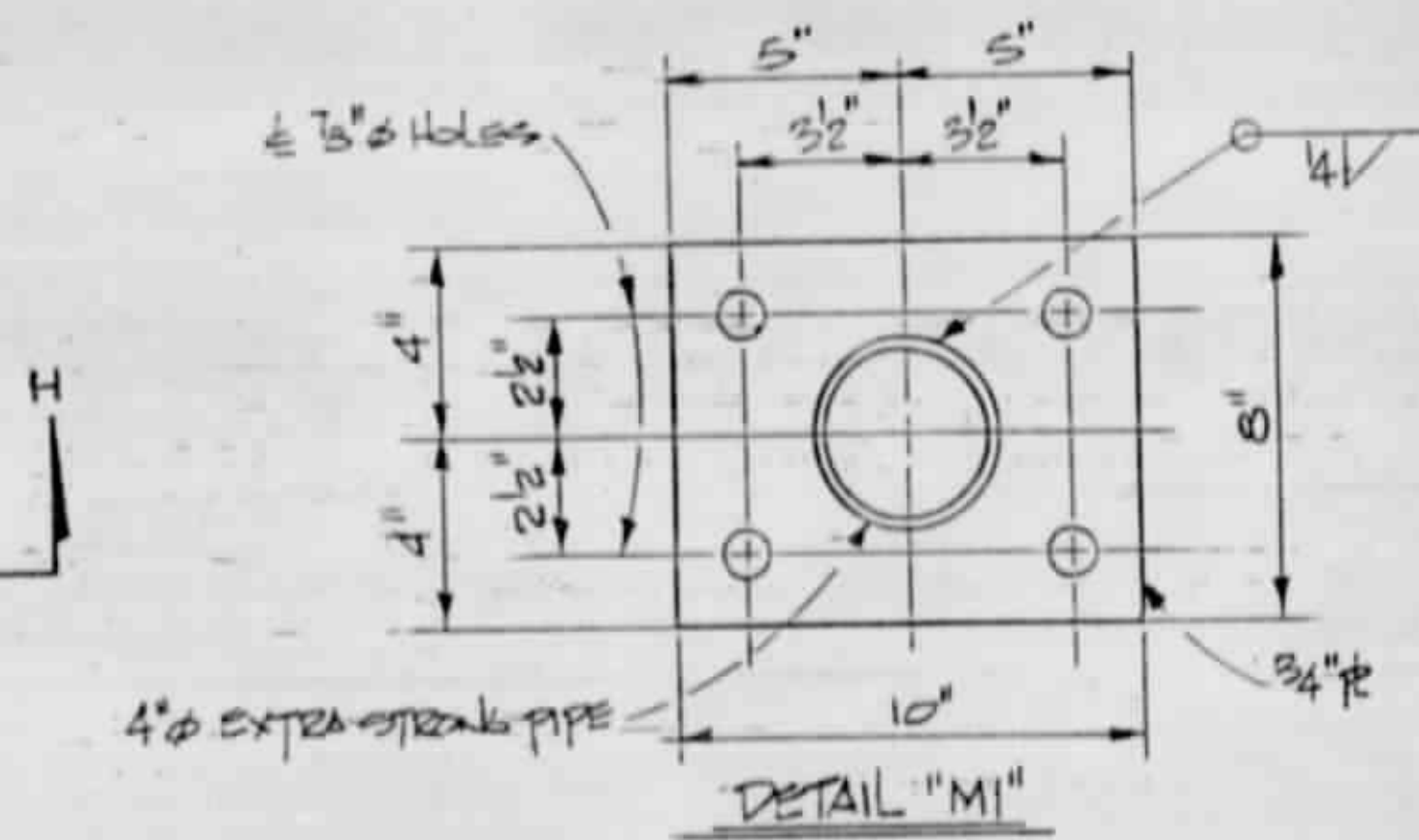
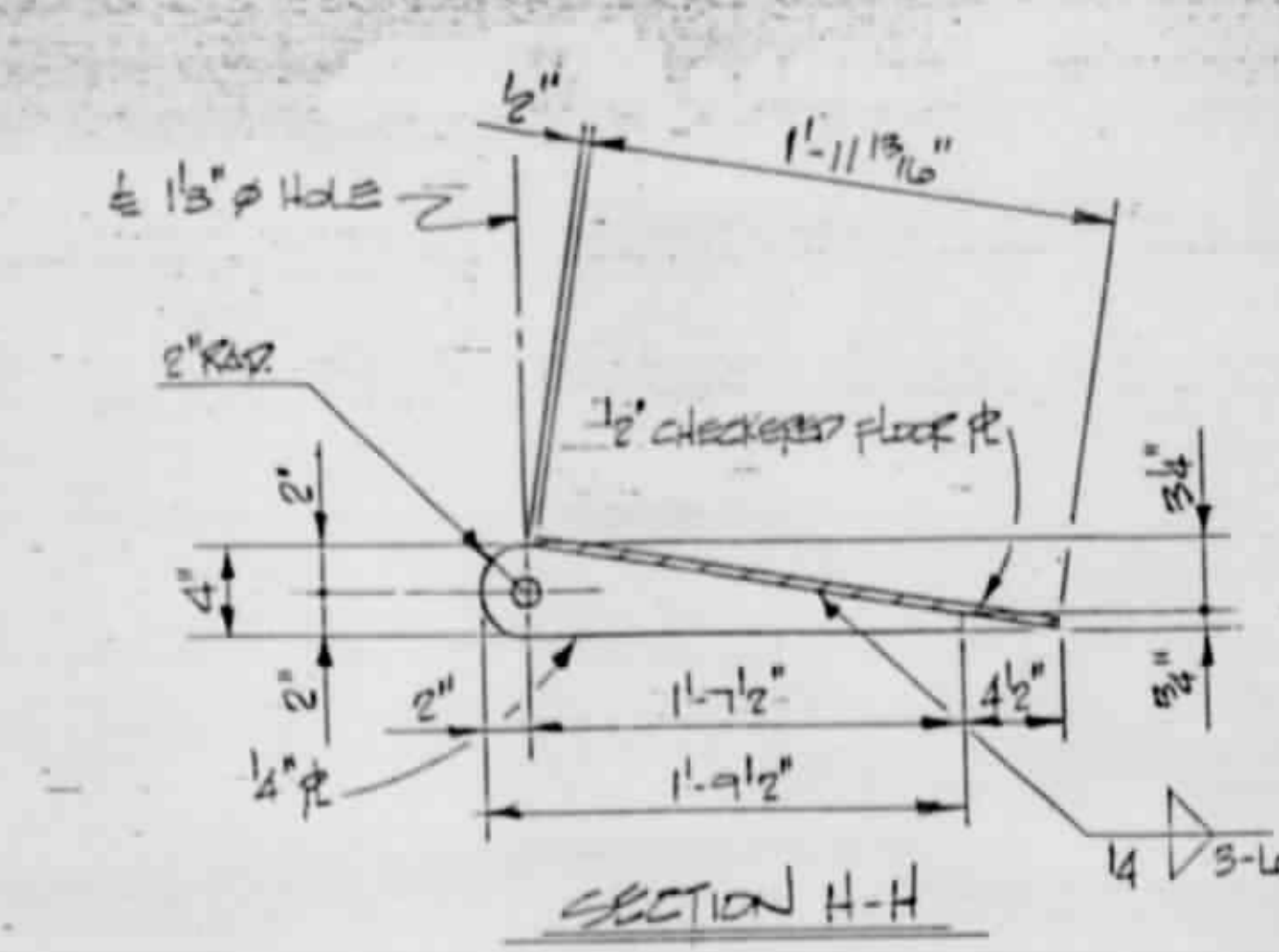
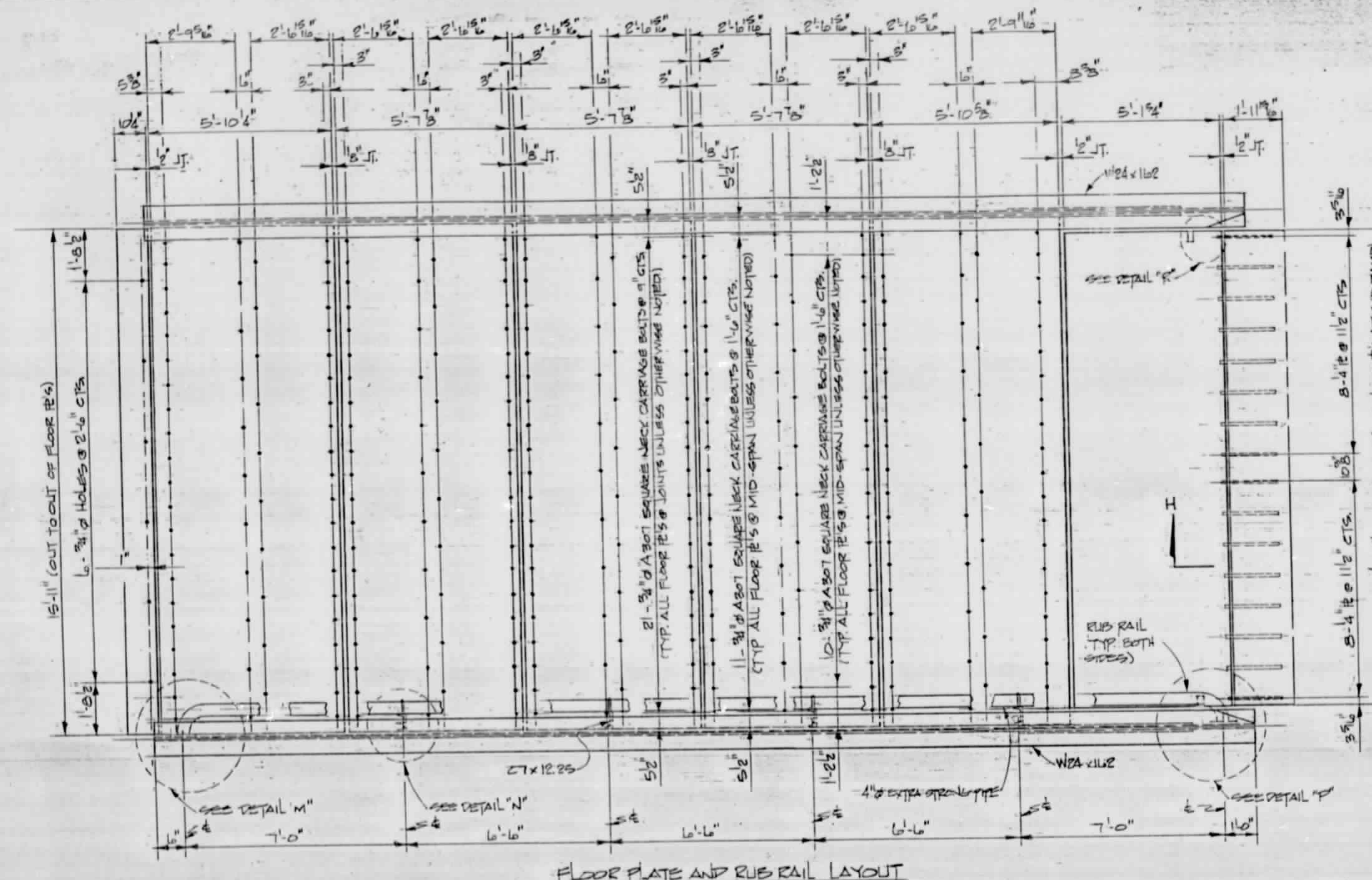
PROJECT NO. 8.1150701
 BEAUFORT COUNTY
 STATION: 10+00 O-T-SR.
 10+00 O-T-NR.
 SHT. 4 OF 8

