

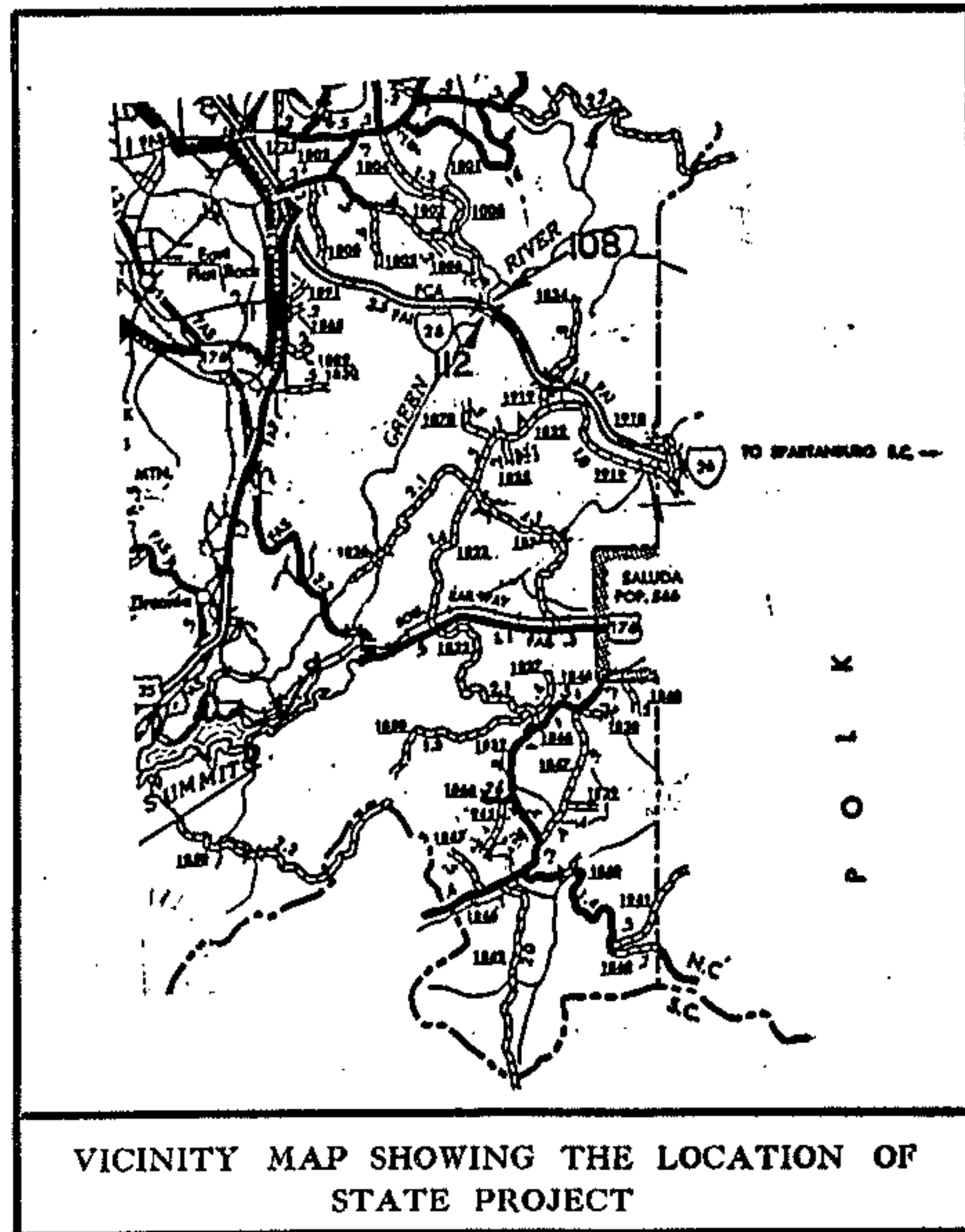
B-2700

PROJECT: 8.1950901

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HENDERSON COUNTY

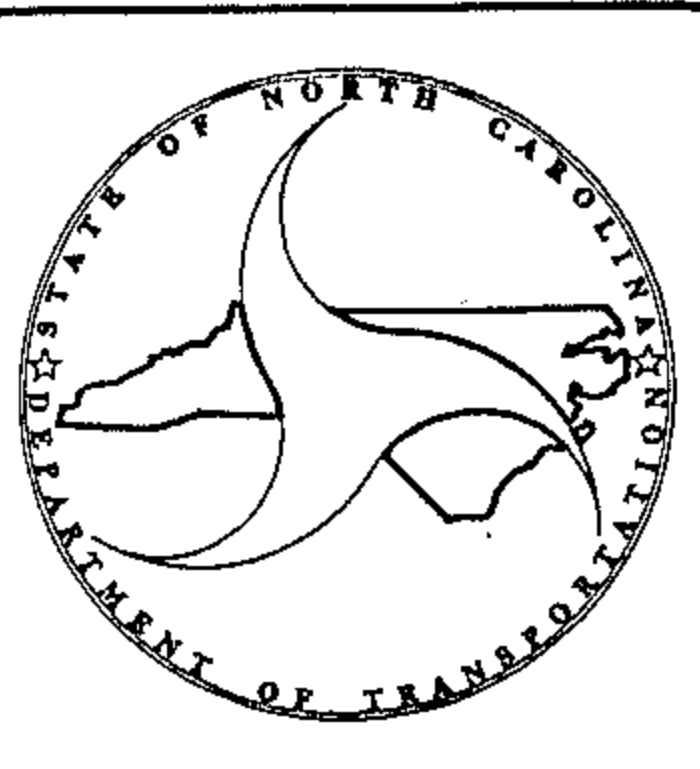
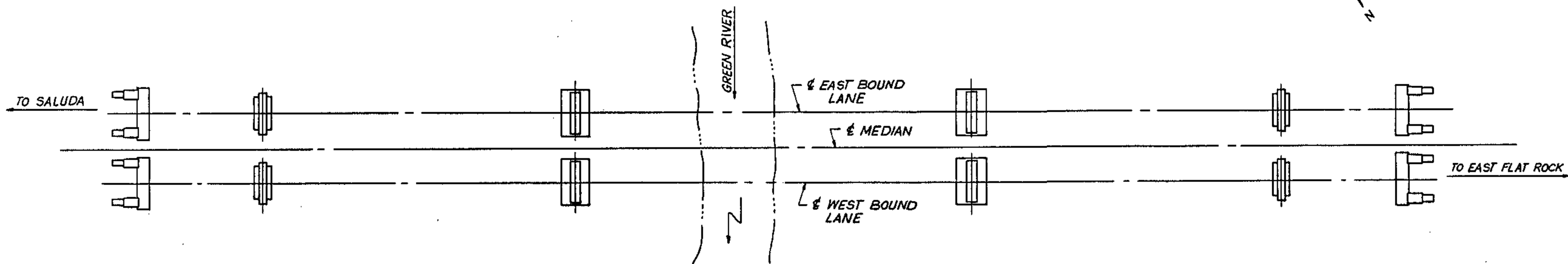
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	8.1950901		39
STATE FUNDING	F.A. PROGRAM	DESCRIPTION	
8.1950901	BHI-26-1(45)25	P.E. & CONSTR.	



LOCATION : BRIDGES ON I-26 OVER GREEN RIVER 8 MI. SOUTH OF HENDERSONVILLE.

TYPE OF WORK : REHABILITATE BRIDGE 112 AND 108.

STRUCTURE



PROJECT LENGTH

LENGTH STRUCTURE F.A. PROJECT = .2034 MI.

Prepared in the Office of:

DIVISION OF HIGHWAYS

1990 STANDARD SPECIFICATIONS

STRUCTURE DESIGN UNIT

G. M. WHITE, P.E.
PROJECT ENGINEER

N. N. BULLOCK, P.E.
PROJECT DESIGN ENGINEER

LETTING DATE: MARCH 16, 1993

STRUCTURE DESIGN UNIT

John L. Smith, Jr.
2-8-93

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Donald R. Morton
STATE HIGHWAY ENGINEER - DESIGN

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR

DATE

8.1950901

INDEX OF SHEETS

<u>SHEET NUMBER</u>	<u>SHEET</u>
1-A	INDEX OF SHEETS AND ROADWAY STANDARD DRAWINGS
S-1 THRU S-31	STRUCTURE PLANS
TCP-1 THRU TCP-5	TRAFFIC CONTROL PLANS

8.1950901 (R-2700)
HENDERSON CO.

ROADWAY STANDARD DRAWINGS

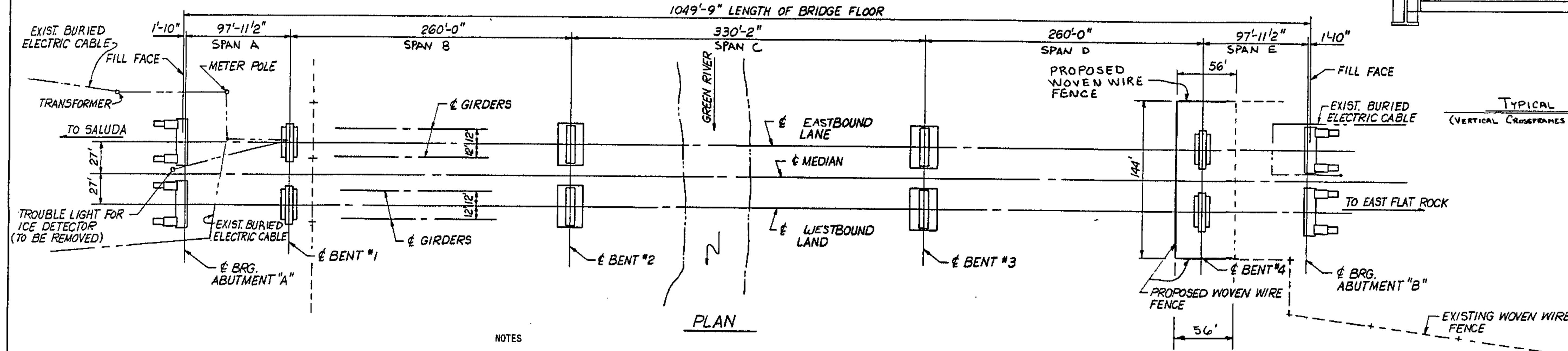
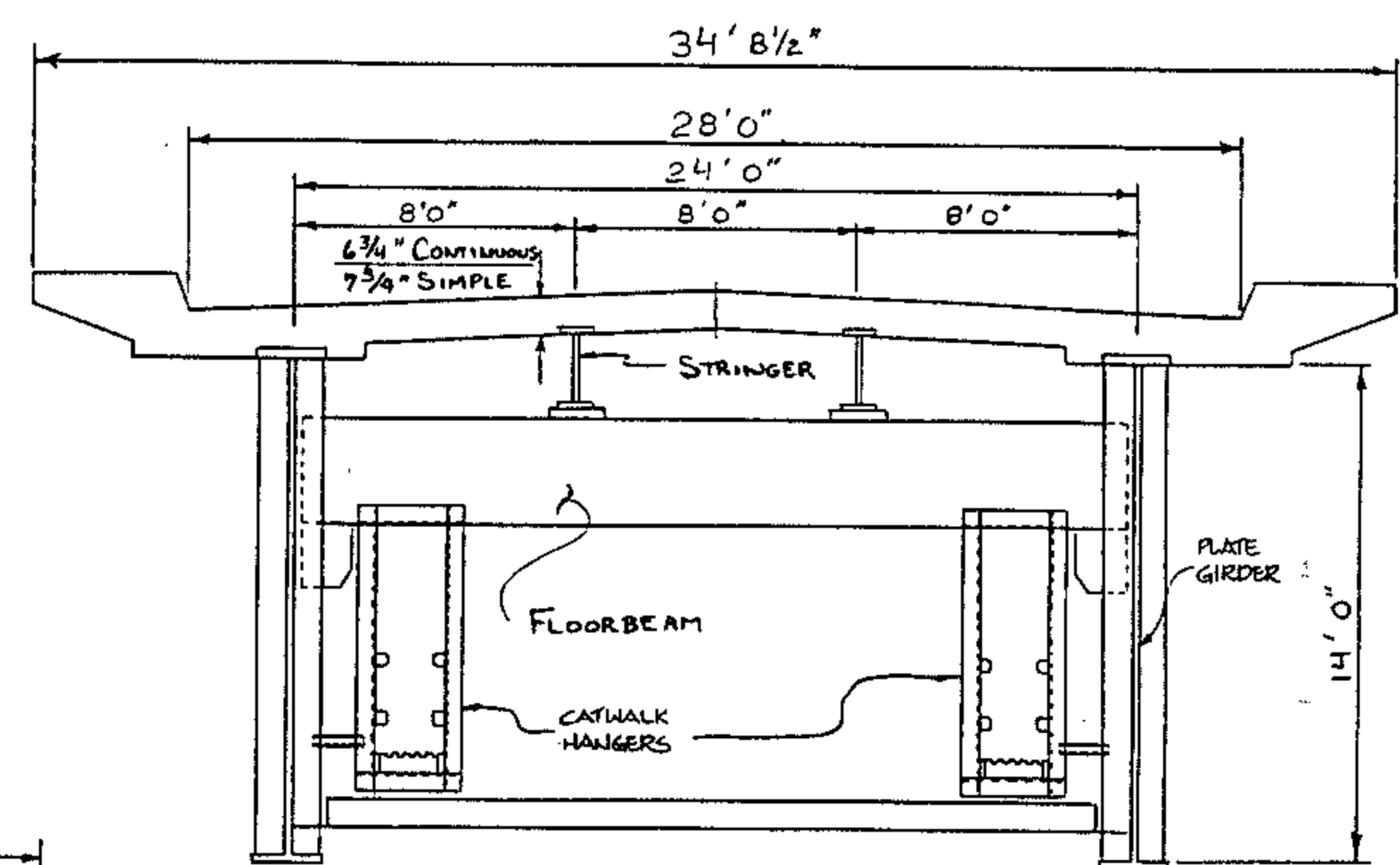
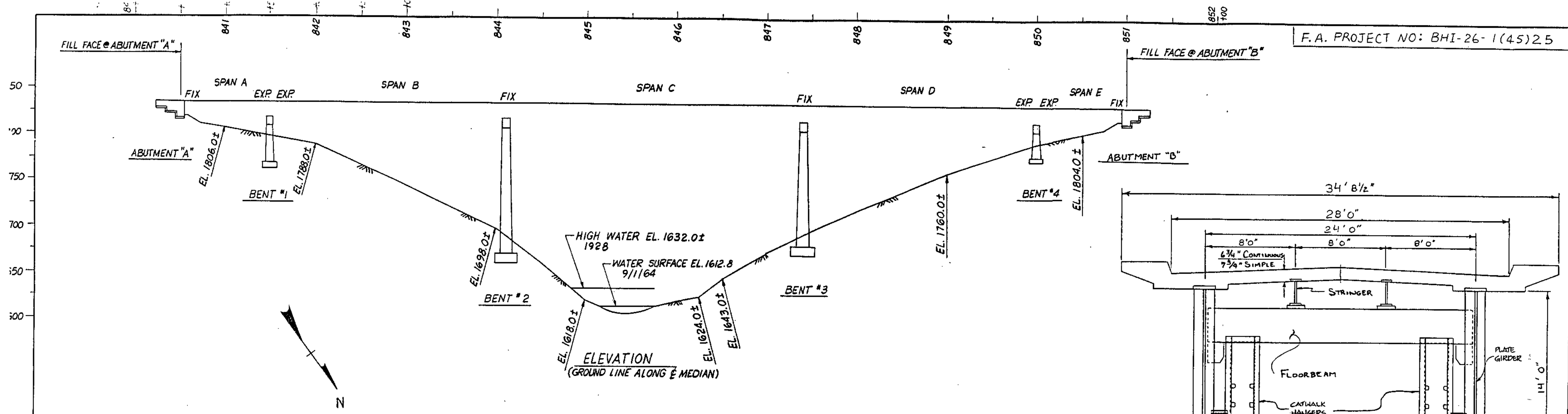
01 THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - ROADWAY DESIGN UNIT - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JULY 1, 1978 AND THE LATEST REVISION THERETO ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
20	150.01B TEMPORARY TRAFFIC CONTROL DEVICES
21	150.02 NOTES AND CONSTRUCTION SIGNS FOR ROADWAY STANDARD DRAWINGS 150.04A THRU 150.16
23	150.04A APPLICATION OF APPROACH WARNING SIGNS
24	150.05A TRAFFIC CONTROL TEMPORARY LANE CLOSURES
26	150.07A TRAFFIC CONTROL FOR PREVIOUSLY FOUR LANE DIVIDED HIGHWAY
29	150.11A TRAFFIC CONTROL FOR BORROW PIT ENTRANCE AND HAUL ROAD
30	150.12A STOPPING SIGHT DISTANCE AND TAPER LENGTH CHARTS
204	920.01 STANDARD PAVEMENT MARKINGS
208	940.01 PLACEMENT OF GUARDRAIL, BRIDGE RAIL, AND BARRIER DELINEATORS
211	943.01 BARRIER/STRUCTURAL BARRIER RAIL DELINEATORS