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PAMLICO RIVER FERRY
 NORTH RAMP AND SOUTH
 RAMP

SEPT. 1992

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			5		
2			4		

23 SHEET NO. 22
 TOTAL SHEETS 25



PROJECT NO. B.1150701
BEAUFORT COUNTY
 STATION: 10+00.0 -T- S.R.
10+00.0 -T- N.R.

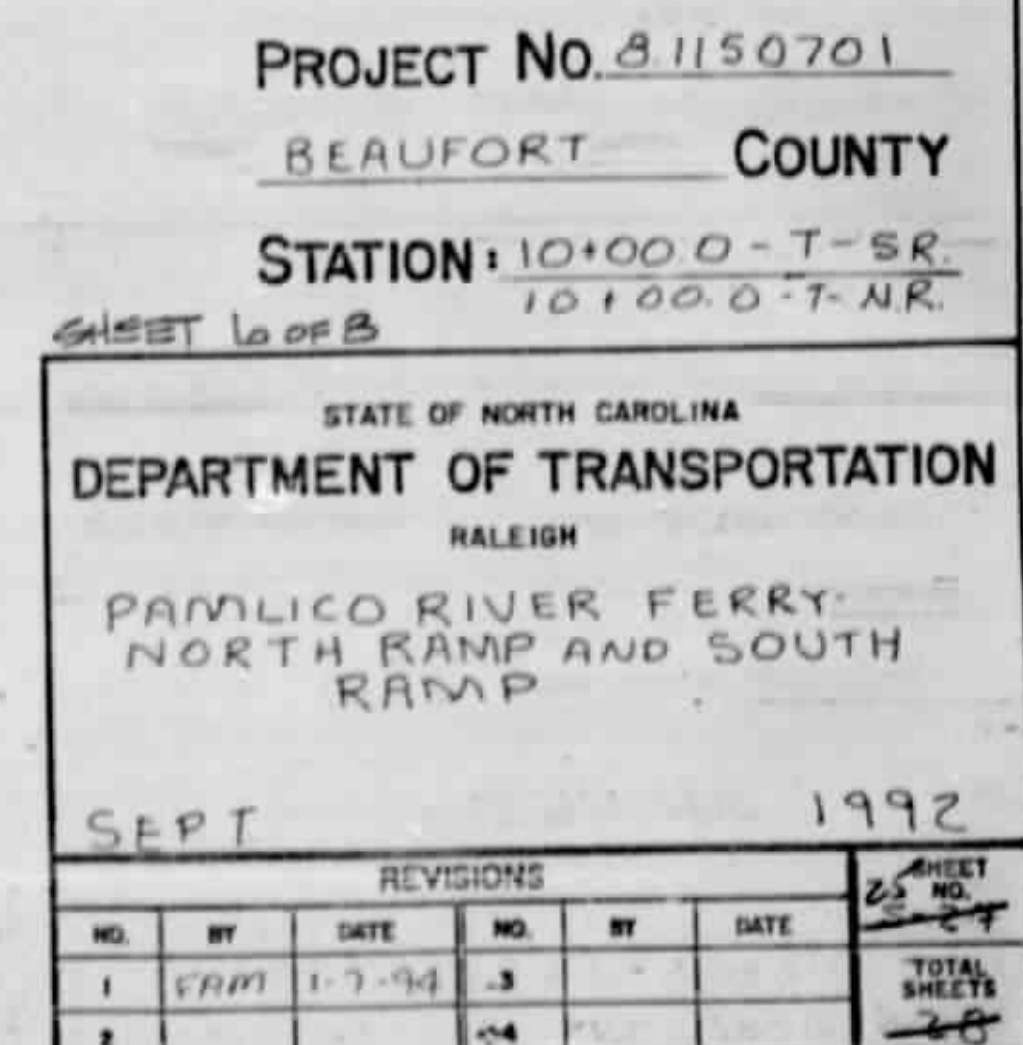
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PAMLICO RIVER FERRY
NORTH RAMP AND SOUTH
RAMP

FBI 1992

REVISIONS					SHEET NO. 4
NO.	DATE	BY	DATE		S-23

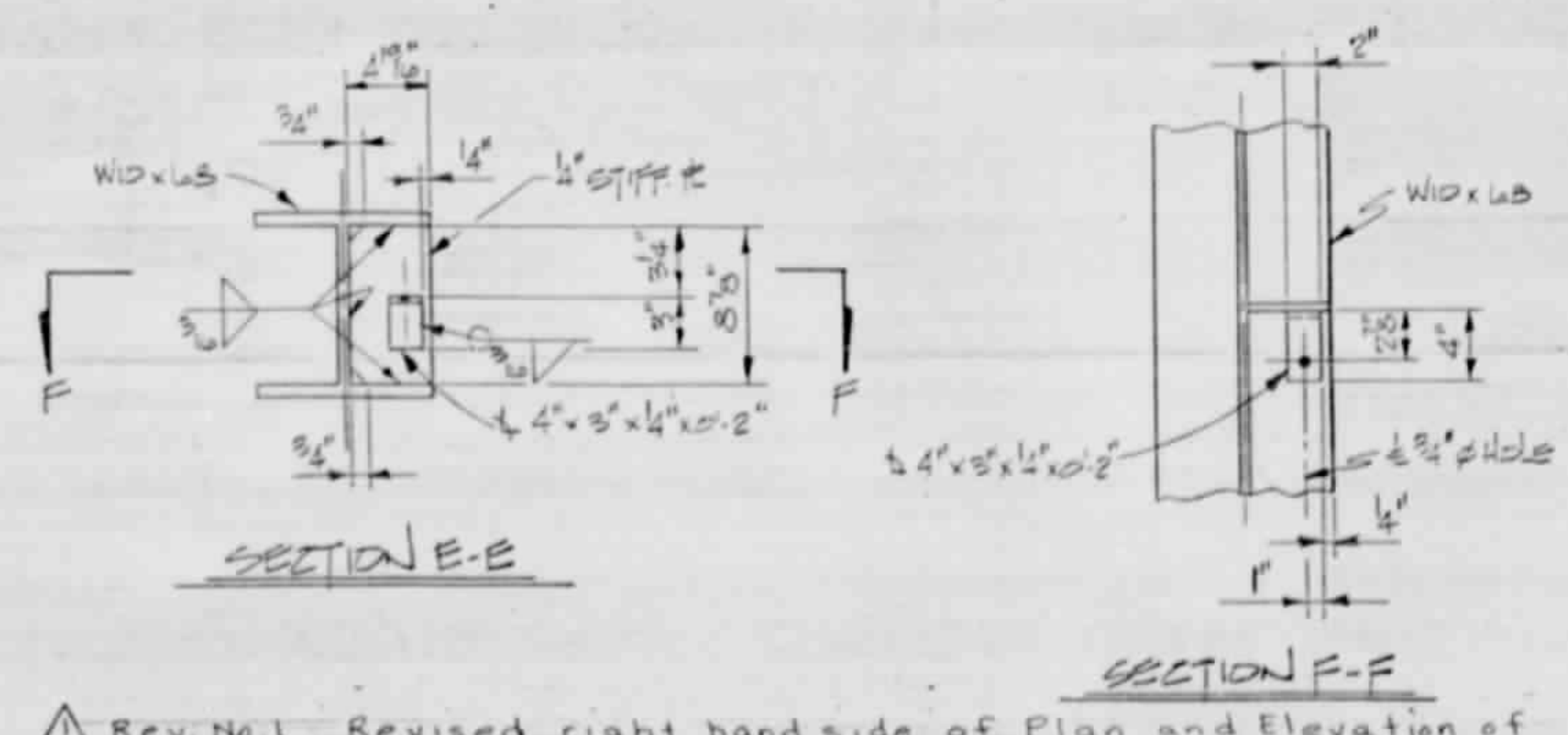
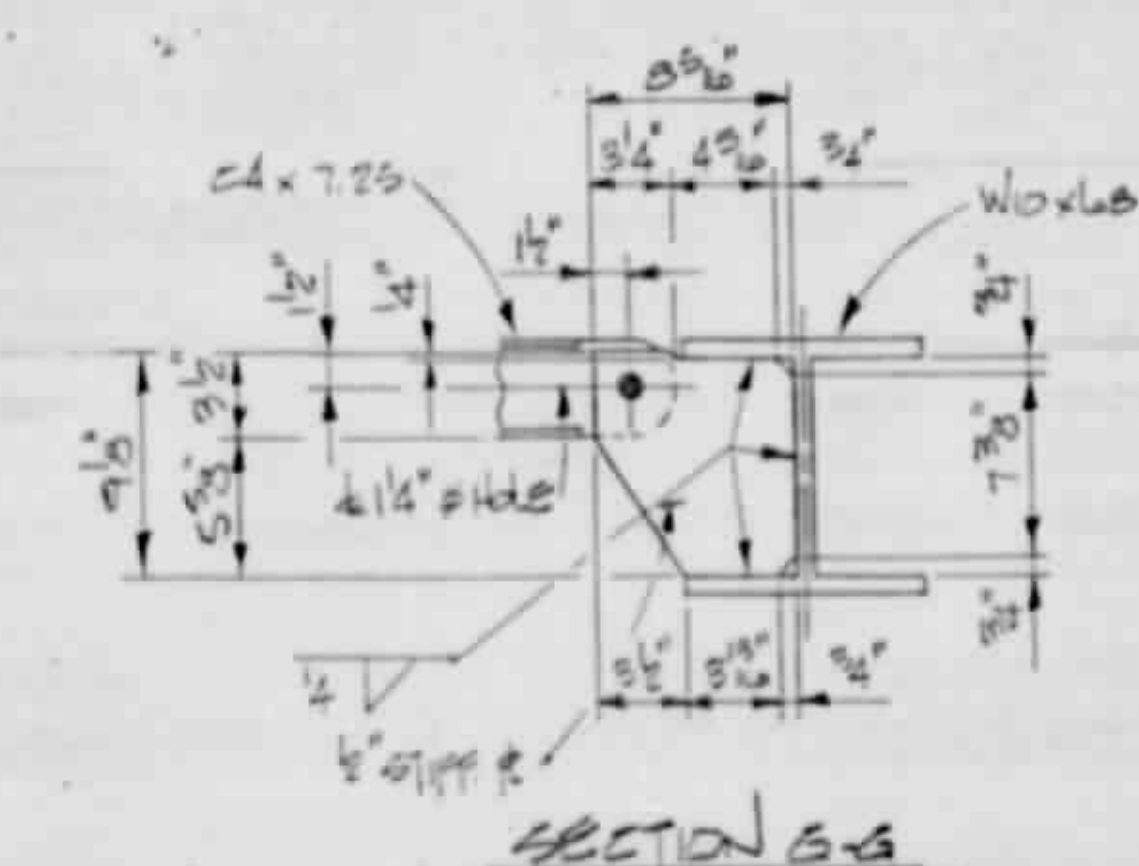
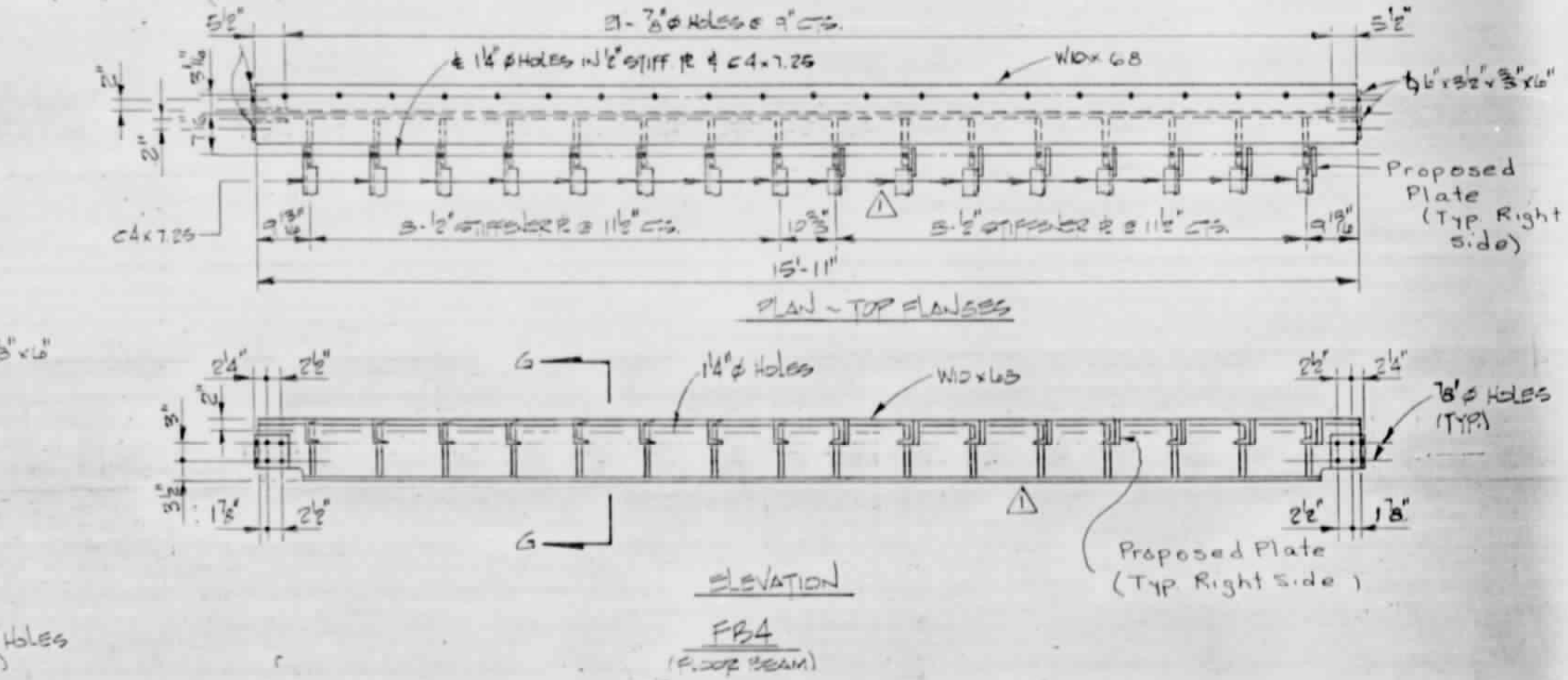
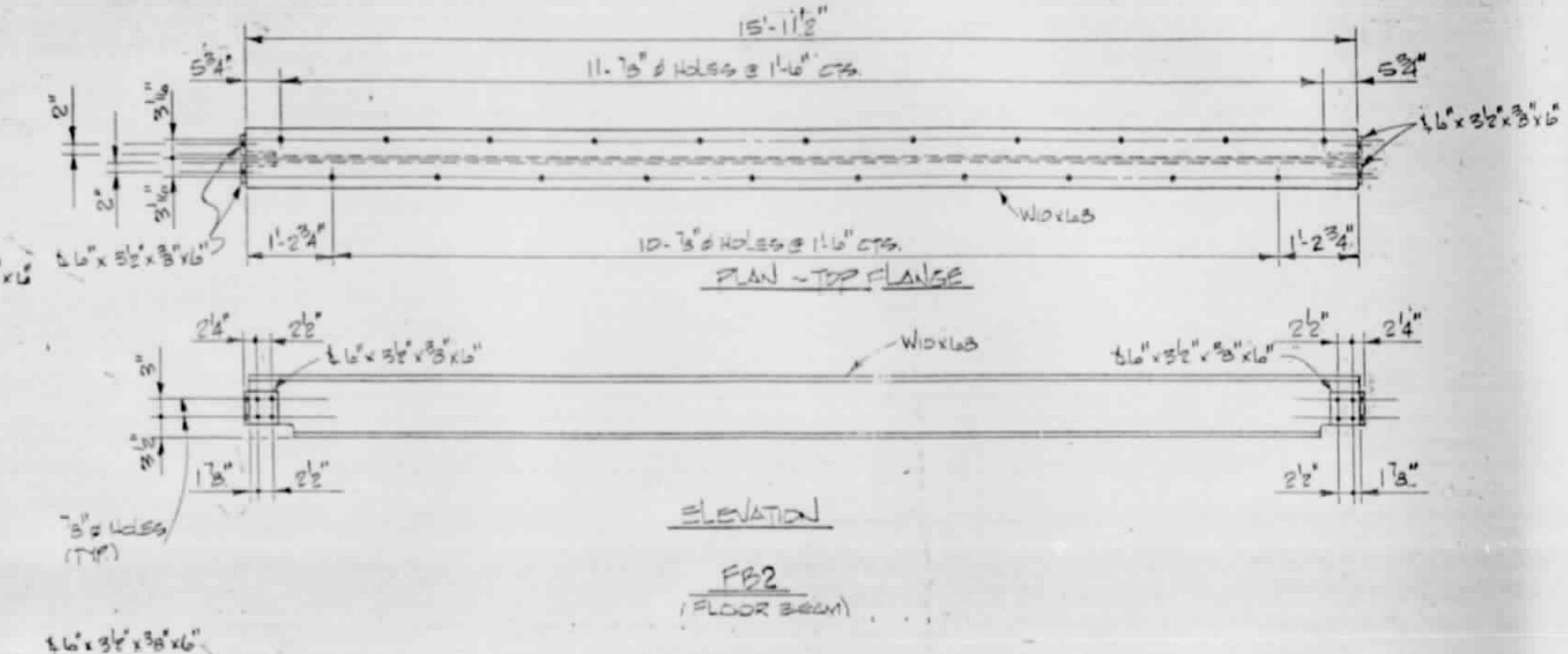