PROJECT NO. 8.1950901
HENDERSON COUNTY
STATION: _____

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
REVISIONS					SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	1-A
1			3			TOTAL SHEETS
2			4			

DRAWN BY _____	DATE _____
CHECKED BY _____	DATE _____



- NOTES
- THE CONTRACTOR SHALL VERIFY EXISTING DIMENSIONS.
 - ALL STRUCTURAL STEEL SHALL BE ASTM A-588 UNLESS OTHERWISE SPECIFIED.
 - ALL BOLTS SHALL BE ASTM A-325 HIGH STRENGTH BOLTS. SEE SPECIAL PROVISIONS.
 - FOR POWER WASH OF STRUCTURE, SEE SPECIAL PROVISIONS.
 - ALL FLANGE COVER PLATES SHALL HAVE CHARPY V-NOTCH TEST. FOR CHARPY V-NOTCH TEST, SEE SPECIAL PROVISIONS.
 - FOR REPLACE STRUCTURAL BOLTS, SEE SPECIAL PROVISIONS.
 - FOR PAINTING EXISTING STEEL, SEE SPECIAL PROVISIONS.
 - FOR TRAFFIC CONTROL, SEE SPECIAL PROVISIONS.
 - FOR CONSTRUCTION LIMITATIONS, SEE SPECIAL PROVISIONS.
 - FOR LANDSCAPING, SEE SPECIAL PROVISIONS.
 - FOR BLAST CLEANING, SEE SPECIAL PROVISIONS.
 - NO KNOWN UTILITY CONFLICTS

PROJECT No. 8.1950901
 HENDERSON COUNTY

STATION:
 REHAB. BRIDGE NO 108 E 112

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING FOR
 REHAB. OF DUAL BRIDGES OVER
 GREEN RIVER ON I-26 BETWEEN
 SALUDA AND EAST FLAT ROCK



2-1-93

DRAWN BY: G. M. Patterson DATE: 11/04/92
 CHECKED BY: B. D. HARTENBACH DATE: 1/29/93

REVISIONS						SHEET NO. 5-1
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

TOTAL BILL OF MATERIAL																	
	MOBILIZATION	BRIDGE APPROACH SLABS	LANDSCAPING	CLASS I SURFACE PREPARATION	CLASS II SURFACE PREPARATION	CLASS III SURFACE PREPARATION	LATEX MODIFIED CONCRETE OVERLAY	PLACING & FINISHING OF LATEX MODIFIED CONCRETE	EVAZOTE JOINT SEAL	MODULAR EXPANSION JOINT SEAL	REPLACE STRUCTURAL BOLTS.	REPLACE ANCHOR BOLTS	ROCKER BEARING ASSEMBLY RETROFIT	POWER WASH STRUCTURE	REPLACE U-BOLTS	LATERAL BRACING RETROFIT	DECK DRAIN RETROFIT
	LUMP SUM	LUMP SUM	LUMP SUM	SQ.YDS.	SQ.YDS.	SQ.YDS.	CU.YDS.	SQ.YDS.	LUMP SUM	LUMP SUM	EA.	EA.	EA.	LUMP SUM	EA.	EA.	EA.
EBL	LUMP SUM	LUMP SUM	LUMP SUM	3,253	976	163	115.5	3,324	LUMP SUM	LUMP SUM	500	4	5	LUMP SUM	50	1	144
WBL	LUMP SUM	LUMP SUM	LUMP SUM	3,253	976	163	115.5	3,324	LUMP SUM	LUMP SUM	500	4	5	LUMP SUM	50	1	144
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	6,506	1,952	326	231	6,648	LUMP SUM	LUMP SUM	1,000	8	10	LUMP SUM	100	2	288

TOTAL BILL OF MATERIAL													
	JOINT REMOVAL	LATERAL GUSSET PLATE RETROFIT	FLOOR BEAMS	POST TENSIONING OPERATION	6" COLLAPSING TUBE WITH 3/4" PLATES	20" TUBULAR TRIPLE CORRUGATED STEEL BEAM GUARDRAIL	PAINTING EXISTING STRUCTURAL STEEL	LONGITUDINAL STIFFENER REPAIR	STIFFENER INTERSECTION REPAIR	K-FRAME RETROFIT	TRANSVERSE STIFFENER REPAIR	COVER PLATES INSTALLATION	LATERAL BRACING STABILIZER
	EA.	EA.	EA.	EA.	EA.	LIN. FT.	LUMP SUM	EA.	EA.	EA.	EA.	LUMP SUM	EA.
EBL	14	94	1	12	50	625	LUMP SUM	17	27	39	0	LUMP SUM	44
WBL	14	94	1	12	50	625	LUMP SUM	11	17	39	2	LUMP SUM	44
TOTAL	28	188	2	24	100	1,250	LUMP SUM	28	44	78	2	LUMP SUM	88

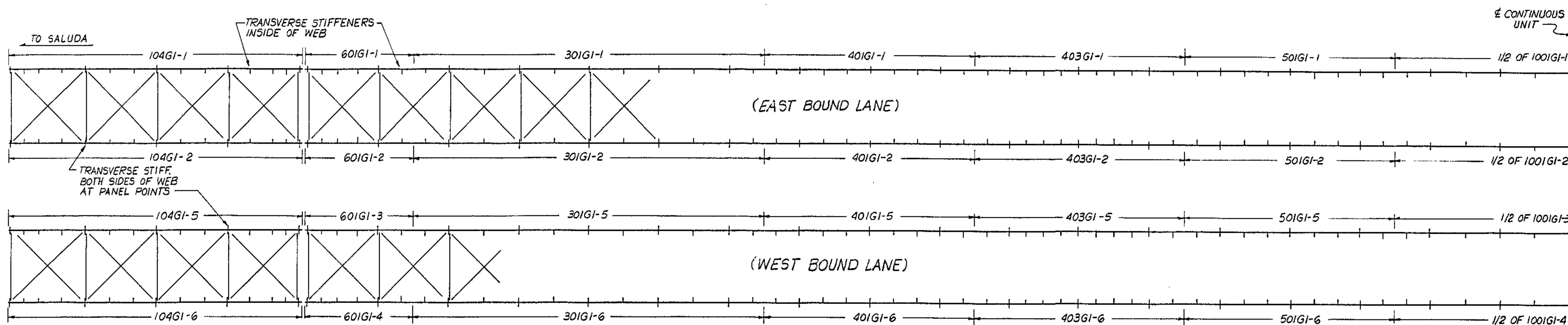
PROJECT NO. 8.1950901
HENDERSON COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

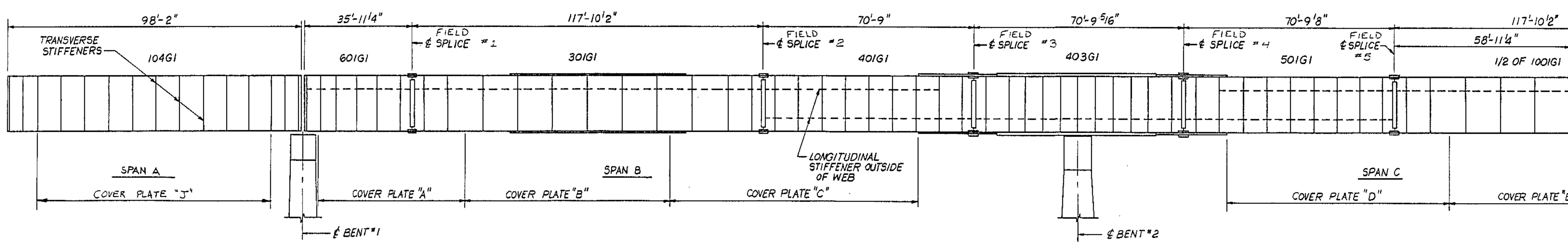
GENERAL DRAWING
TOTAL BILL OF MATERIAL

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			5-2
2			4			TOTAL SHEETS 31

DRAWN BY: D.K. BOWEN DATE: 1/28/93
CHECKED BY: B.D. KLAPPENBACH DATE: 2/3/93
10-FEB-1993 02:45
710122050211021000101M.DCH
DBOWEN



PLAN
(EBL & WBL)



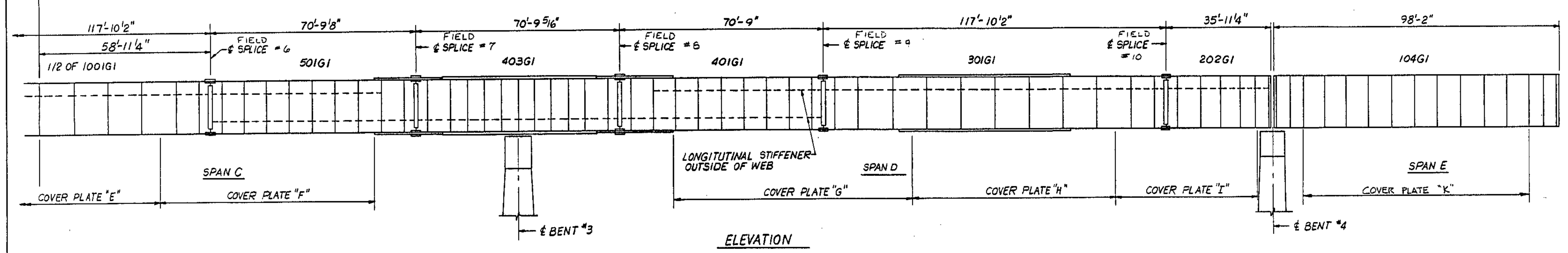
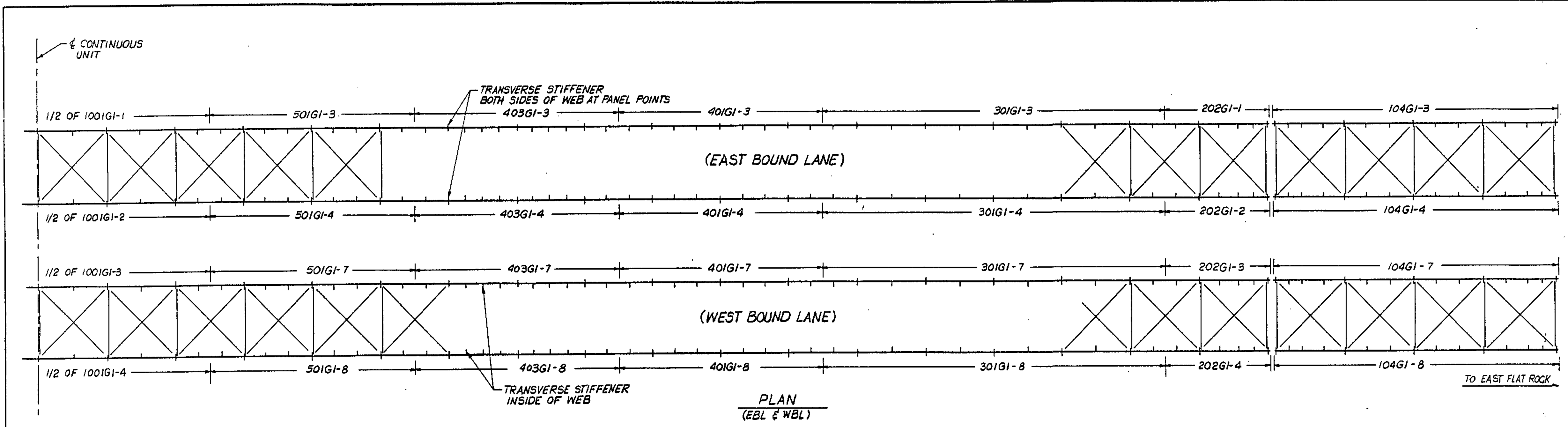
ELEVATION

PROJECT No. 8.1950901
 HENDERSON COUNTY
 STATION:
 Sheet 1 of 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PLATE GIRDER AND COVER
 PLATE LAYOUT

REVISIONS						SHEET NO. S-3
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

DRAWN BY G.M. PATTERSON DATE 1/29/92
 CHECKED BY F.P. KLAMMSTEADT DATE 1/15/93

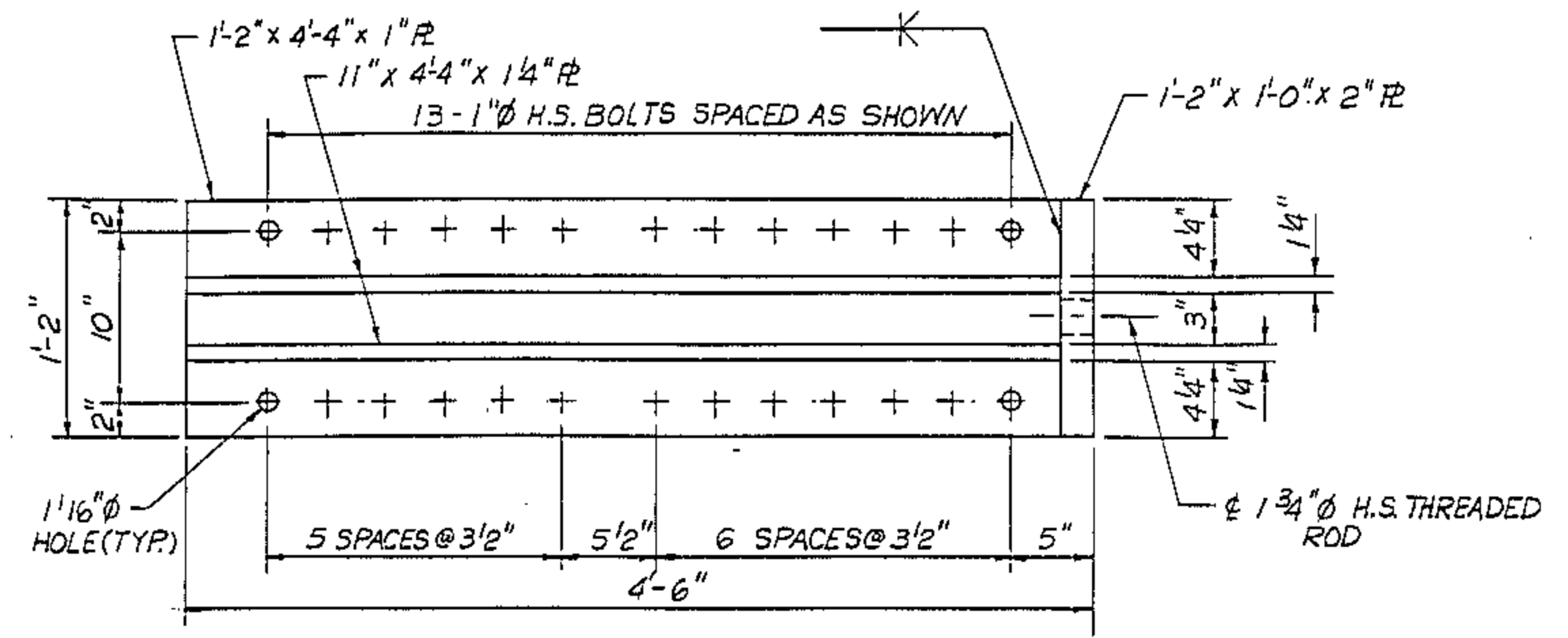


PROJECT No. 8.1950901
 HENDERSON COUNTY
 STATION: _____
 SHEET 2 of 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PLATE GIRDER AND COVER
 PLATE LAYOUT

REVISIONS						SHEET NO. S-4 TOTAL SHEETS 31
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

DRAWN BY J.M. Patterson DATE 11/09/92
 CHECKED BY B.D. KLAPPENBACH DATE 1/15/93



NOTES

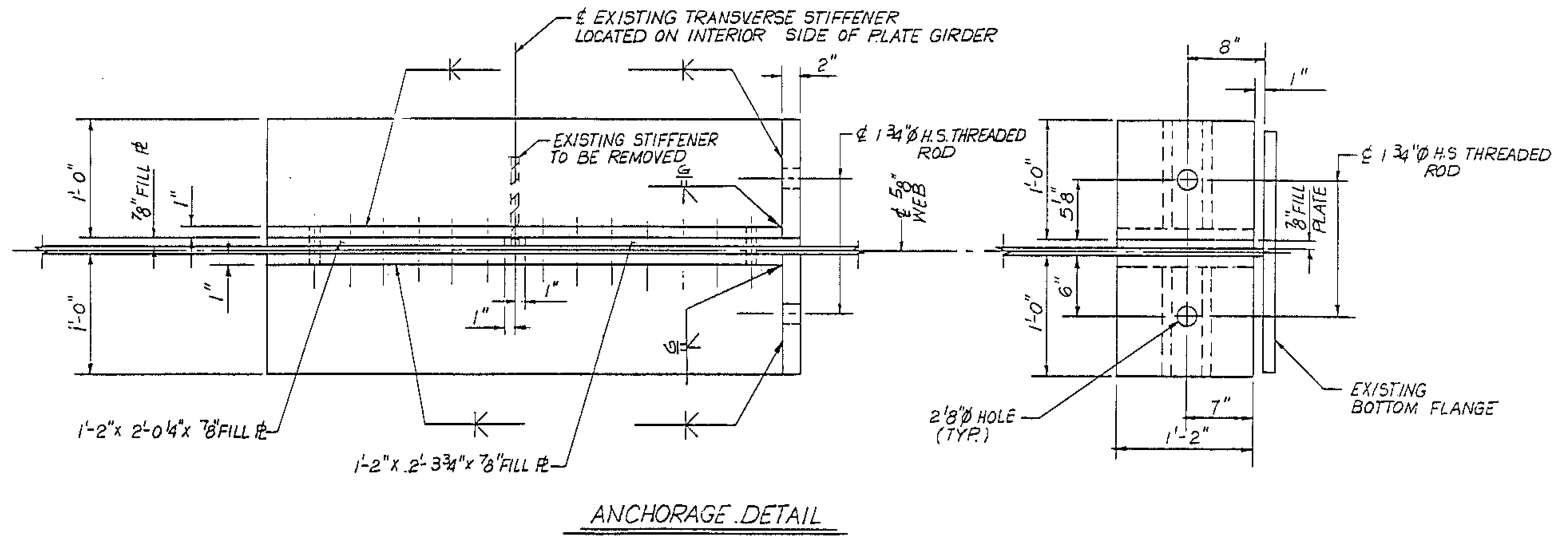
FOR POST-TENSIONING OPERATION, SEE SPECIAL PROVISIONS.