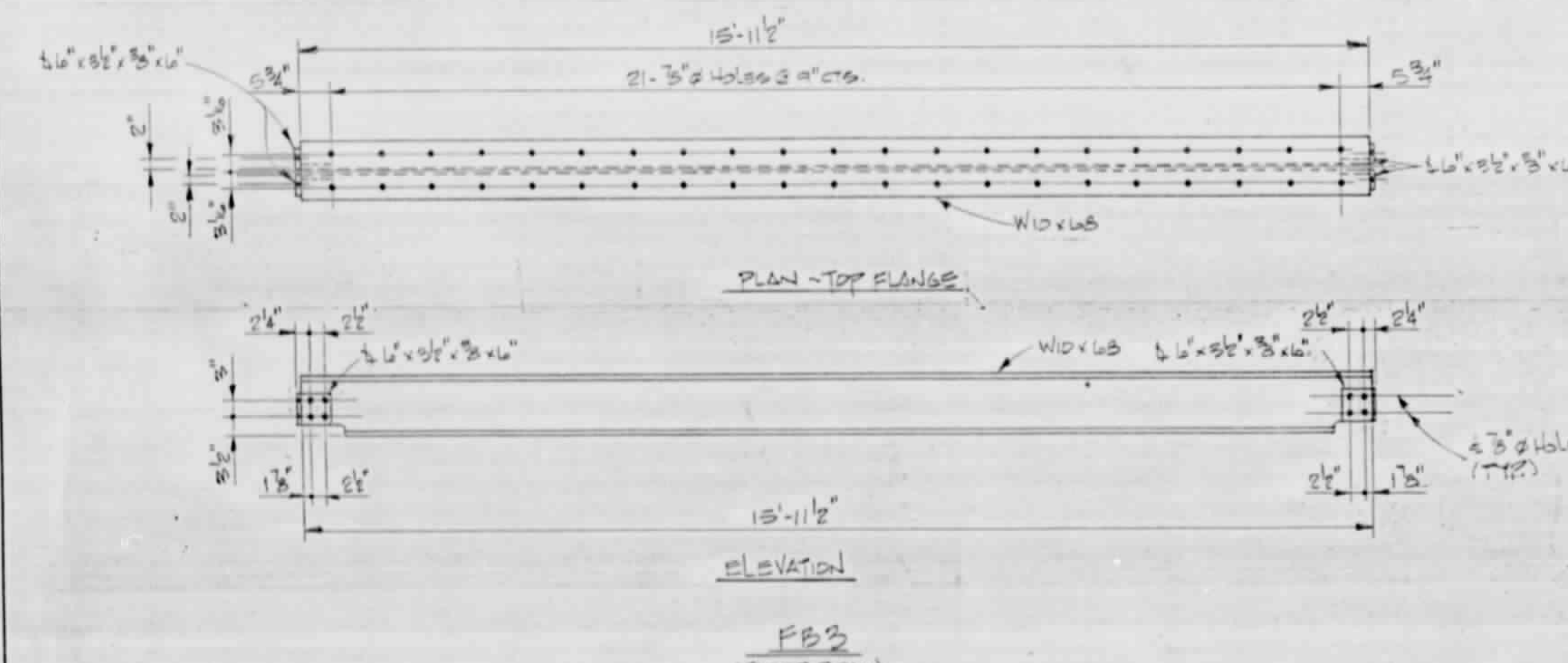
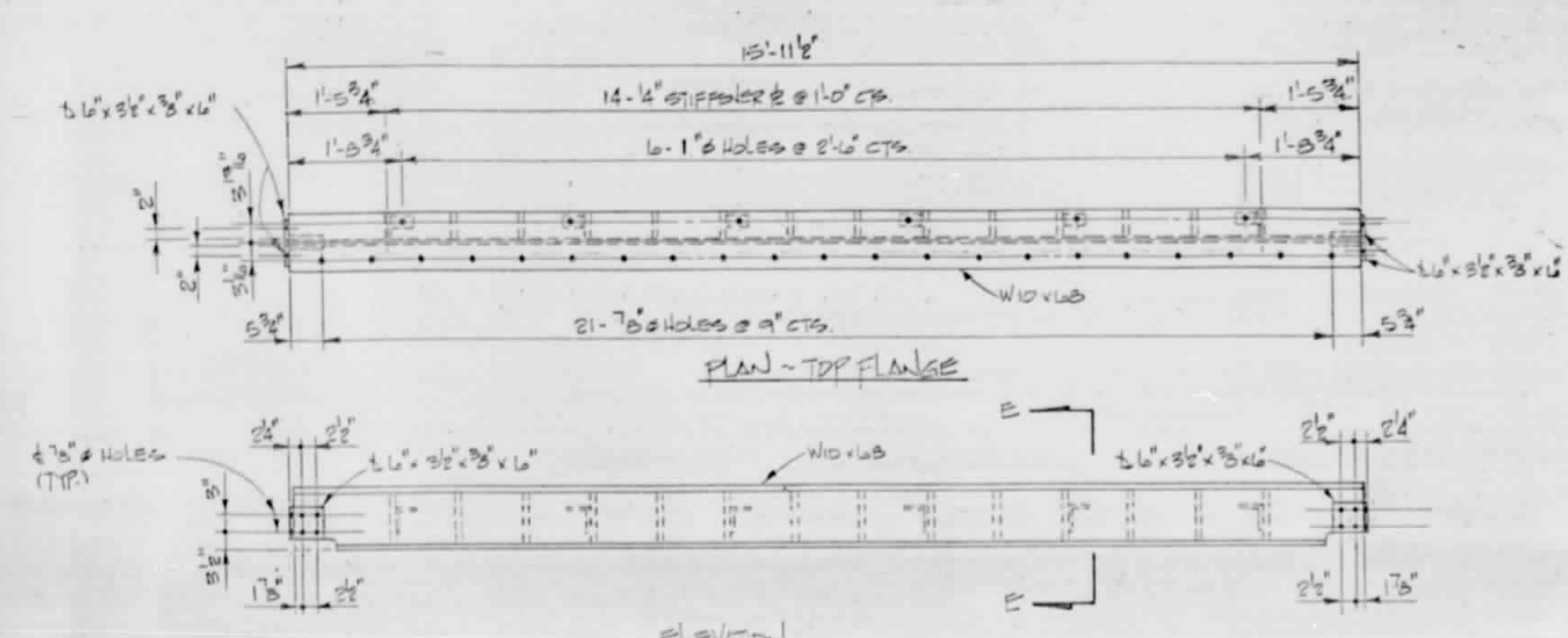
NO.	DT	DATE	NO.	DT	DATE	TOTAL SHEETS 28
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2			4			

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1 Rev No:1 Added Half 3" Pipe to Elevation and Detail "F".
By: FAM ✓ By: PEK

47 4737



Rev No. 1 Revised right hand side of Plan and Elevation of FB4 To Show Proposed Plate. Drawn By: FAM / By: PEK

DRAWN BY: F.A. MINIMUS
CHECKED BY: W.D. CRUTCHER
DATE: 4-1-92
DATE: 5-9-92

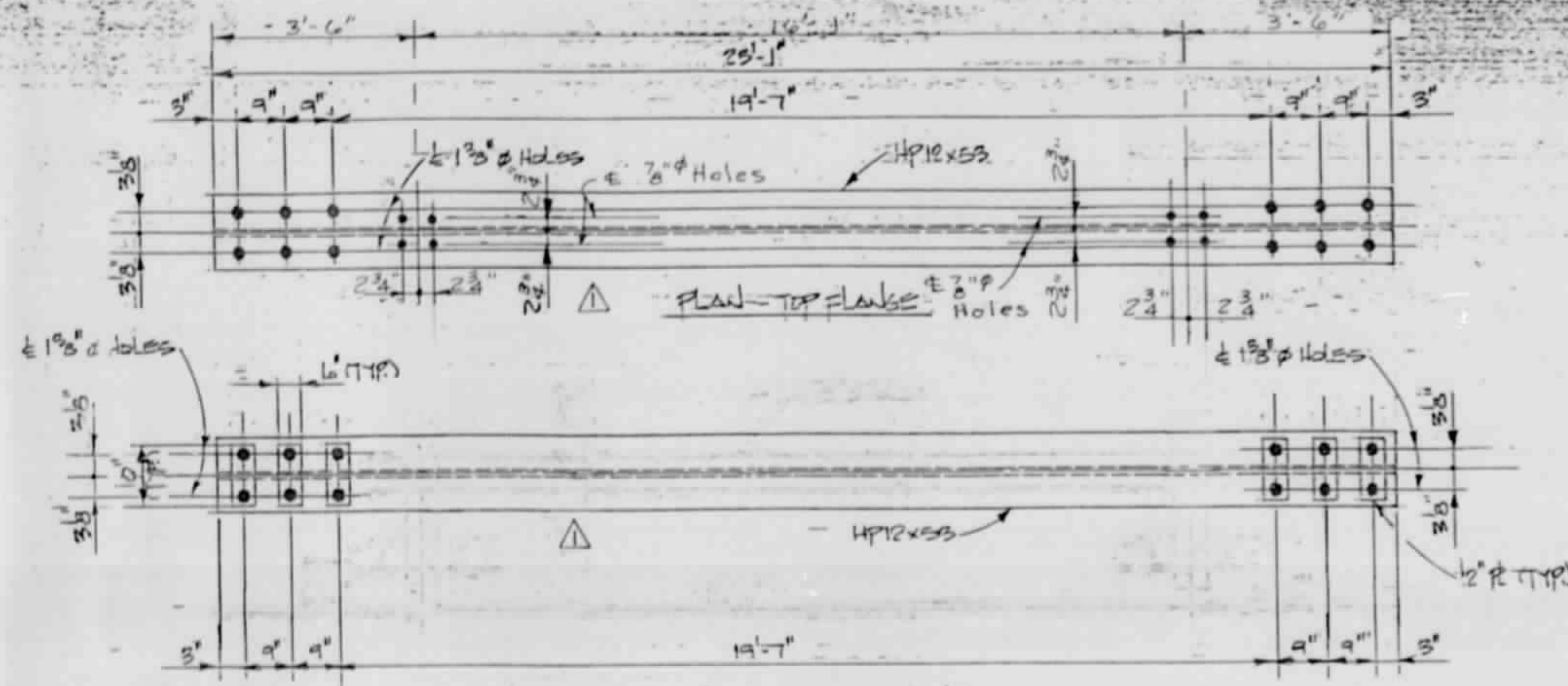
PROJECT NO. B.1150701
BEAUFORT COUNTY
STATION 10+00.0 FT-SR
10+00.0 FT-NR
SHEET 7 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PAMLICO RIVER FERRY
NORTH RAMP AND SOUTH
RAMP