FOR HIGH STRENGTH THREADED ROD, SEE SPECIAL PROVISION FOR POST-TENSIONING OPERATION

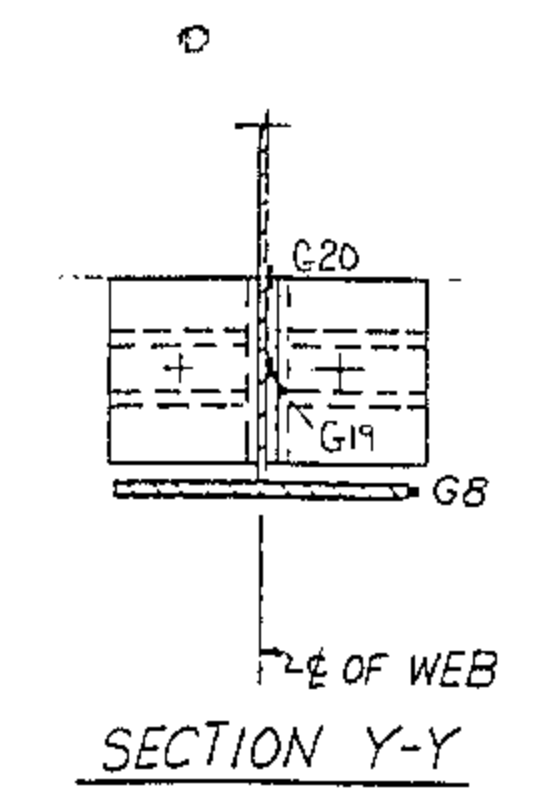
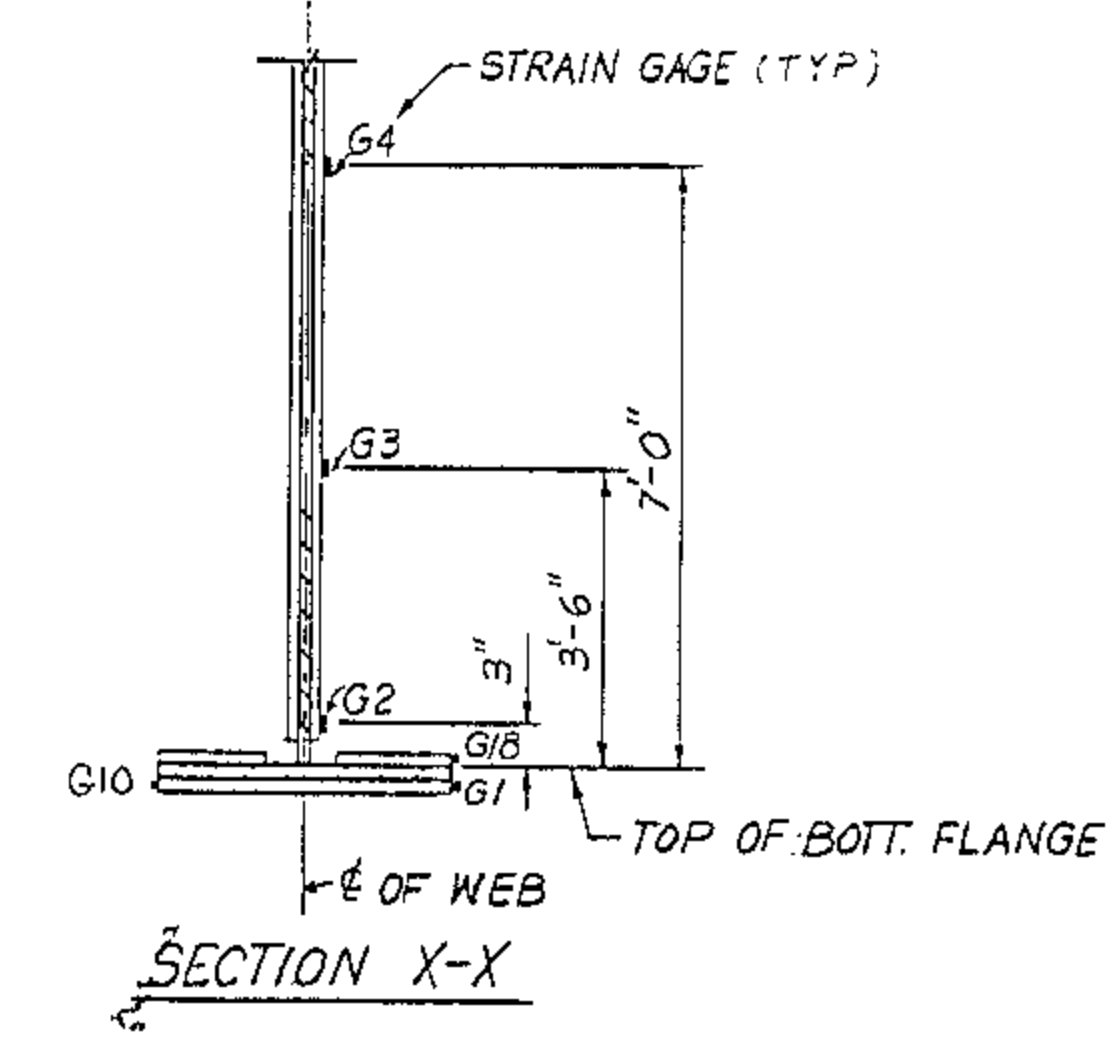
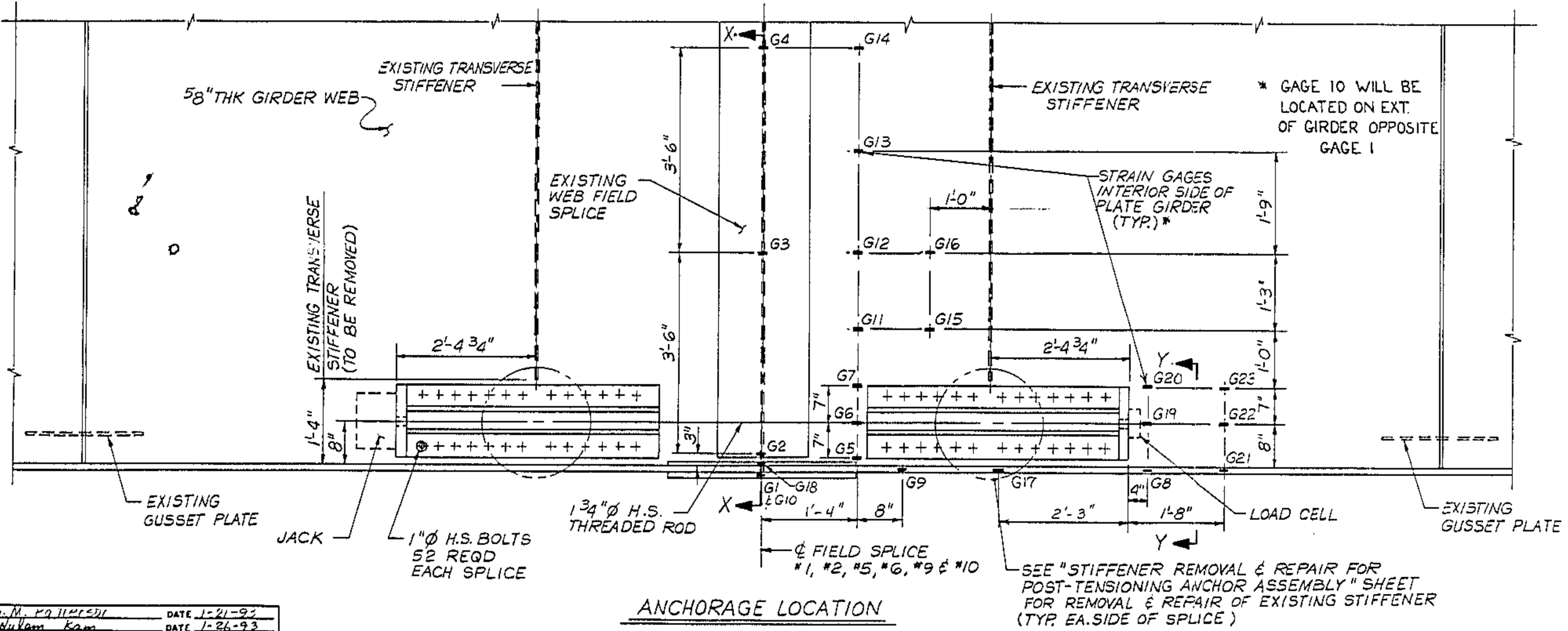
ALL STRUCTURAL STEEL SHALL BE ASTM A-588.

STRAIN GAGES SHALL BE REQUIRED FOR THREE POST-TENSIONING OPERATIONS, SEE SPECIAL PROVISION FOR POST-TENSIONING OPERATION.

LOAD CELLS SHALL BE REQUIRED FOR EACH POST-TENSIONING OPERATION, SEE SPECIAL PROVISION FOR POST-TENSIONING OPERATION



SPLICE NO.	JACKING FORCE (KIPS) PER H.S. THREADED ROD	TOTAL JACKING FORCE (KIPS) PER SPLICE
1, 10	180	360
2, 9	120	240
5, 6	105	210



PROJECT No. 8.1950901
 HENDERSON COUNTY
 STATION: _____

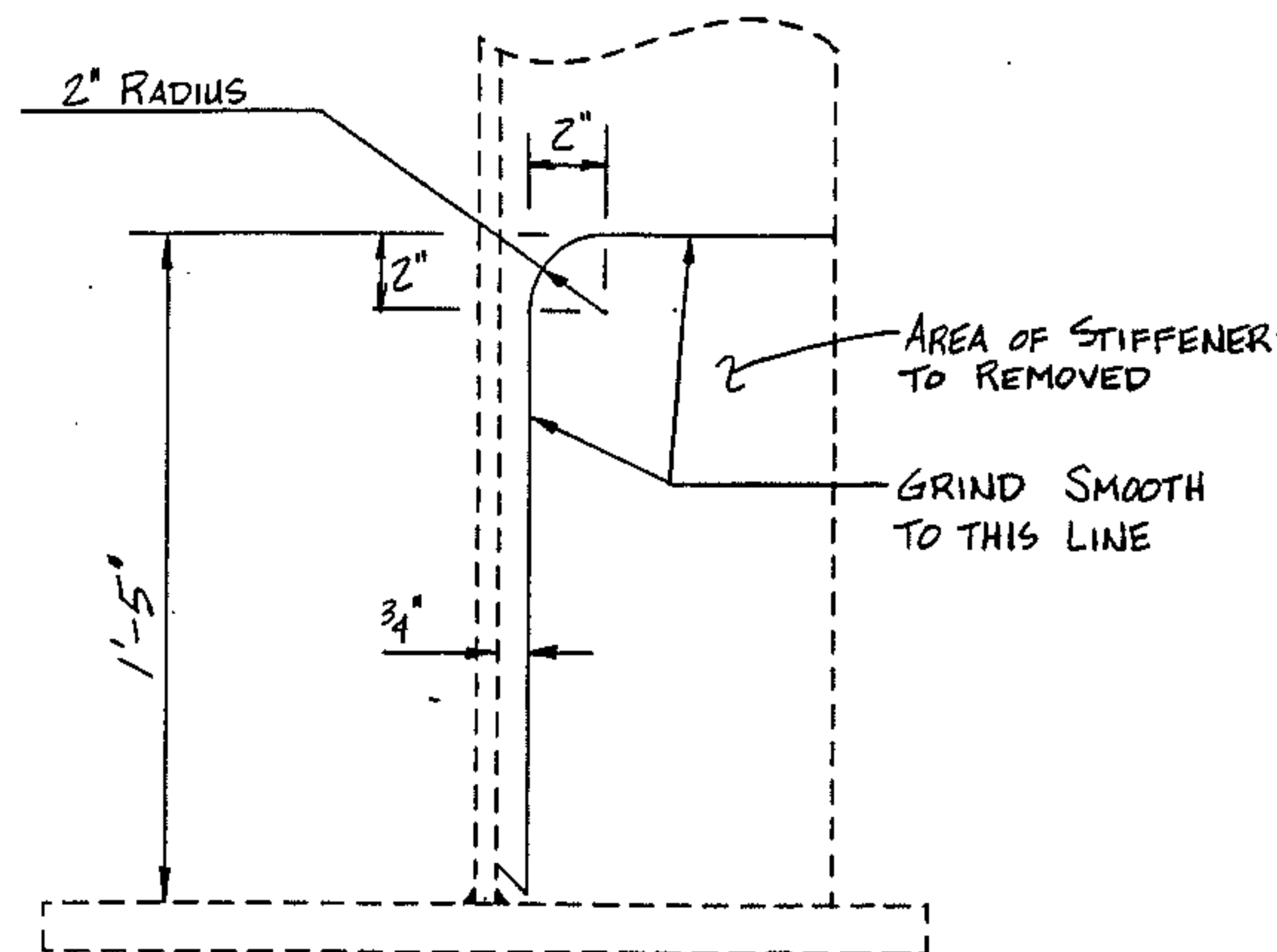
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 POST TENSIONING ANCHORAGE ASSEMBLY

REVISIONS						SHEET NO. 5-5
NO.	BY	DATE	NO.	BY	DATE	
1		12/20/93	3			TOTAL SHEETS 31
2			4			

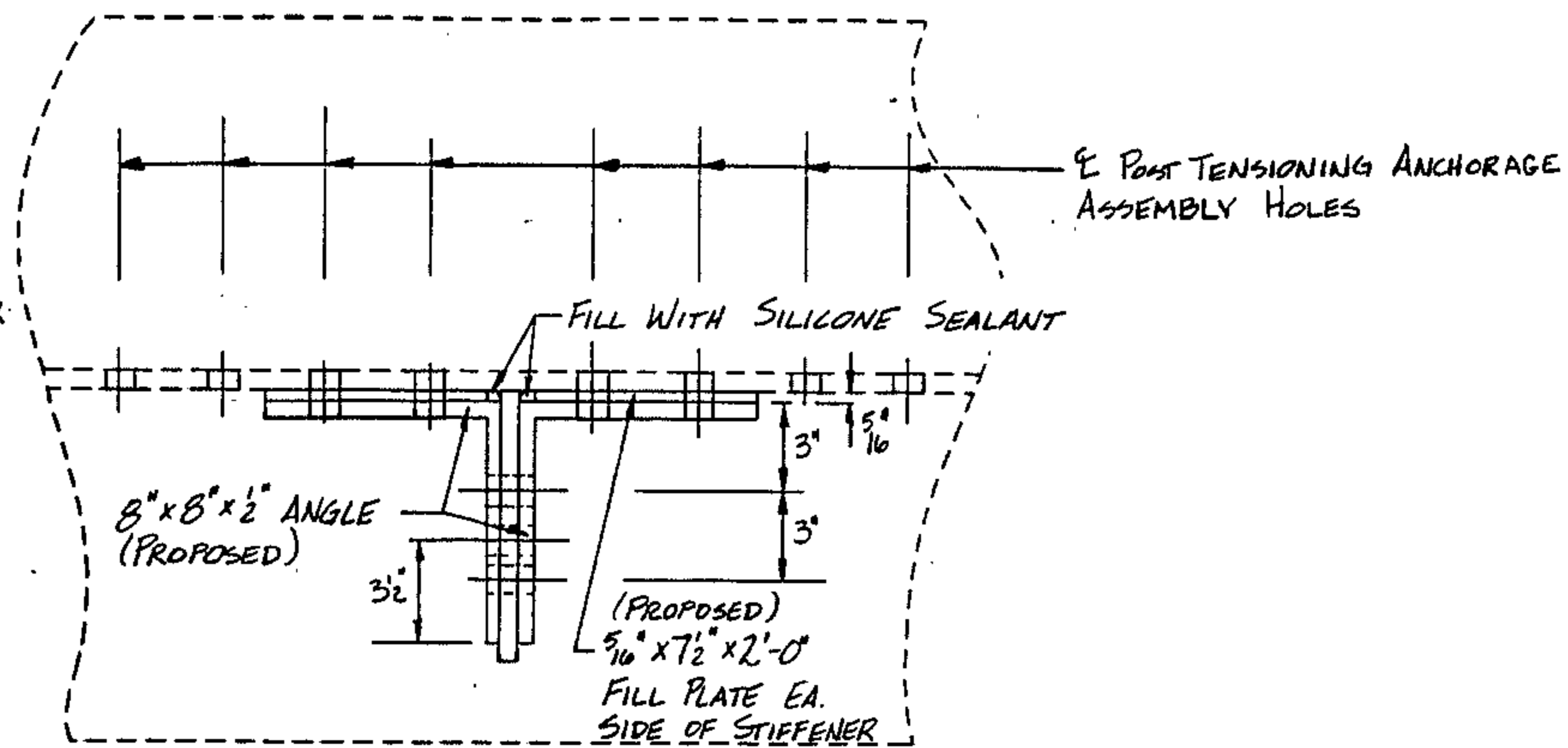
DRAWN BY G.M. P. 11/21/92 DATE 1-21-93
 CHECKED BY M. V. 12/20/93 DATE 1-24-93

REV: ADDED & REVISED STRAIN GAGE LOCATIONS.
 BY GMP 12/20/93 V BY RSR 12/20/93

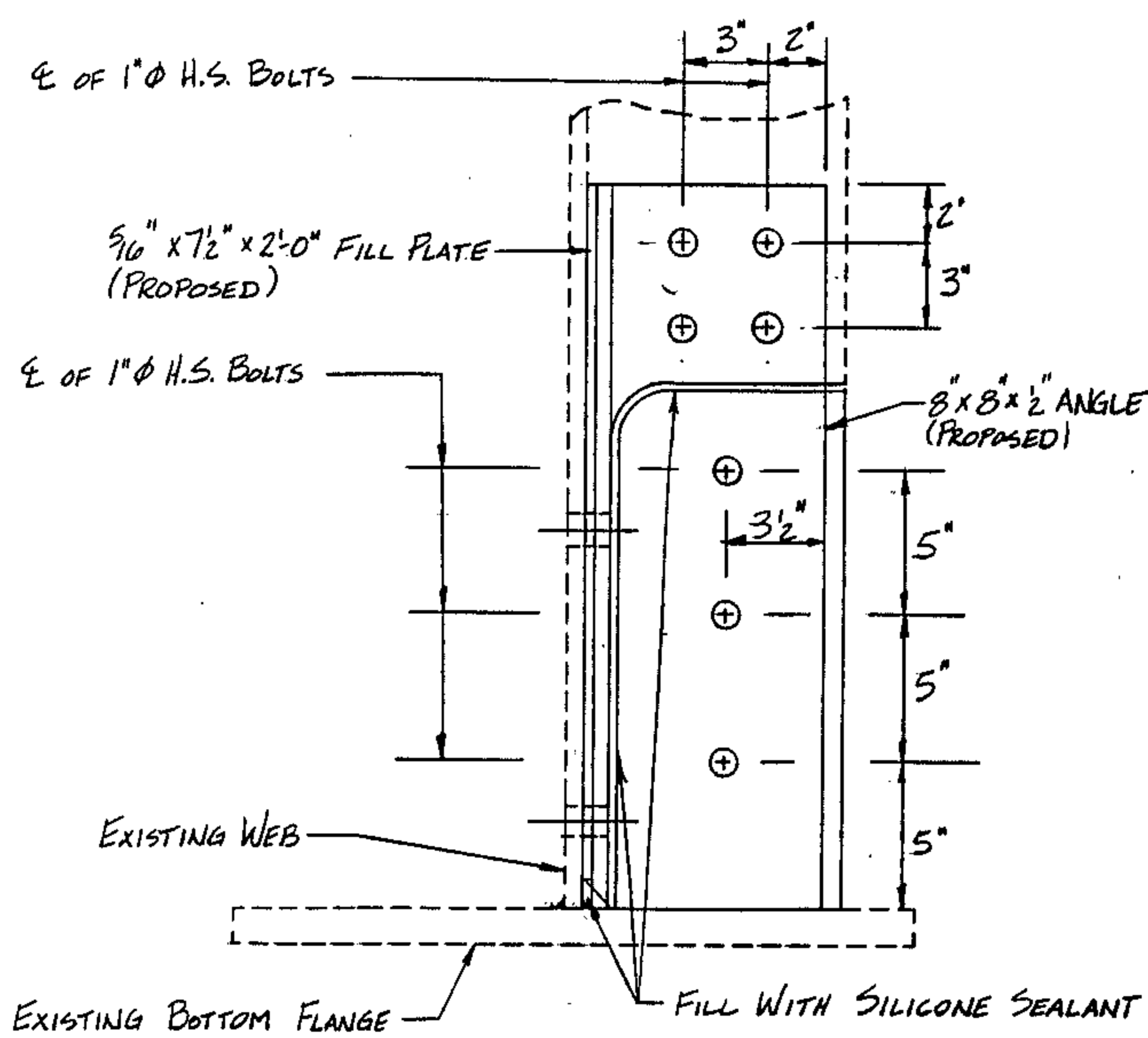
SEE "STIFFENER REMOVAL & REPAIR FOR POST-TENSIONING ANCHOR ASSEMBLY" SHEET FOR REMOVAL & REPAIR OF EXISTING STIFFENER (TYP. EA. SIDE OF SPLICE)



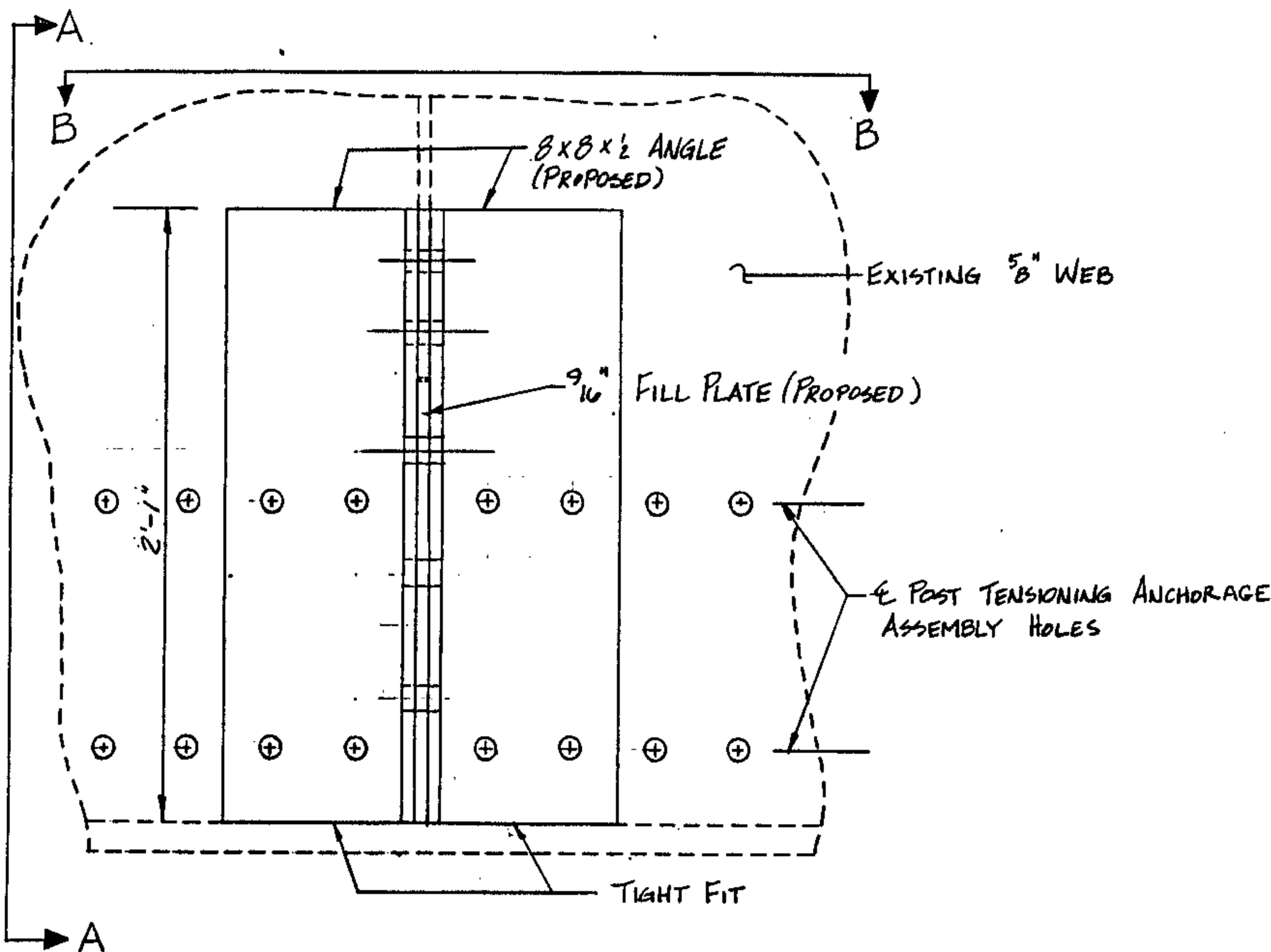
STIFFENER REMOVAL



SECTION B-B



SECTION A-A



STIFFENER REPAIR

NOTES

THE PORTION OF THE TRANSVERSE STIFFENER REMOVED TO ACCOMMODATE THE POST TENSIONING ANCHORAGE ASSEMBLY SHALL BE USED AS THE 9/16" FILL PLATE BETWEEN STIFFENER REPAIR ANGLES. THE CONTRACTOR SHALL TAKE CARE IN REMOVING THIS PORTION OF THE TRANSVERSE STIFFENER SO THAT IT CAN BE USED AS THE FILL PLATE IN THE TRANSVERSE STIFFENER REPAIR.

THE COST OF THE STIFFENER REMOVAL AND REPAIR SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR EACH "POST TENSIONING OPERATION". SEE SPECIAL PROVISIONS.

THE BOLT HOLES IN THE ANGLE LEG ADJACENT TO THE WEB SHALL BE FIELD DRILLED.

THE BOLT HOLES IN THE TRANSVERSE STIFFENER SHALL BE FIELD DRILLED SUCH THAT THE INSTALLED ANGLE FITS TIGHT AGAINST THE BOTTOM FLANGE.

FOR SILICONE SEALANT, SEE SPECIAL PROVISIONS FOR POST-TENSIONING OPERATION.

1" Ø A325 HIGH STRENGTH BOLTS SHALL BE USED IN THE TRANSVERSE STIFFENER REPAIR. SEE SPECIAL PROVISIONS.

THE REPAIR ANGLES SHALL BE INSTALLED IMMEDIATELY AFTER REMOVAL OF THE POST TENSIONING ANCHORAGE ASSEMBLY.

PROJECT NO. B.1950901

HENDERSON COUNTY

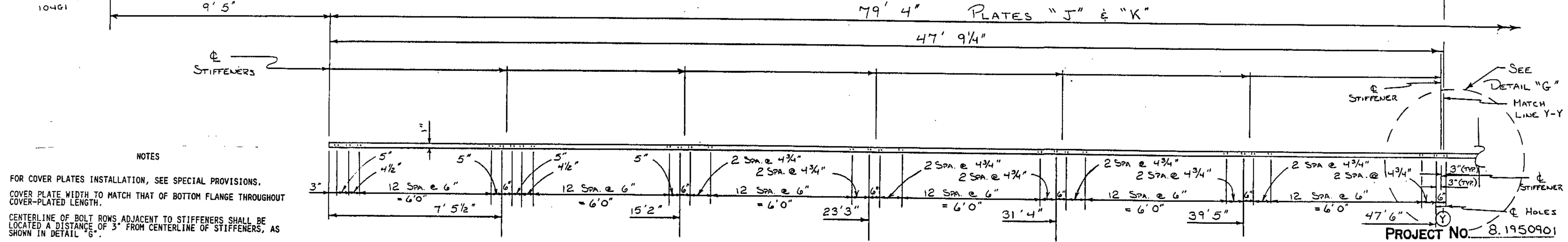
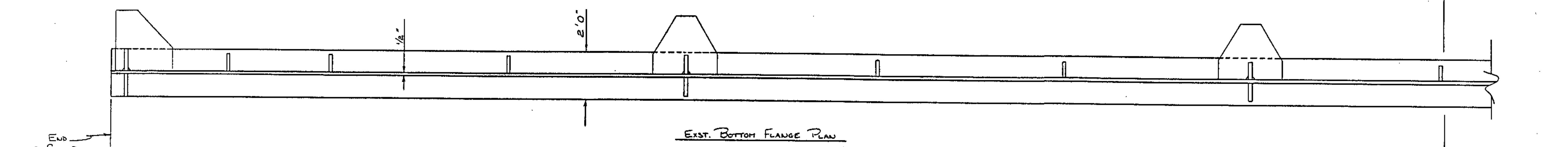
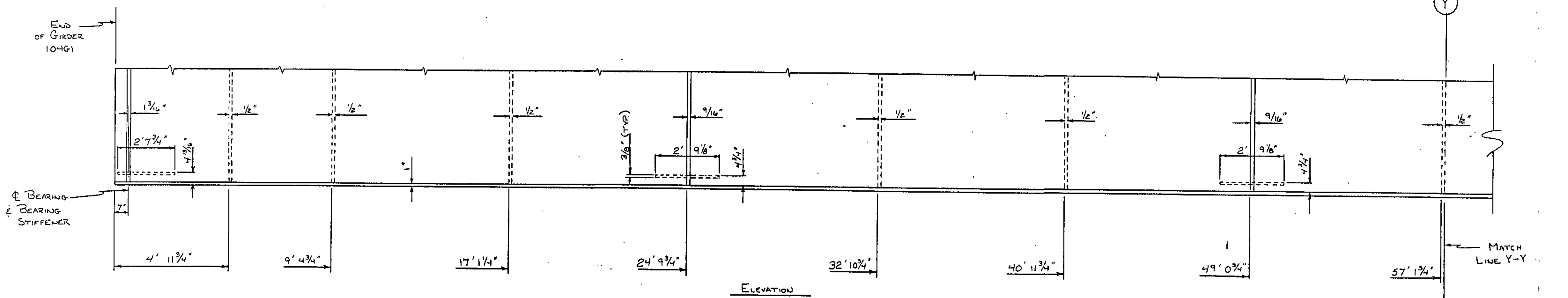
STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STIFFENER REMOVAL & REPAIR
 FOR POST-TENSIONING
 ANCHORAGE ASSEMBLY

REVISIONS						SHEET NO. 5-6
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

DRAWN BY M.F. ROBBINS DATE 1-25-93
 CHECKED BY William Kam DATE 1-26-93

104G1



NOTES

FOR COVER PLATES INSTALLATION, SEE SPECIAL PROVISIONS.

COVER PLATE WIDTH TO MATCH THAT OF BOTTOM FLANGE THROUGHOUT COVER-PLATED LENGTH.

CENTERLINE OF BOLT ROWS ADJACENT TO STIFFENERS SHALL BE LOCATED A DISTANCE OF 3" FROM CENTERLINE OF STIFFENERS, AS SHOWN IN DETAIL "G".

CENTERLINE OF BOLT ROWS ADJACENT TO ALL SPLICES SHALL BE LOCATED A DISTANCE OF 4.5" FROM EDGE OF SPLICE PLATES.