SEPT 1992

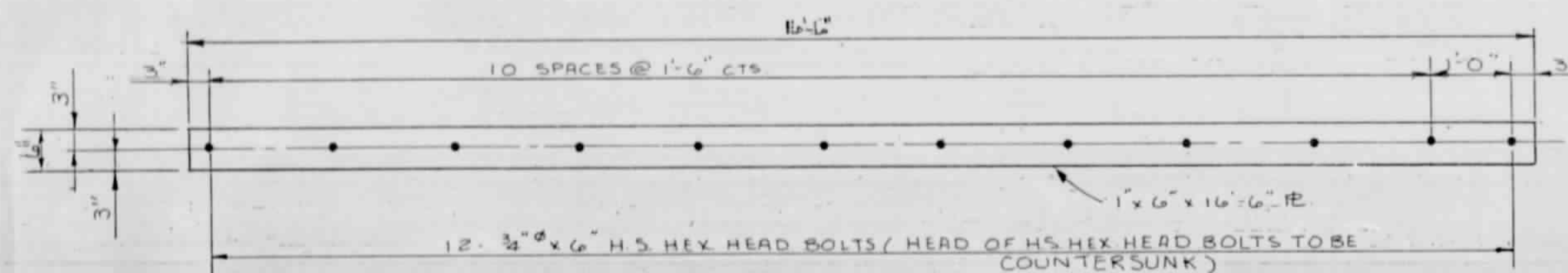
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	FAM	1-7-94	3		
2			4		

SHEET NO. 26
TOTAL SHEETS 28



PLAN - TOP FLANGE

DETAIL - "L"



PLAN

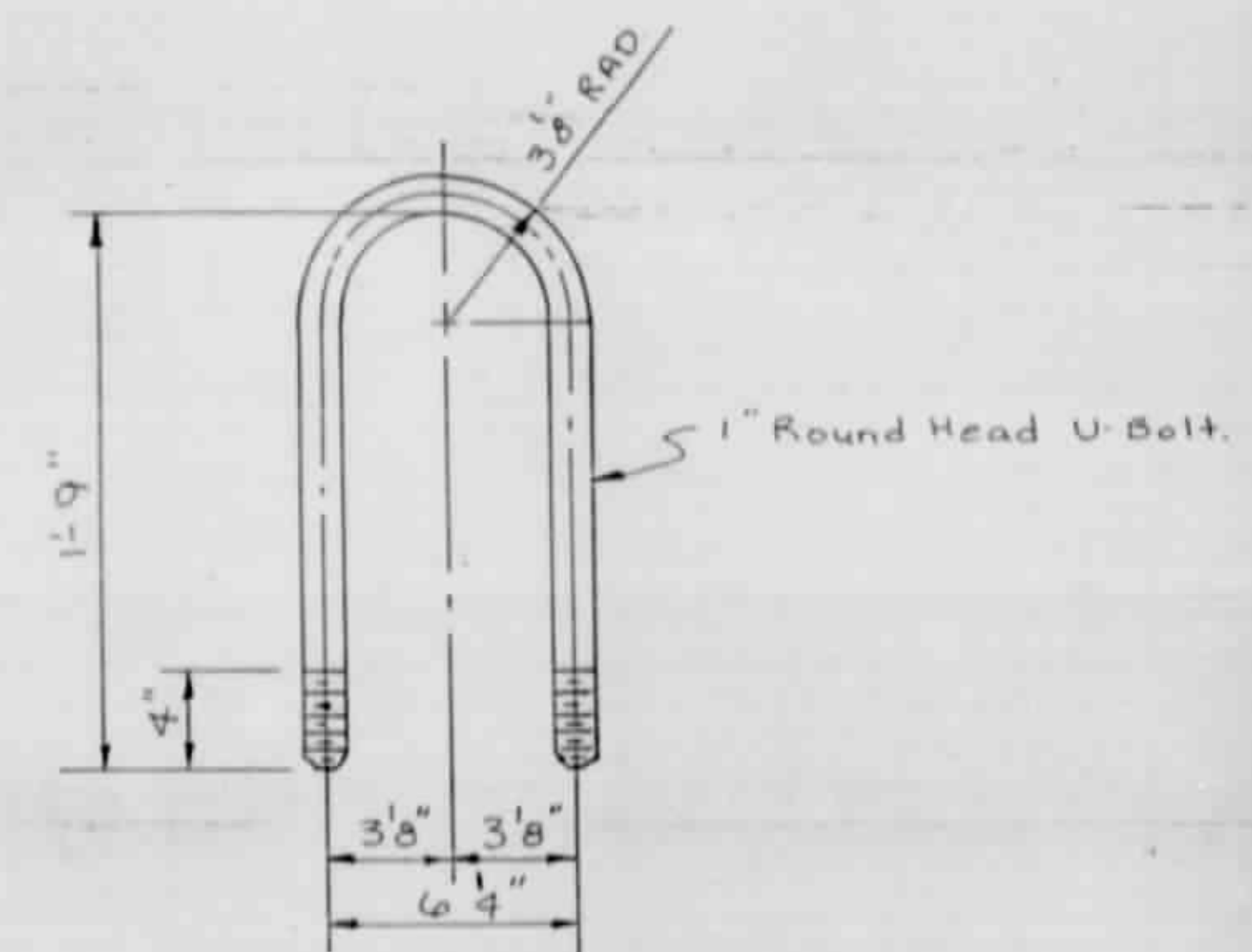
DETAIL - "R"

NOTE

THE CONTRACTOR SHALL USE AN ADHESIVE BONDING SYSTEM FOR ANCHORING THE 1" PLATE TO THE CURED SLAB. SEE SPECIAL PROVISIONS "FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS". THE REQUIRED DESIGN LOAD OF THE 3/4" BOLT IS 12 KIPS. THE BOLTS SHALL BE COATED WITH A DERONDING AGENT SO THAT THE ANCHOR BOLTS CAN BE EASILY REMOVED IF NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE AGENT DOES NOT REDUCE THE STRENGTH OF THE ANCHOR SYSTEM. TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

BILL OF MATERIAL	
* STRUCTURAL STEEL (ONE RAMP)	APPROX LBS. 40,600
14" ϕ GALVANIZED PIPE RAIL	LIN FT 140

* Includes Floor B's, 4" Extra Strong Pipe, Chains, Shackles And Bearings.