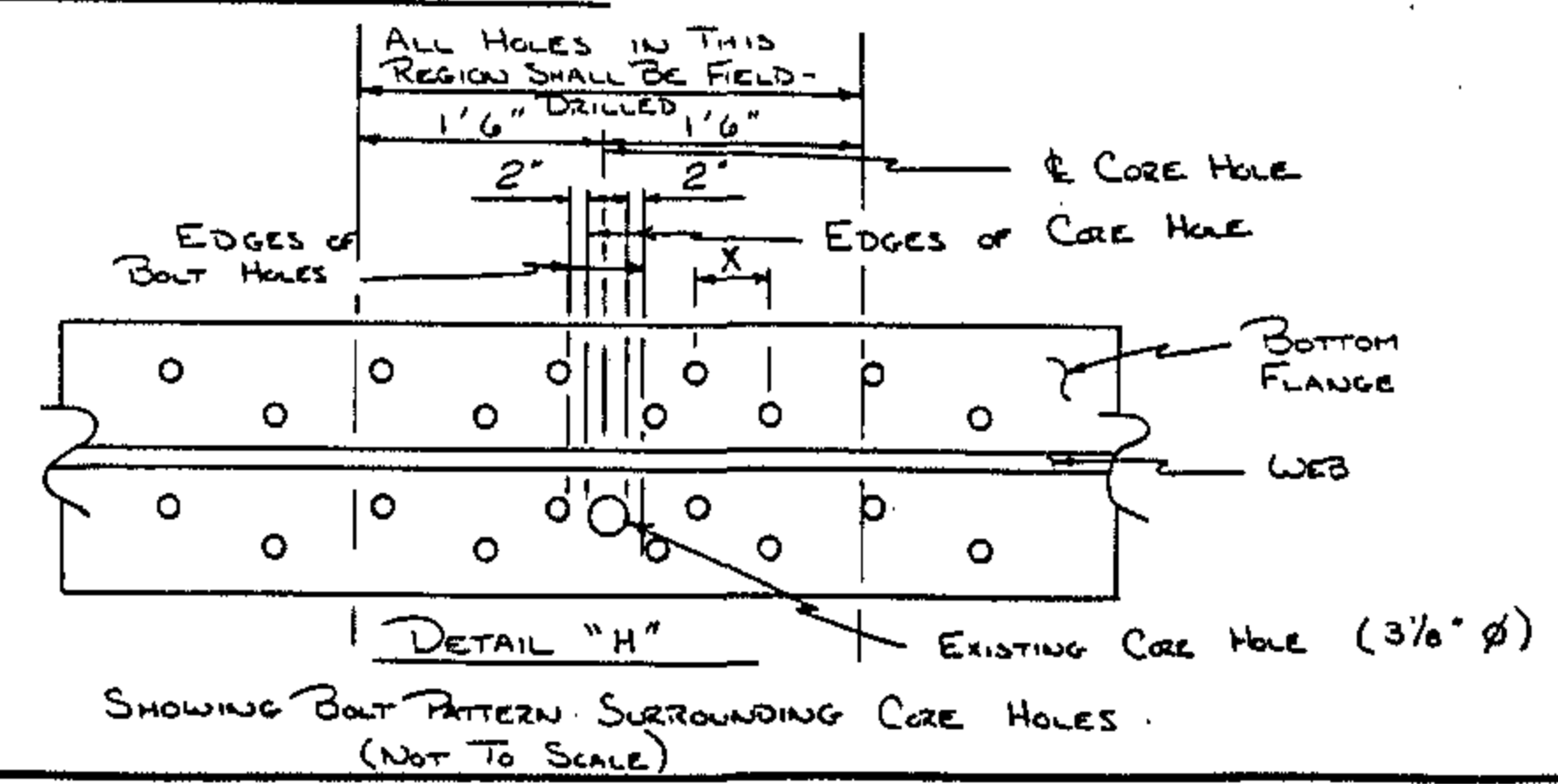
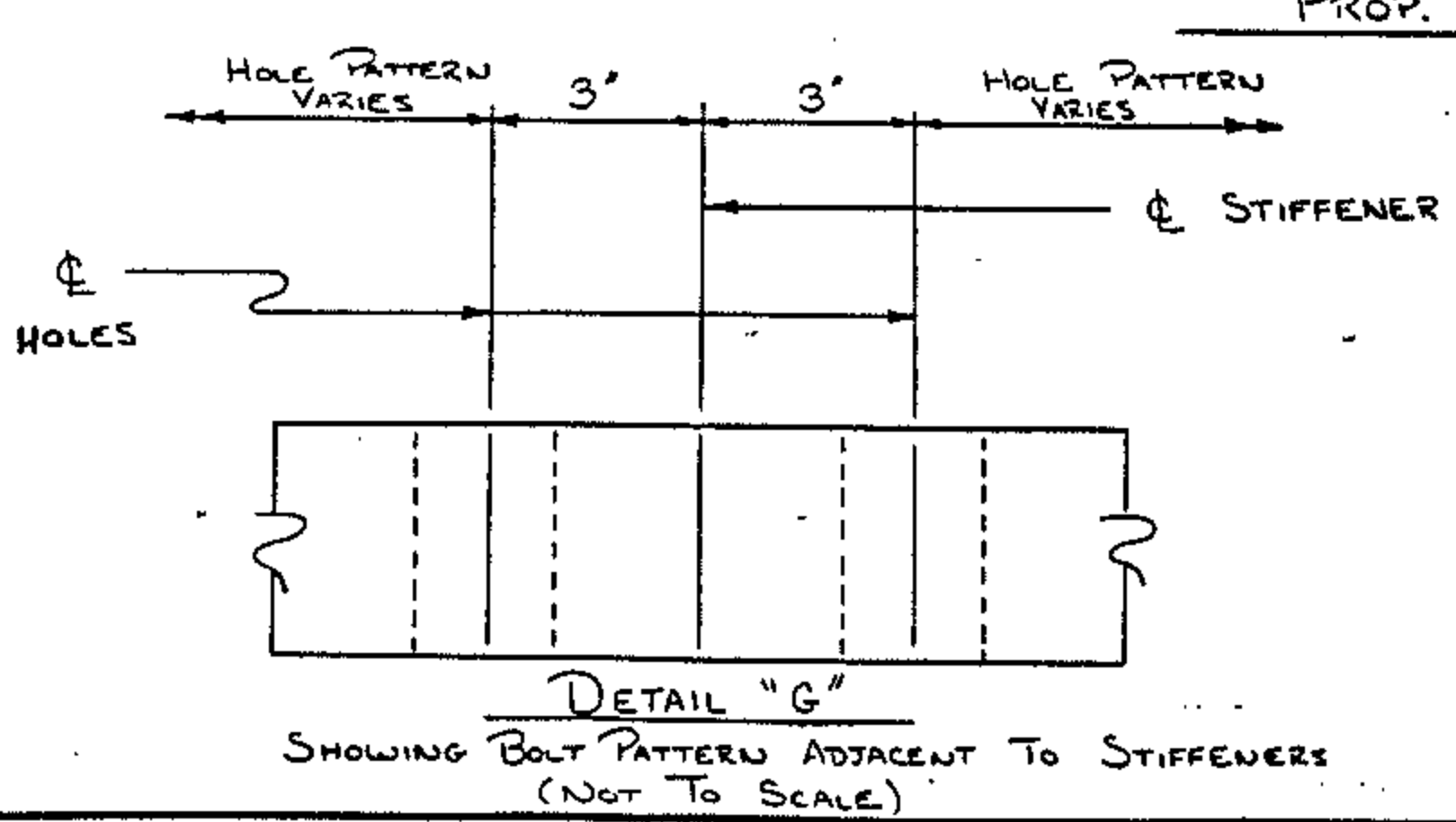
CENTERLINE OF BOLT ROWS ADJACENT TO BUTT WELDS SHALL BE LOCATED A DISTANCE OF 3" FROM CENTERLINE OF BUTT WELDS.

AT EXISTING CORE LOCATIONS, THE BOLT PATTERN SHALL BE MODIFIED TO AVOID THE CORE HOLE, AS SHOWN IN DETAIL "H". ALL HOLES WITHIN 1' 6" EITHER SIDE OF CENTERLINE CORE HOLE SHALL BE FIELD DRILLED. THE ADJUSTED HOLE PATTERN SHALL NOT CONTAIN ANY SPACING "X" LESS THAN 3" OR GREATER THAN 6".

FOR TYPICAL STITCHING PATTERN IN PLAN VIEW, SEE SHEET 3 OF 9.

ALL EXISTING FLANGE CORES SHALL BE FILLED WITH SILICONE SEALANT. SEE SPECIAL PROVISIONS FOR POST-TENSIONING OPERATION.

FOR SUMMARY OF COVER PLATE LENGTHS AND NUMBER OF BOLTS, SEE SHEET 7 OF 9.



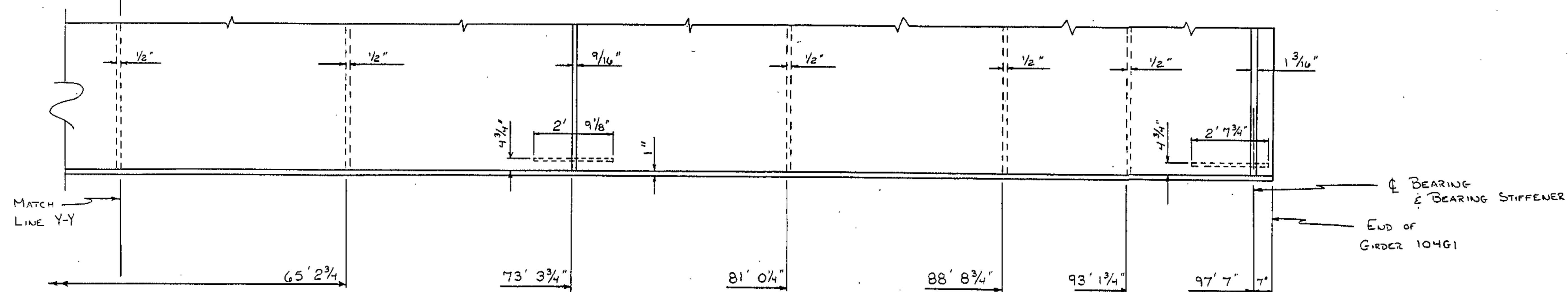
PROJECT NO. 8.1950901
HENDERSON COUNTY
STATION: _____
SHEET 1 OF 9

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
COVER PLATE DETAILS
(104G1 SECTION)

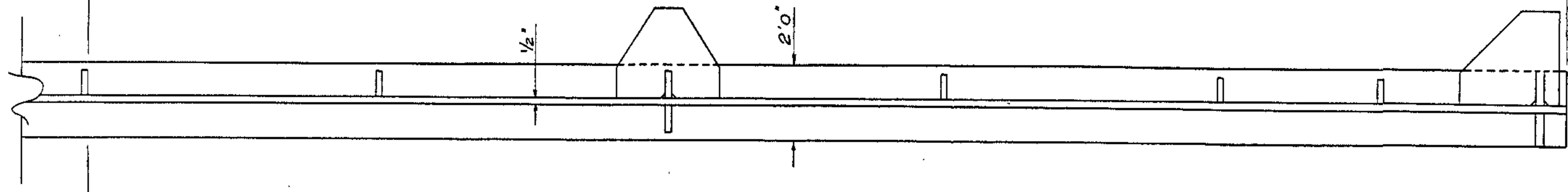
REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	5-7	
1			3			TOTAL SHEETS 31	
2			4				

DRAWN BY: E.D. KLEINER 1-24-93
CHECKED BY: E.P. KLAPPENBACH DATE 1-24-93

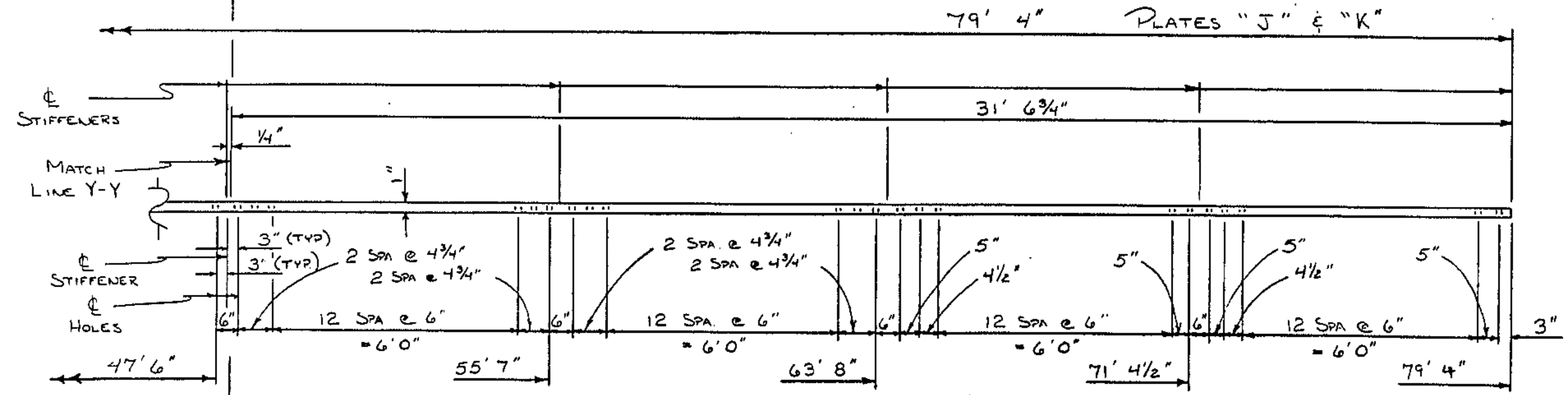
104G1 (CONTINUED)



ELEVATION



EXIST BOTTOM FLANGE PLATE



PROP. COVER PLATE ELEVATION PLATES "J" & "K"

PROJECT NO. 8.1950901
 HENDERSON COUNTY
 STATION: _____
 SHEET 2 OF 9

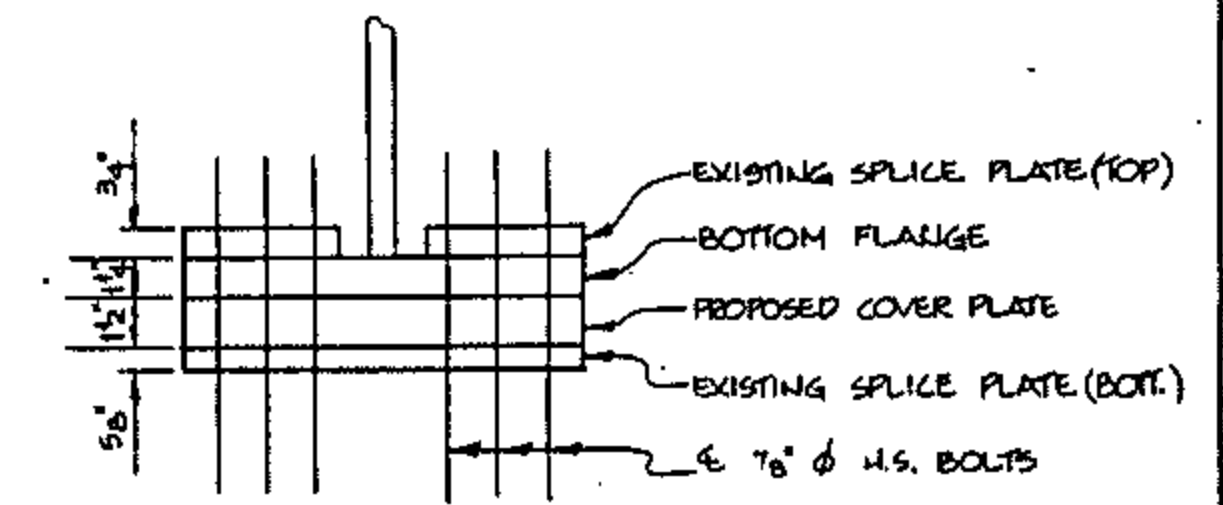
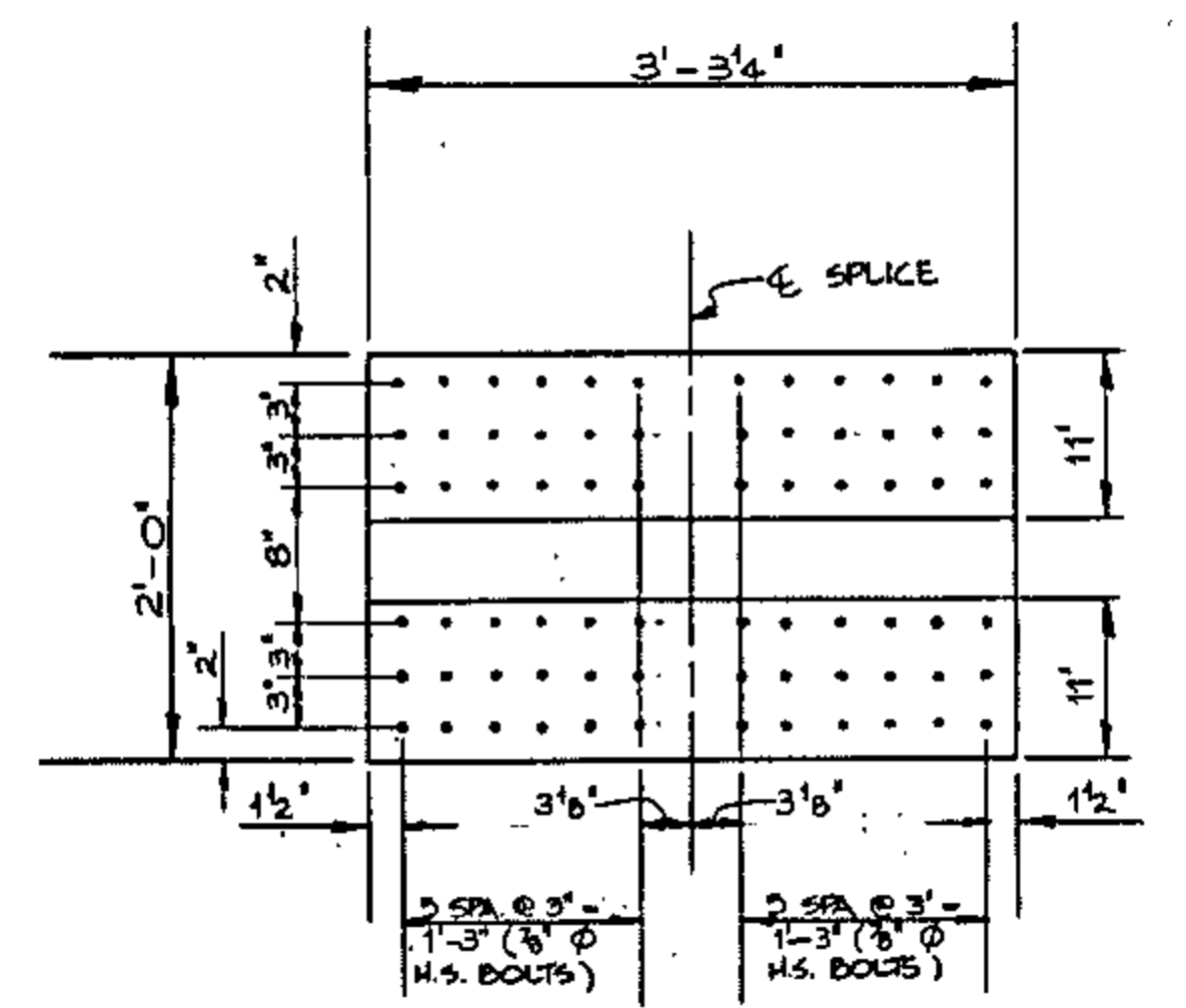
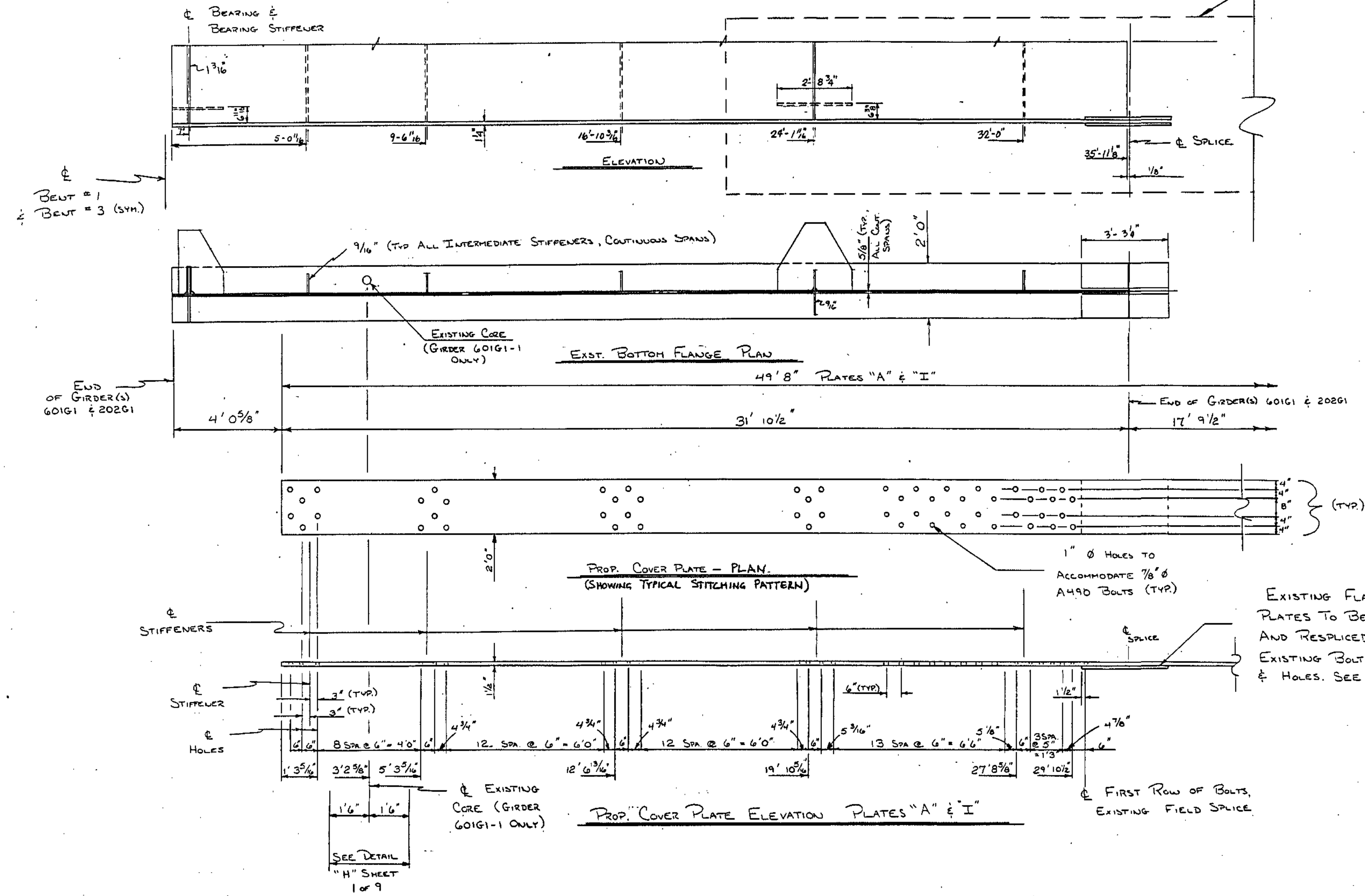
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 COVER PLATE DETAILS
 (104G1 SECT. CONTINUED)

DRAWN BY B.D. KLAPPENBACH DATE 1-25-93
 CHECKED BY B.D. KLAPPENBACH DATE 1-25-93

REVISIONS						SHEET NO. 5-B
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

60IG1 & 202G1

POST-TENSION REGION SEE
"POST-TENSIONING ANCHORAGE
ASSEMBLY" SHEET.



PROJECT NO. 8.1950901
HENDERSON COUNTY
STATION: I-26 GREEN RIVER
SHEET 3 OF 9

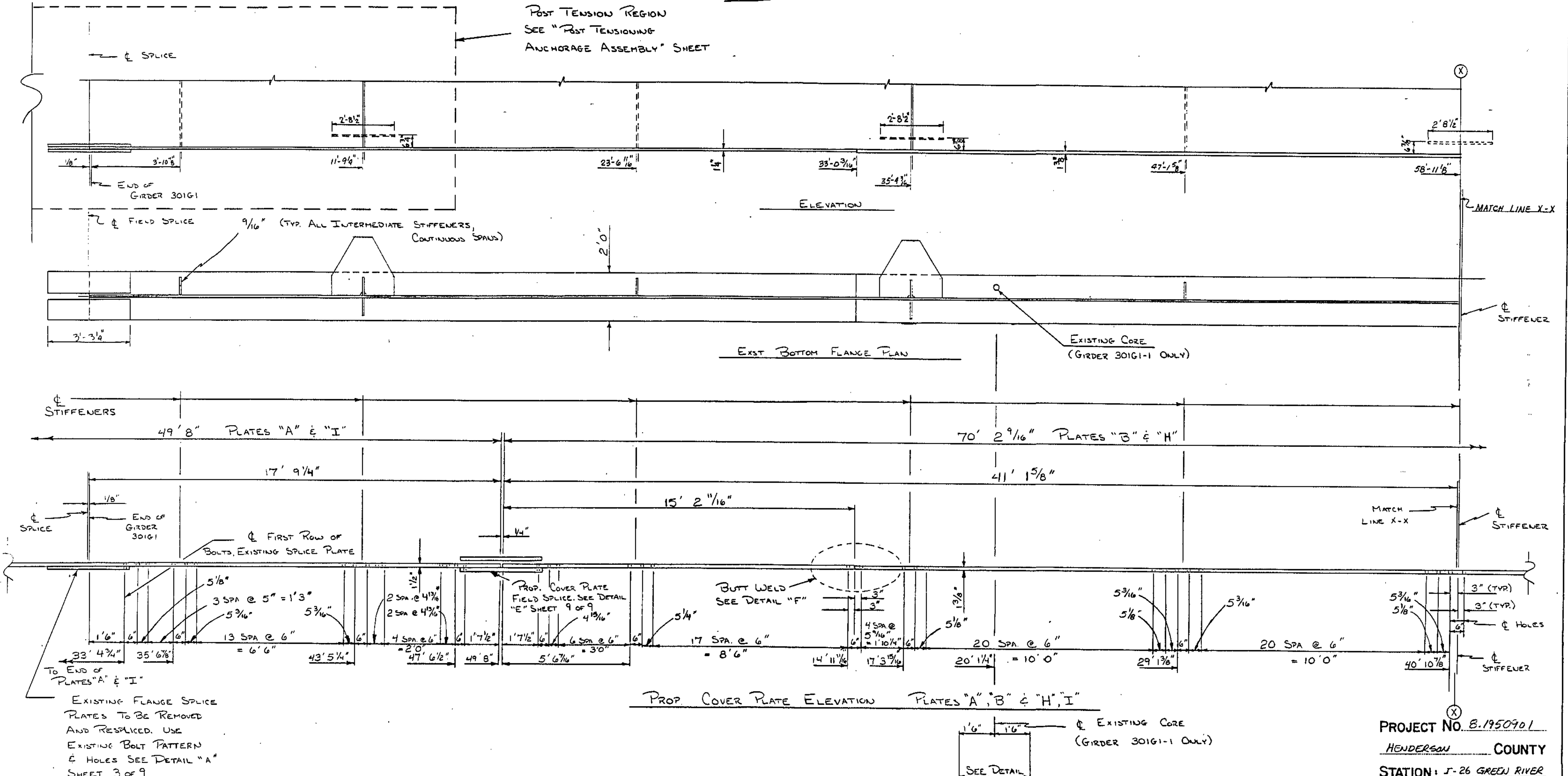
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
COVER PLATE DETAILS
(60IG1 & 202G1 SECTIONS)

REVISIONS					SHEET NO. 5-9 TOTAL SHEETS 31
NO.	BY	DATE	NO.	BY	
1			3		
2			4		

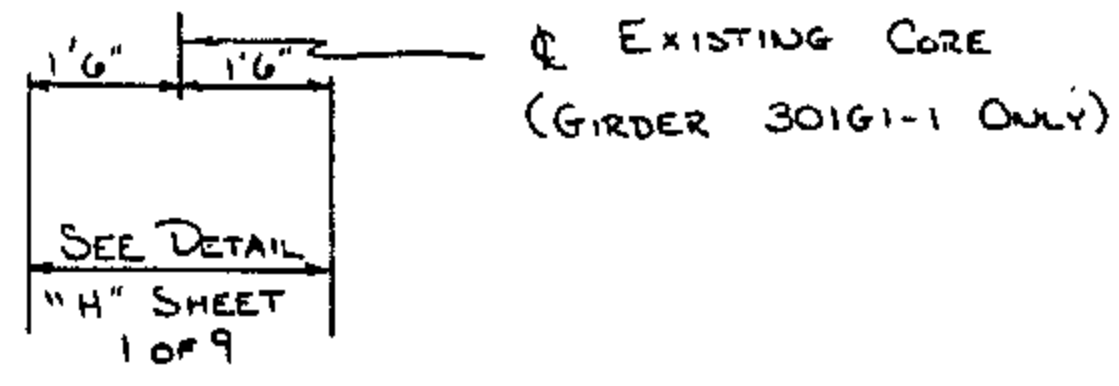
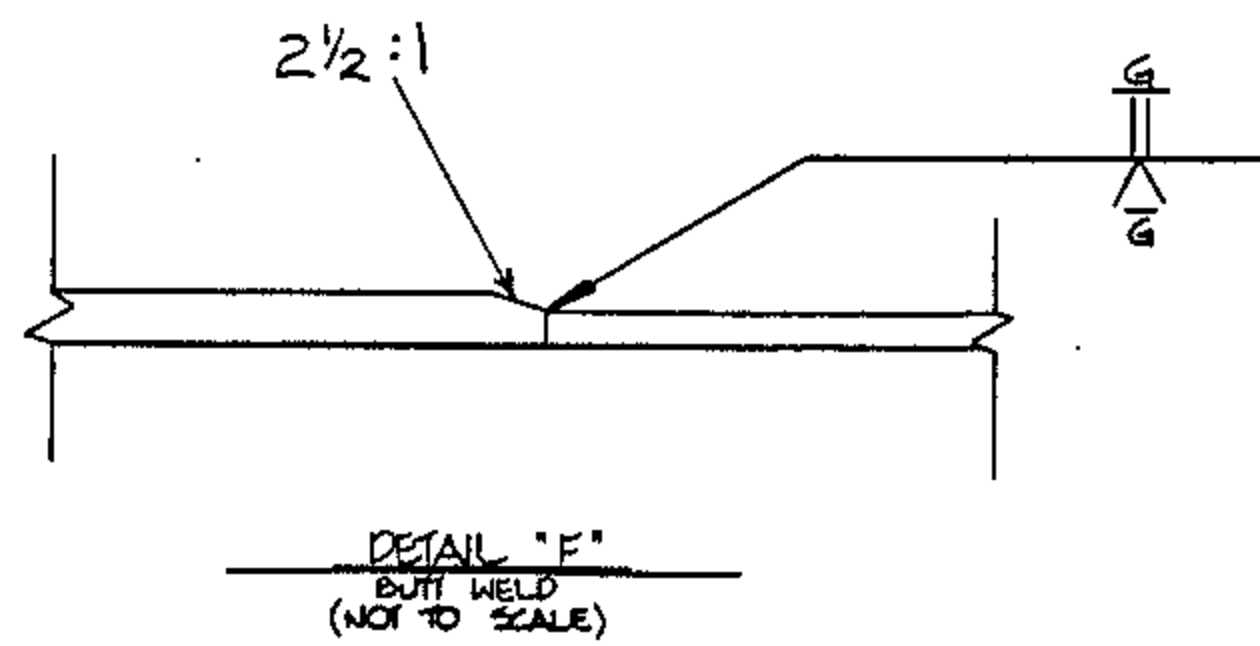
DRAWN BY: P.D. SCHNEIDER DATE: 1-7-93
CHECKED BY: B.D. KLAUSMANN DATE: 1-7-93