DETAIL OF U-BOLT FOR
LIFT AND BEAM

PROJECT NO. 8.1150701

BEAUFORT COUNTY

STATION 10+00.0 T-5R

10+00.0-T-NR

SHEET 3 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PAMLICO RIVER FERRY
NORTH RAMP AND SOUTH
RAMP

SEPT 1992

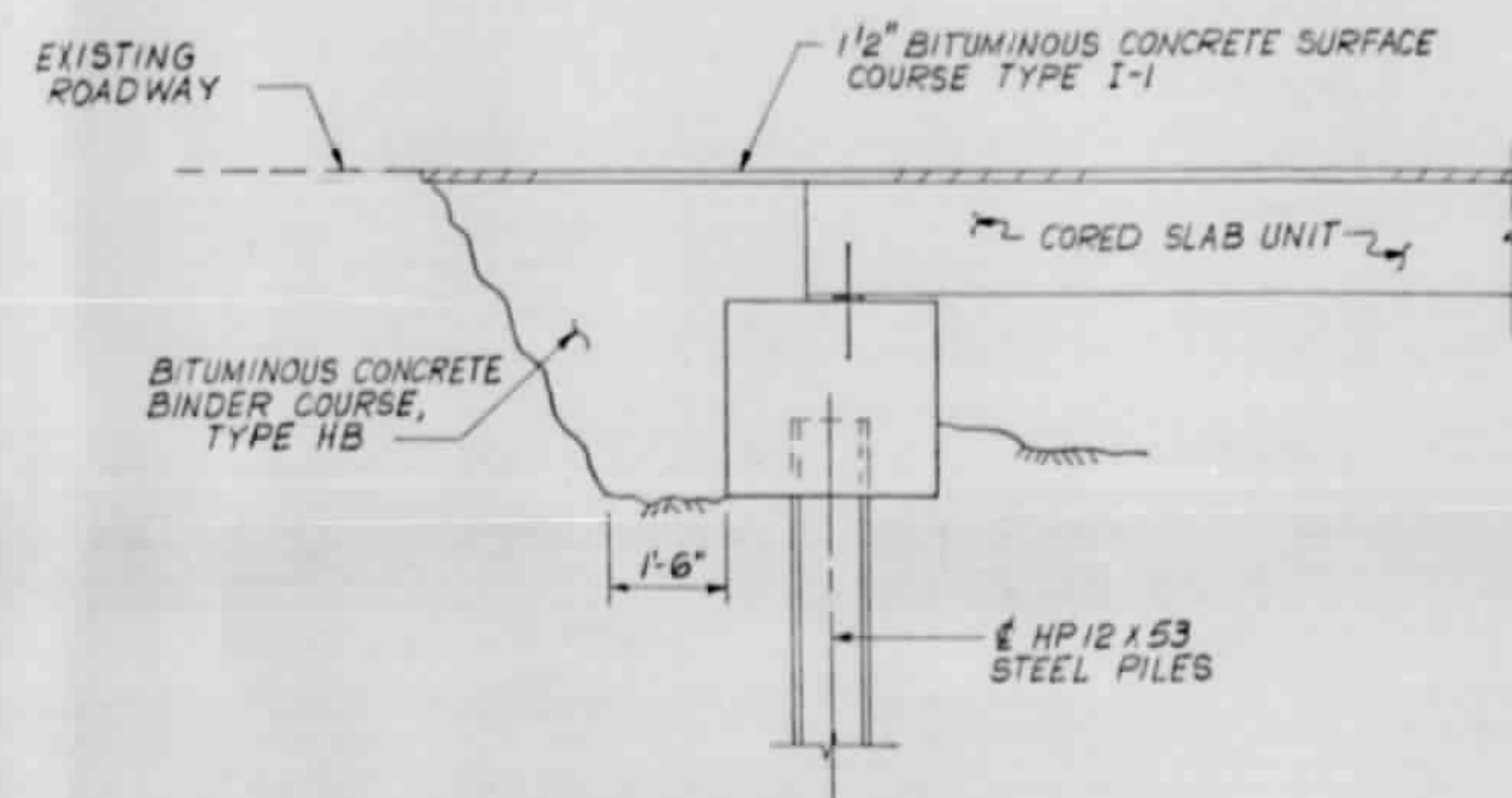
REVISIONS				SHEET NO.
NO.	BY	DATE	NO.	
1	FAM	5-7-91	3	5-26
2			4	28

Rev No 1: Added 3/8" Holes in Top Flange and Deleted 3/8" ϕ Holes in Bottom Flange of HP12x53 in Detail "L".
By: FAM / By: BEK

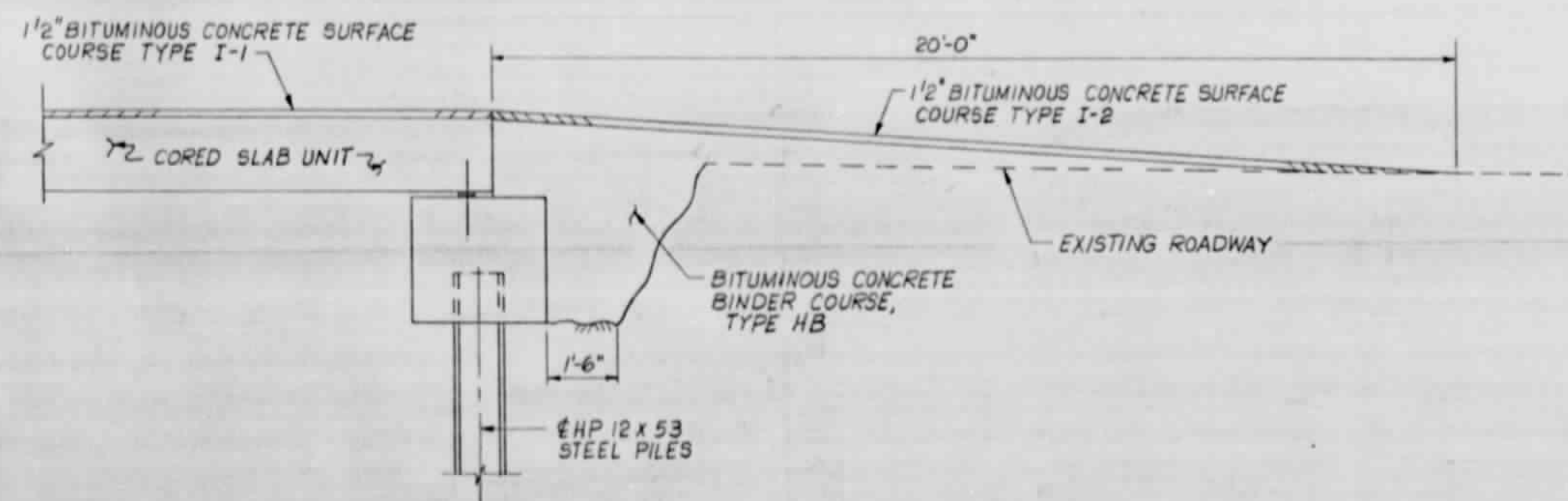
DRAWN BY: F.A. MIMMS DATE: 5-1-92
CHECKED BY: W.D. CRONIN DATE: 5-4-92

NOTES

THE ROADWAY APPROACHES LEADING UP TO THE CORED SLAB BRIDGES SHALL BE PLACED AS DIRECTED BY THE ENGINEER. FOR PAVEMENT REPAIR, SEE SPECIAL PROVISIONS.