301G1

POST TENSION REGION
SEE "POST TENSIONING
ANCHORAGE ASSEMBLY" SHEET



EXISTING FLANGE SPLICE
PLATES TO BE REMOVED
AND RESPLICED. USE
EXISTING BOLT PATTERN
& HOLES SEE DETAIL "A"
SHEET 3 OF 9



PROJECT NO. B-1950901
HENDERSON COUNTY
STATION: J-26 GREEN RIVER
SHEET 4 OF 9

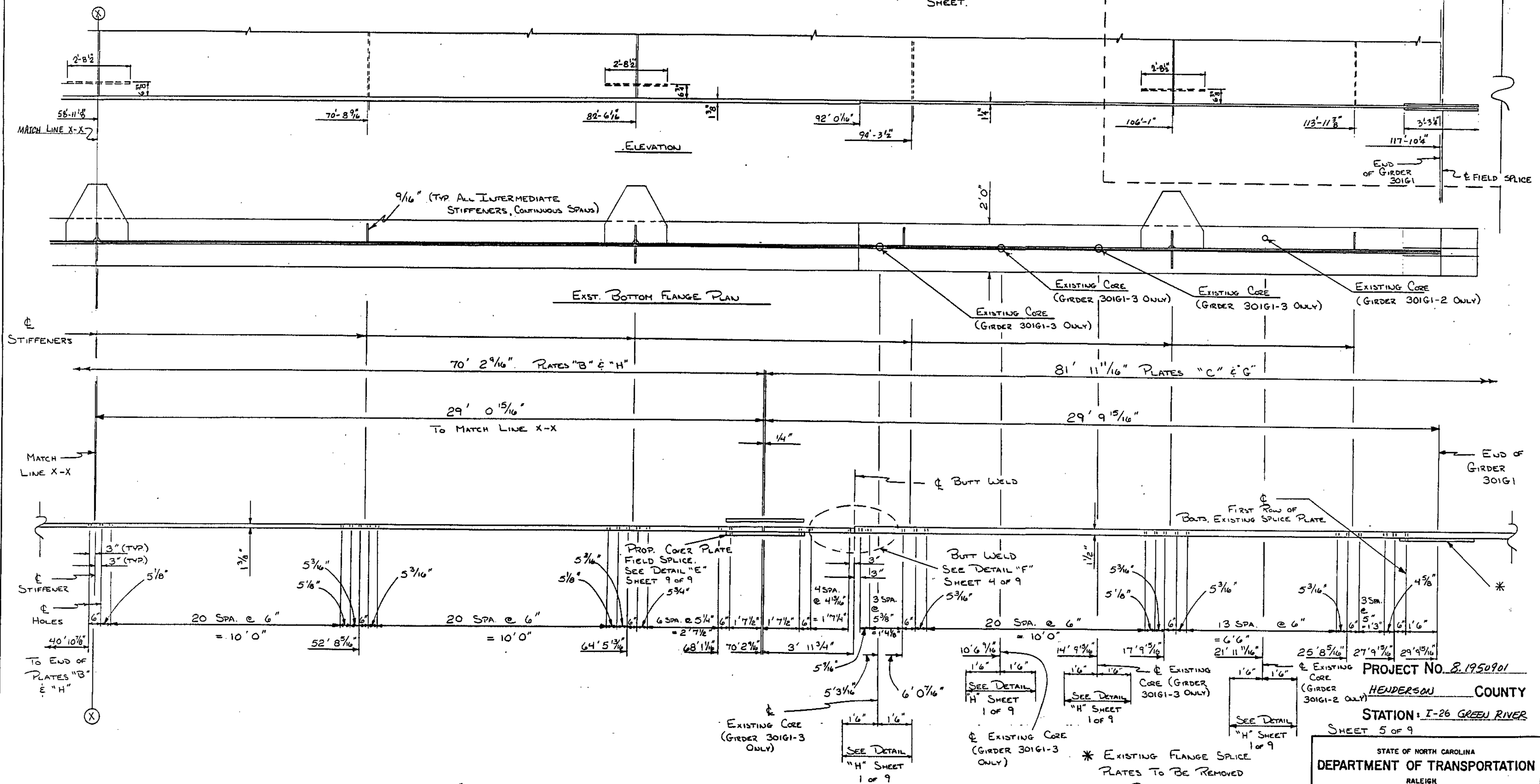
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
COVER PLATE DETAILS
(301G1 SECTIONS)

DRAWN BY P.D. McNEEL DATE 1-7-93
CHECKED BY S.D. KLEINSMITH DATE 1-7-93

REVISIONS					SHEET NO. 5-10
NO.	BY	DATE	NO.	DATE	
1			3		TOTAL SHEETS 31
2			4		

30IG1 (CONTINUED)

POST TENSION REGION
SEE "POST TENSIONING
ANCHORAGE ASSEMBLY"
SHEET.



PROP. COVER PLATE ELEVATION PLATES "B", "C" & "G", "H"

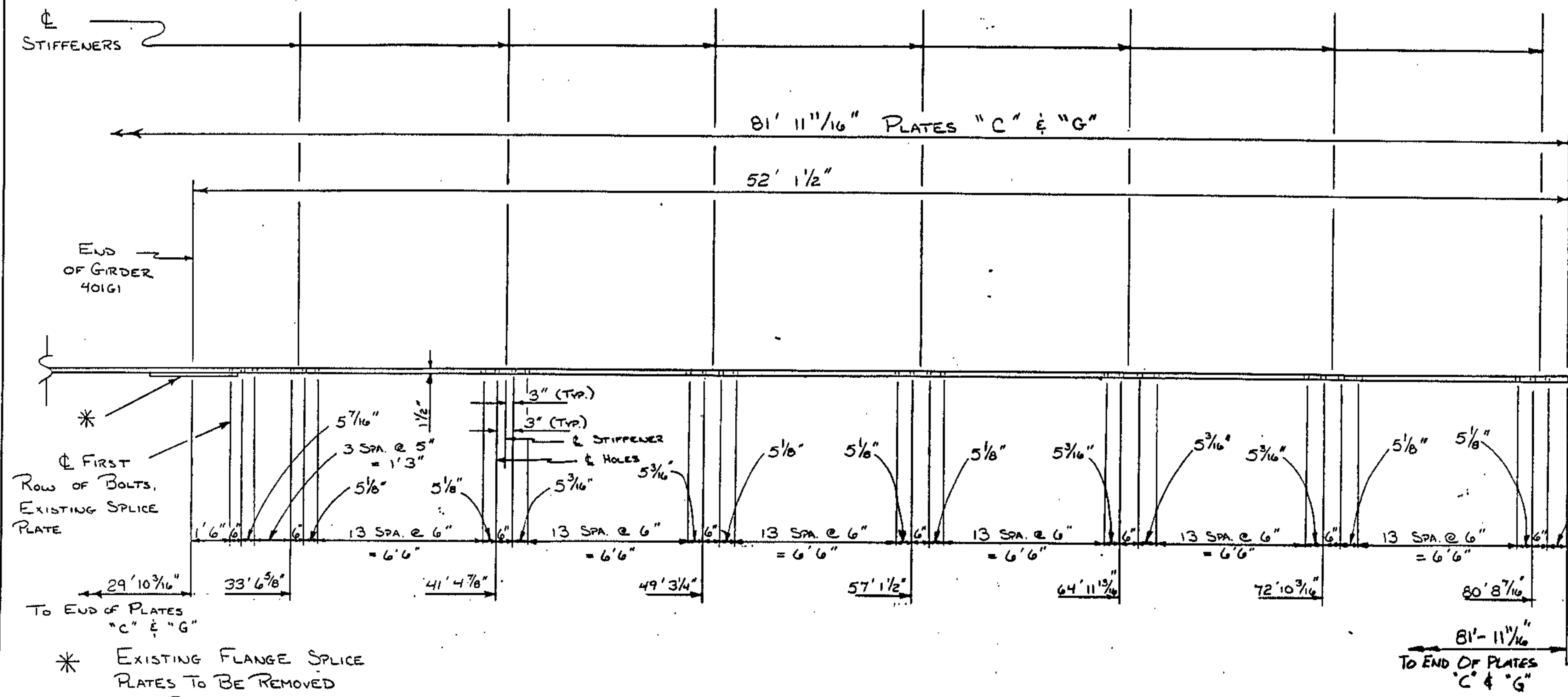
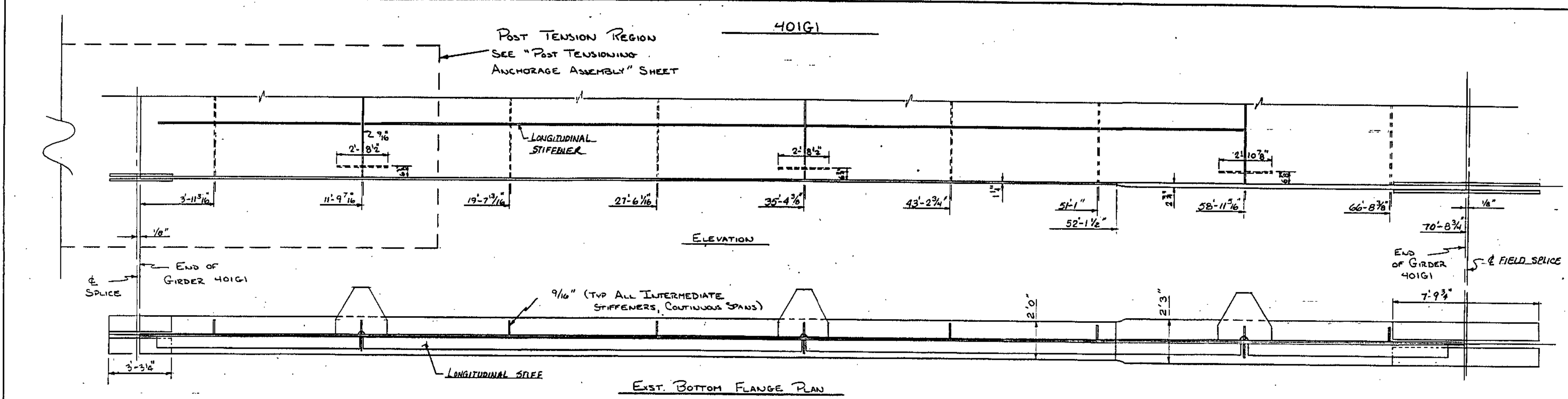
* EXISTING FLANGE SPlice
PLATES TO BE REMOVED
AND REPLACED. USE
EXISTING BOLT PATTERN &
HOLES. SEE DETAIL "A"
SHEET 3 OF 9

PROJECT NO. 8.1950901
HENDERSON COUNTY
STATION: I-26 GREEN RIVER
SHEET 5 OF 9

REVISIONS						SHEET NO. 5-11
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

DRAWN BY R.D. ROSS
CHECKED BY B.D. KRAMER

DATE 1-7-93
DATE 1-7-93

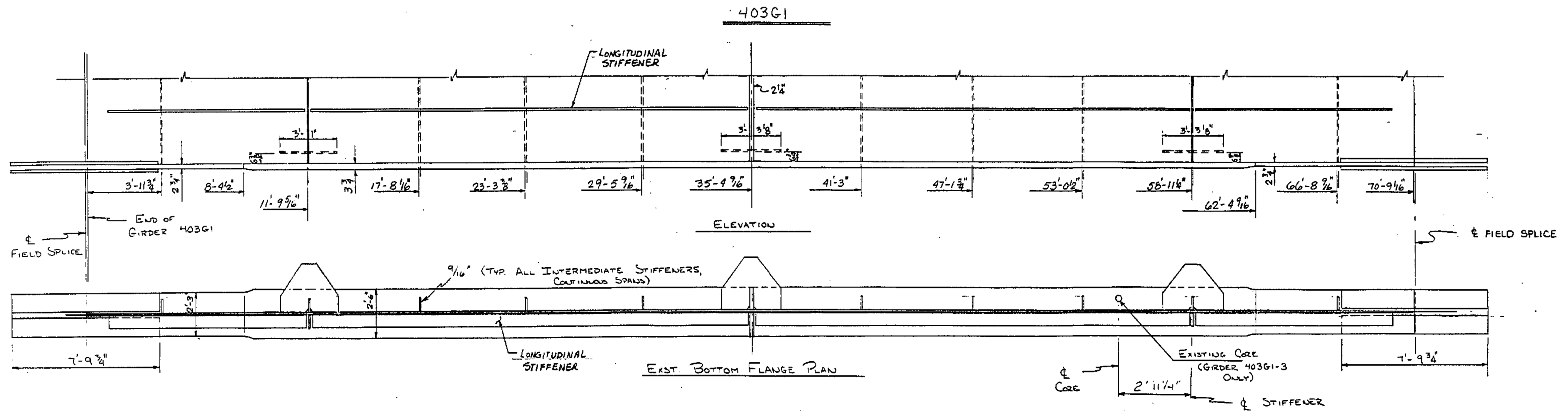


PROJECT NO. B.1950901
HENDERSON COUNTY
 STATION: I-26 GREEN RIVER
 SHEET 6 OF 9

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
COVER PLATE DETAILS
 (401G1 SECTION)

REVISIONS						SHEET NO. S-12
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

DRAWN BY K.D. KOEHLER DATE 1-7-93
 CHECKED BY B.D. KLAPPENBACH DATE 1-7-93



BILL OF MATERIAL (FOR ONE BRIDGE)							
PLATES	SIZE	NO. OF PLATES	WEIGHT PLATES	TOTAL NO. BOLTS	BOLT LENGTH	BOLT WEIGHT	TOTAL WEIGHT
			(LBS.)			(LBS.)	(LBS.)
J & K	1" X 24" X 79'-4"	4	25,916	1,328	3 1/2"	1,567	27,483
A & I	1 1/2" X 24" X 49'-8"	4	24,337	736	4 1/4"	964	25,301
* B & H	1 1/2" X 24" X 15'-2 1/16"	4	7,460	216	4 1/4"	283	7,743
	1 3/8" X 24" X 54'-11 7/8"	4	24,699	872	4 1/4"	1,142	25,841
	-70'-2 3/16"						
* C & G	1 3/8" X 24" X 3'-11 3/4"	4	1,787	40	4 1/4"	52	1,839
	1 1/2" X 24" X 77'-11 5/16"	4	38,217	1,224	4 1/4"	1,603	39,820
	-81'-11 1/16"						
D & F	1 3/8" X 24" X 74'-0 5/8"	4	33,262	1,112	4 1/4"	1,457	34,719
E	1 3/8" X 24" X 80'-0"	2	17,967	624	4 1/4"	817	18,784
PROP.	1" X 24" X 3'-6 1/4"	12	3,450	1,008	6 1/4"	1,663	8,276
SPLICES	1" X 11" X 3'-6 1/4"	24	3,163				
EXIST. SPLICES	USE EXISTING PLATES			912	5 3/4"	1,432	1,432
TOTAL			180,258	8,072		10,980	191,238

* BUTT WELD (8 PER BRIDGE)

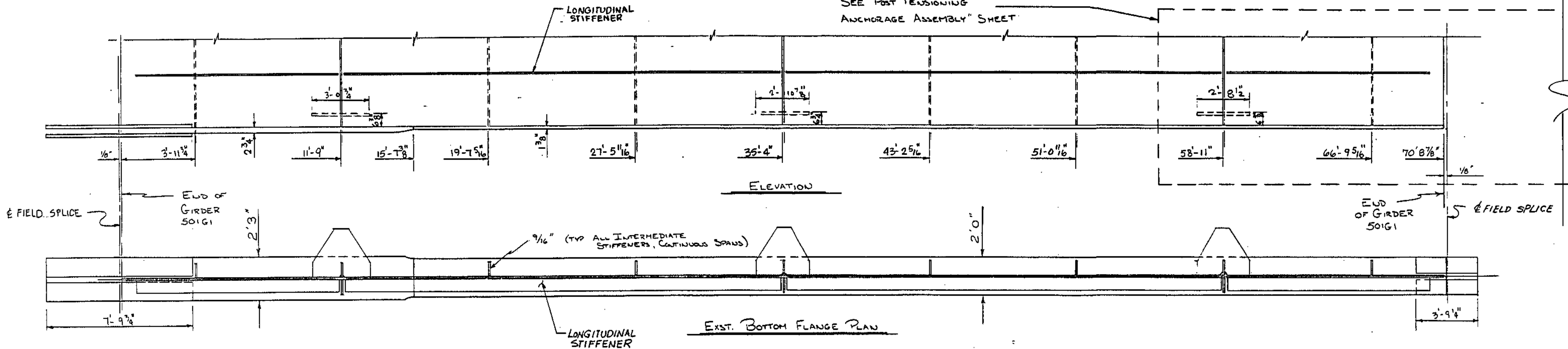
PROJECT No. B.1950901
 HENDERSON COUNTY
 STATION: I-26 GREEN RIVER
 SHEET 7 OF 9

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-13
COVER PLATE DETAILS (403G1 SECTION)						TOTAL SHEETS 31
REVISIONS						NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

DRAWN BY: R.D. [unclear] DATE: 1-7-93
 CHECKED BY: B.D. KLAMMBAUGH DATE: 1-7-93

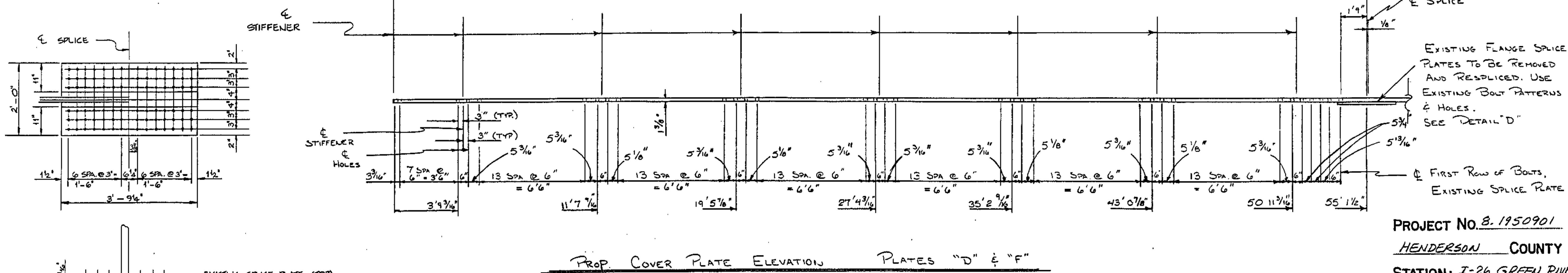
501G1

POST TENSION REGION
SEE "POST TENSIONING
ANCHORAGE ASSEMBLY" SHEET



74' 0 5/8" PLATES "D" & "F"