NORTH RAMP



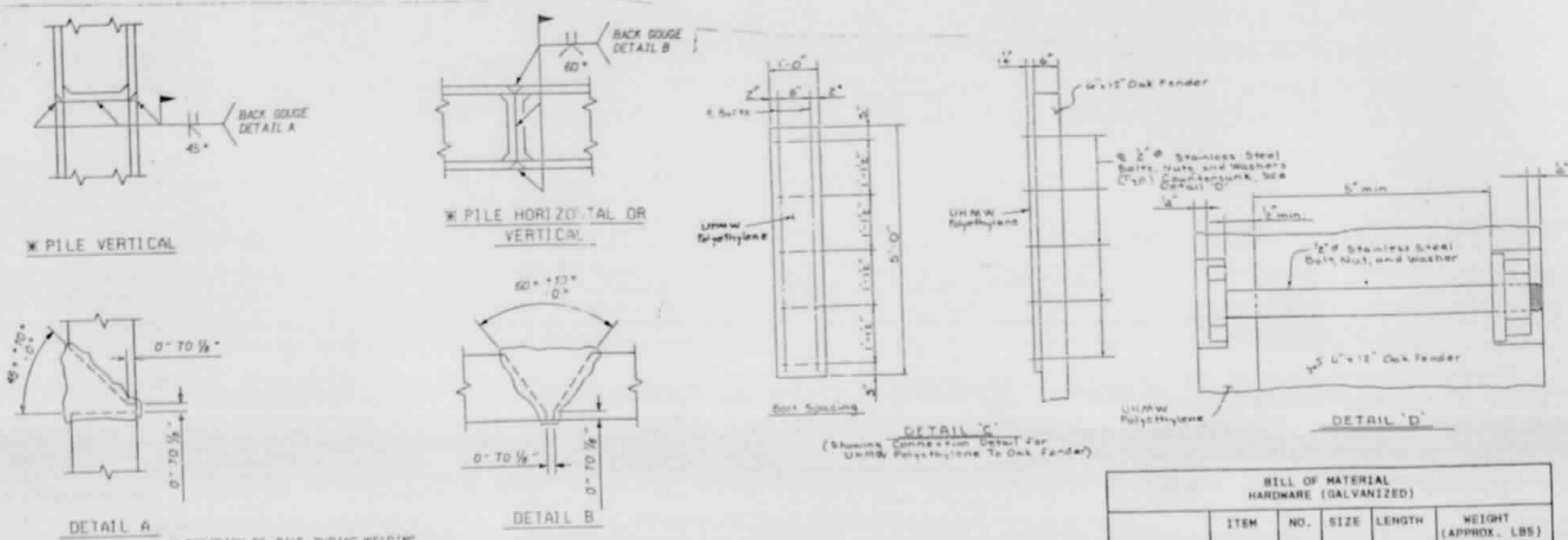
SOUTH RAMP

PROJECT No. 8.1150701
BEAUFORT COUNTY
STATION: 10+00-T-NR
10+00-T-SR

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
PAMLICO RIVER BASIN
PAVEMENT REPAIR

DRAWN BY: G. M. PATTERSON DATE: 9/18/92
CHECKED BY: R. D. KATZNER DATE: 1/16/93

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			28
2			4			28



BILL OF MATERIAL HARDWARE (GALVANIZED)					
	ITEM	NO.	SIZE	LENGTH	WEIGHT (APPROX. LBS)
NORTH RAMP	STAPLES	300	3/8"	5"	143
	CABLE	-	3/4"	830'	747
	CLAMPS	78	3/4"	-	74
	BOLTS	200	1/2"	6 1/2"	94
SOUTH RAMP	STAPLES	240	3/8"	5"	115
	CABLE	-	3/4"	660'	594
	CLAMPS	80	3/4"	-	57
	BOLTS	200	1/2"	6 1/2"	94
TOTAL					1,915

NOTES

TIMBER PILES SHALL BE INSTALLED TO HAVE A MINIMUM TIP ELEVATION OF -40.0 WITH TOP OF PILE ELEVATIONS AS SHOWN.

TIMBER PILES SHALL HAVE A MINIMUM BUTT CIRCUMFERENCE OF 44 INCHES AND TREATED WITH CHROMATED COPPER ARSENATE (CCA) TO MINIMUM RETENTION OF 2.5 POUNDS PER CUBIC FOOT.

HP 12 X 52 STEEL PILES SHALL BE INSTALLED TO HAVE A MINIMUM TIP ELEVATION OF -40.0 WITH TOP OF PILE ELEVATION AS SHOWN.

FOR PAINTING OF STEEL PILES, SEE SPECIAL PROVISIONS.

DOLPHIN PILES SHALL BE DRAWN TOGETHER AT THE TOP AND WRAPPED WITH SIX TURNS OF 3/4" WIRE ROPE AT ONE POINT. THE WIRE ROPE SHALL BE SECURED WITH 3/8" SQUARE STAPLES AND TWO CABLE CLAMPS AT EACH END.

THE 6" X 12" WHITE OAK FENDERS TO BE ATTACHED TO BOTH THE EXISTING AND PROPOSED DOLPHINS WITH 3/4" WIRE ROPE THROUGH THE OAK, OVER AND AROUND DOLPHINS AS SHOWN. THE 3/4" WIRE ROPE SHALL BE SECURED WITH 3/8" SQUARE STAPLES AND TWO CABLE CLAMPS AT THE ENDS.

WIRE ROPE USED FOR WRAPPING DOLPHINS AND INSTALLING OAK FENDERS SHALL CONFORM TO ASTM A603 CLASS B.

ALL HARDWARE SHALL BE GALVANIZED, UNLESS OTHERWISE NOTED.

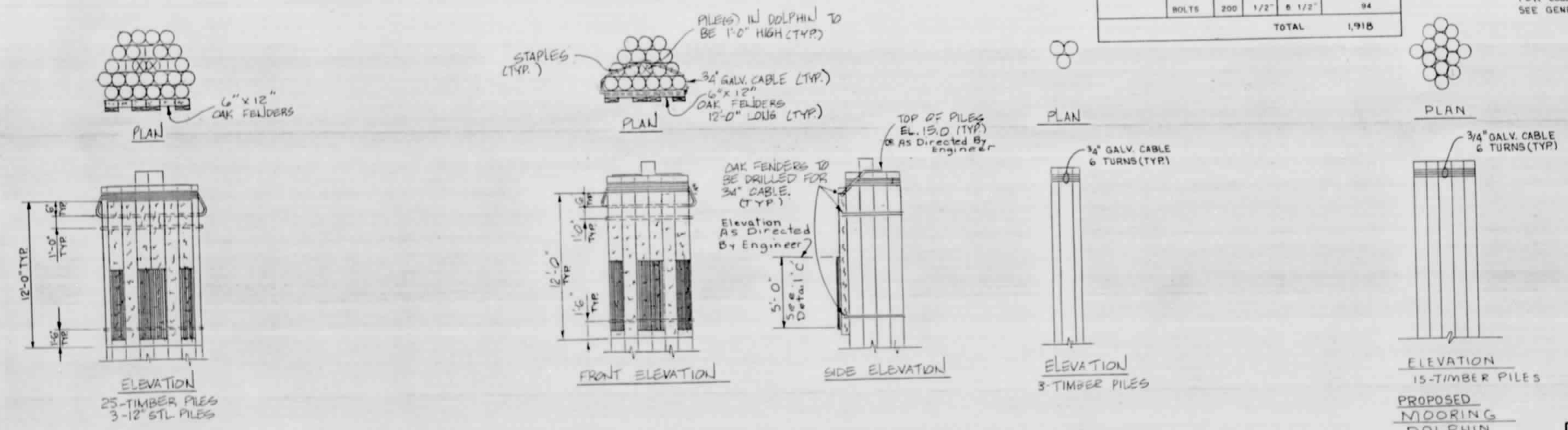
NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR WIRE ROPE USED TO WRAP DOLPHINS AND INSTALLING OAK FENDERS. HARDWARE, TOOLS, EQUIPMENT, OR LABOR. THIS WORK AND MATERIALS SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR UNTREATED WHITE OAK TIMBER.

FOR UNTREATED WHITE OAK TIMBER, SEE SPECIAL PROVISIONS.

THE 6" X 12" OAK TIMBER FENDERS SHALL BE ALTERNATELY FACE AS SHOWN WITH 1 1/4" THICK X 12" WIDE X 5'-0" LONG ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE. SEE SPECIAL PROVISIONS.

NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR HARDWARE, TOOLS, EQUIPMENT, OR LABOR FOR INSTALLING THE ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE. THIS WORK AND MATERIAL SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE.

FOR LOCATION OF EXISTING AND PROPOSED DOLPHINS, SEE GENERAL DRAWING SHEETS.



PROPOSED DOLPHIN
(4 Required)
P2

EXISTING DOLPHINS
(Proposed Fender Details)
P1

PROPOSED BULKHEAD DOLPHIN
(2 Required)
P4

PROPOSED MOORING DOLPHIN
(1 Required)
P3

PROJECT No. 81150701
BEAUFORT COUNTY
STATION: 10+00.0 T-NR
10+00.0 T-SR

STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
PAMLICO RIVER FERRY					
DOLPHIN LAYOUT FOR					
NORTH SIDE RAMP AND					
SOUTH SIDE RAMP					
SEPT 1992					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
					SHEET NO. 225
					TOTAL SHEETS 26

DRAWN BY: E. H. DUMAS DATE: 4-9-92
CHECKED BY: M. N. BULLOCK DATE: 4-14-92