55' 1 1/2"



PROP. COVER PLATE ELEVATION PLATES "D" & "F"

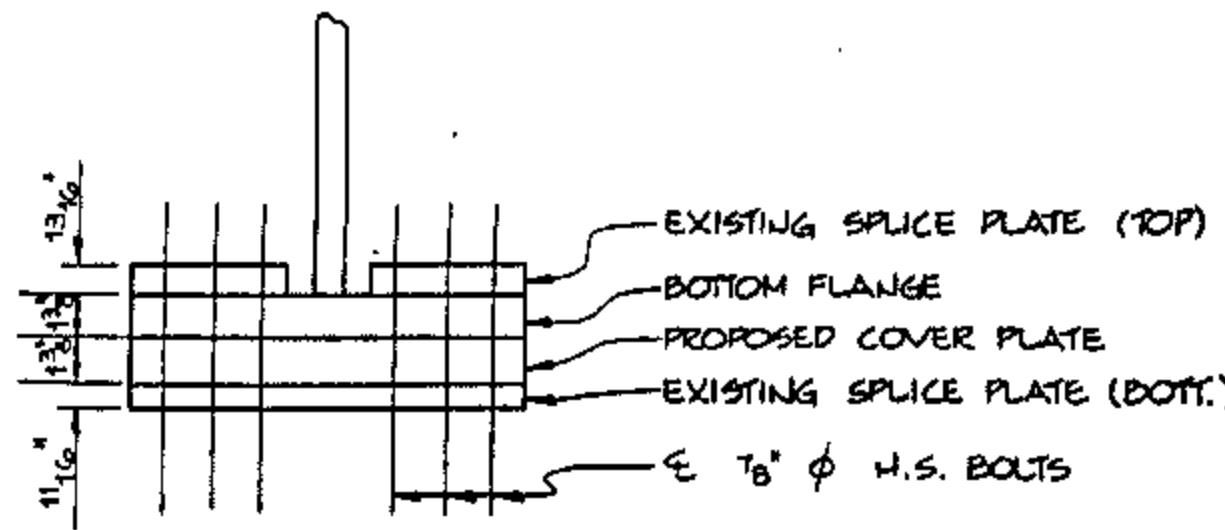
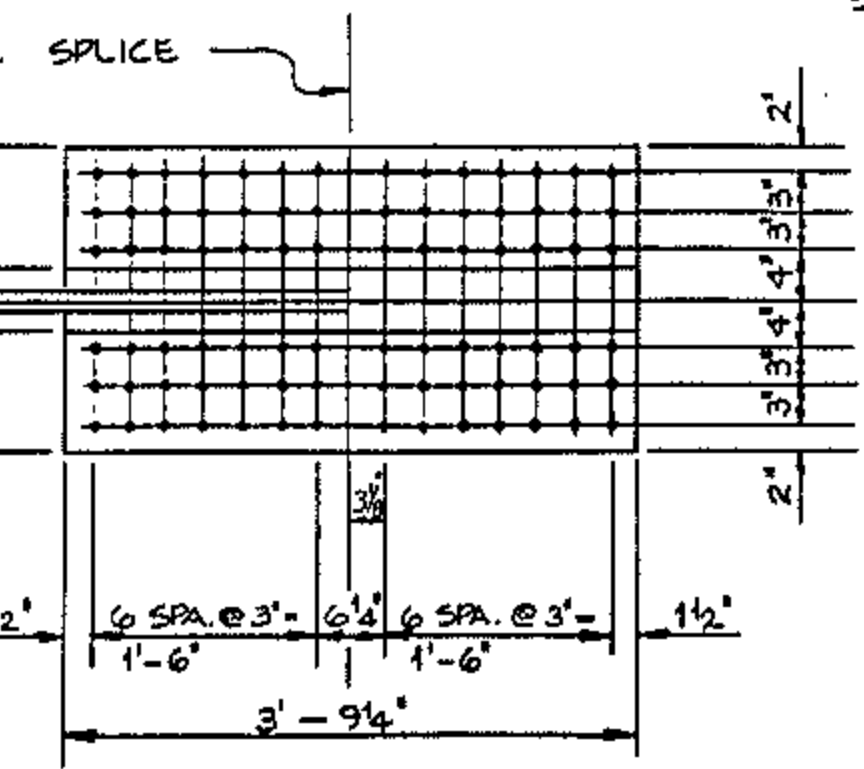
PROJECT NO. 8.1950901
HENDERSON COUNTY
STATION: I-26 GREEN RIVER

SHEET 8 OF 9

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

COVER PLATE DETAILS
(501G1 SECTION)

REVISIONS						SHEET NO. S-14
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

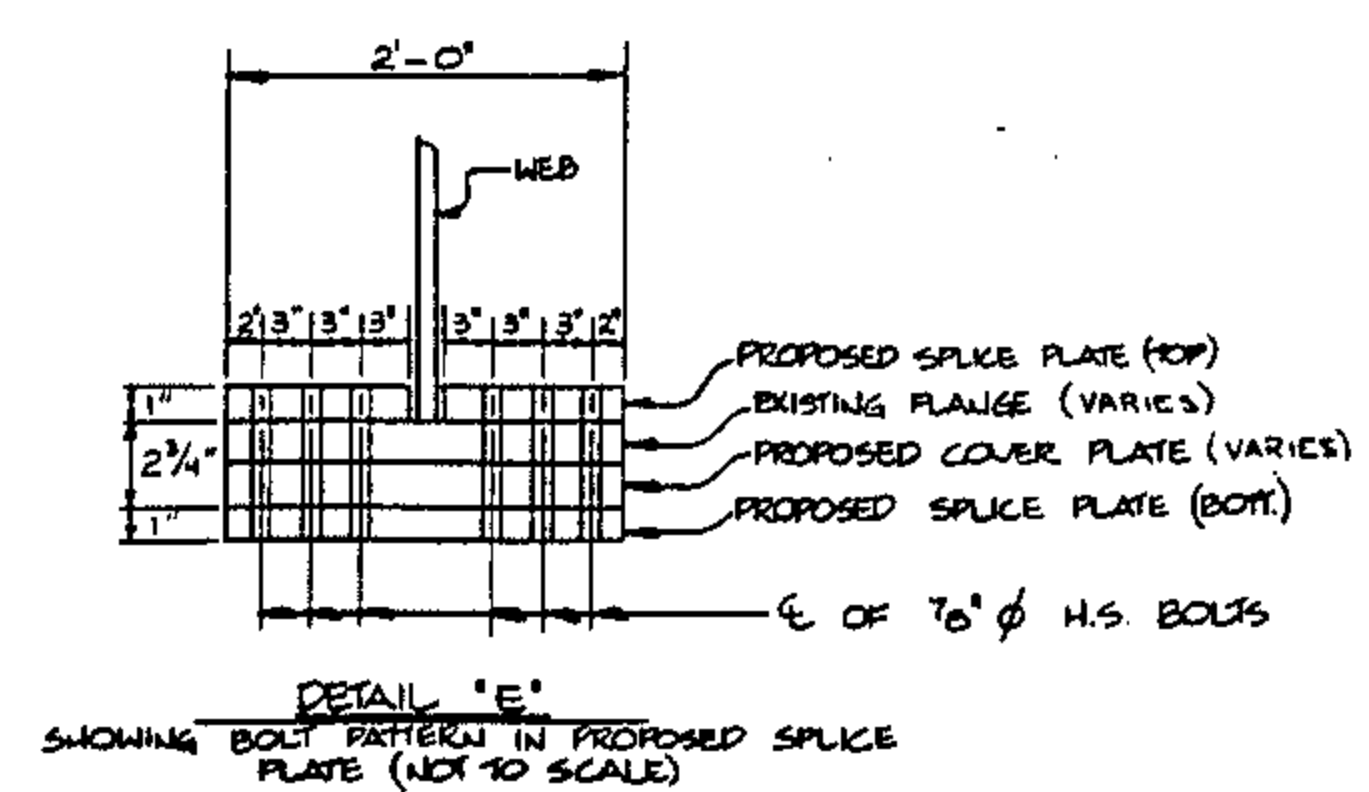
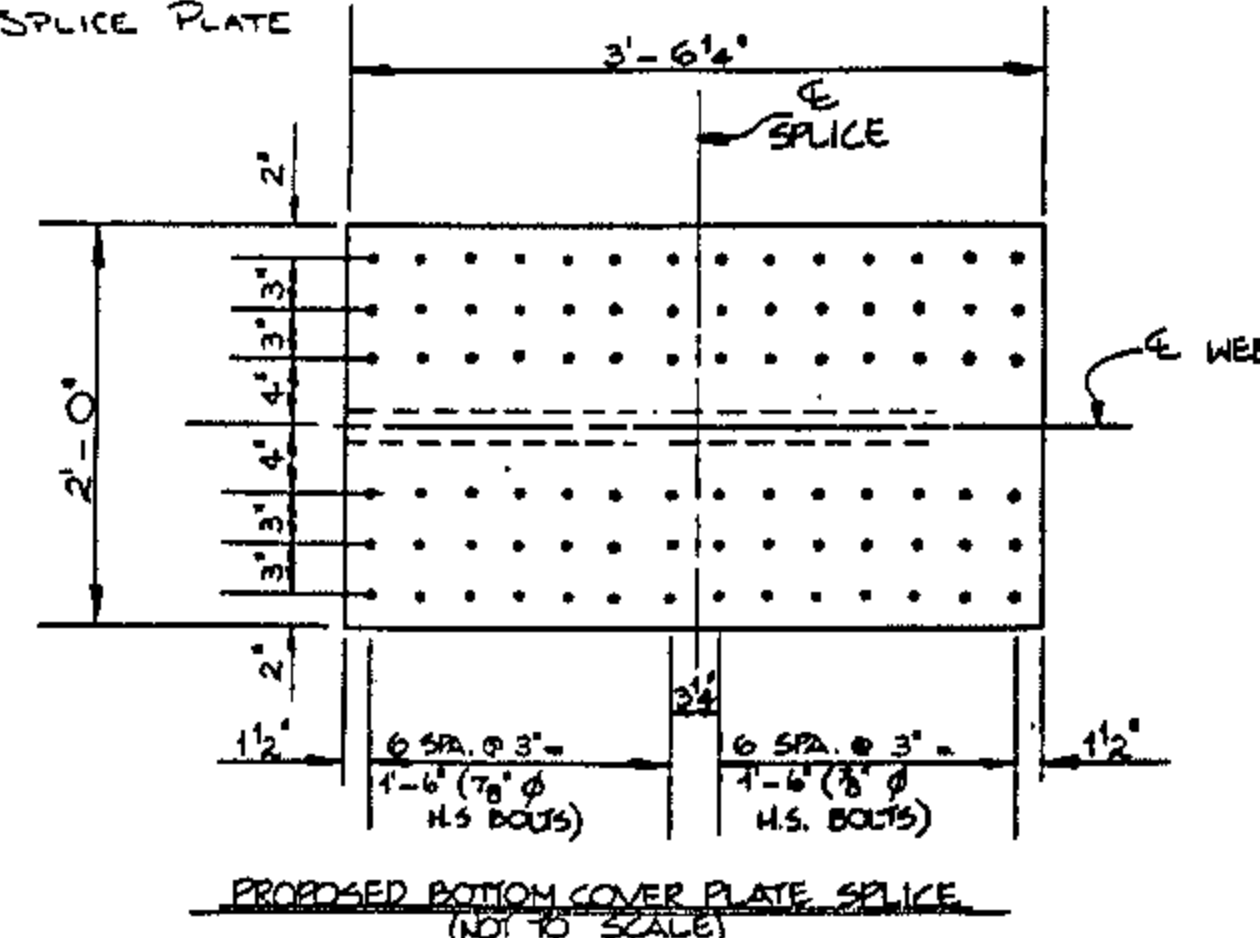
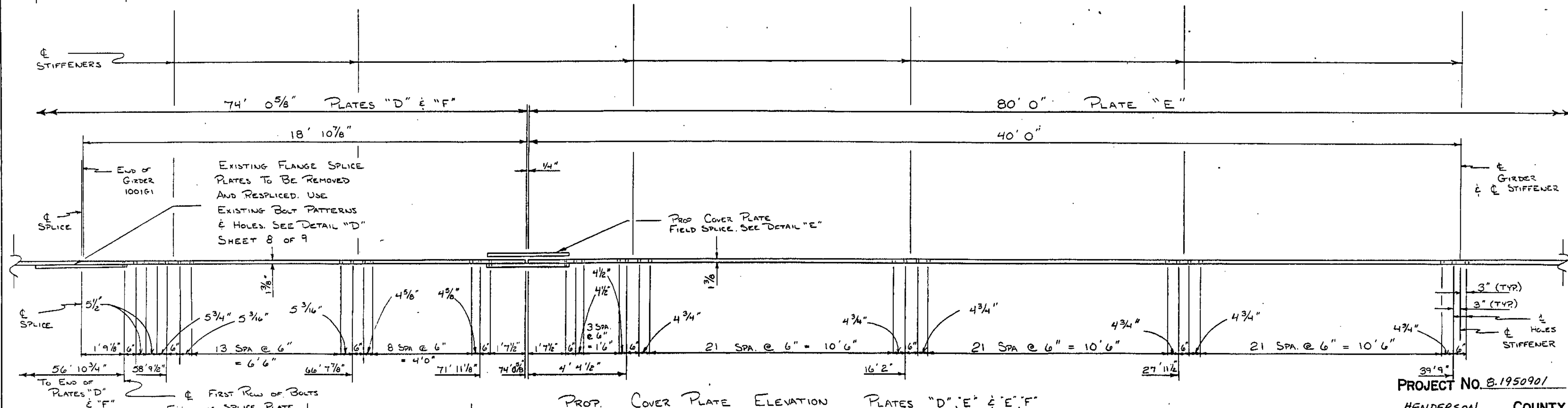
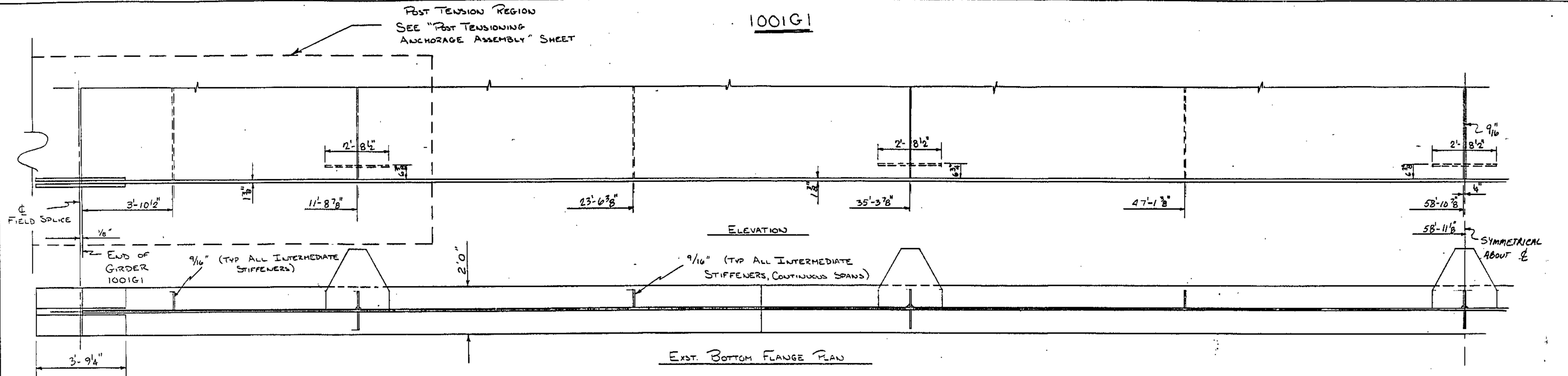


DETAIL "D"
SHOWING BOLT PATTERN IN EXISTING
SPLICE PLATE

DRAWN BY: K.D. KUMAR DATE: 1-7-93
CHECKED BY: B.D. KLAPPENBACH DATE: 1-15-93

100IG1

POST TENSION REGION
SEE "POST TENSIONING
ANCHORAGE ASSEMBLY" SHEET



PROJECT NO. B.1950901
 HENDERSON COUNTY
 STATION: I-26 GREEN RIVER

SHEET 9 OF 9

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

COVER PLATE DETAILS
 (100IG1 SECTION)

REVISIONS						SHEET NO. S-15
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

DRAWN BY: D. KAPPELLER DATE: 1-7-93
 CHECKED BY: B.O. KLAPPENBACH DATE: 1-7-93

NOTES

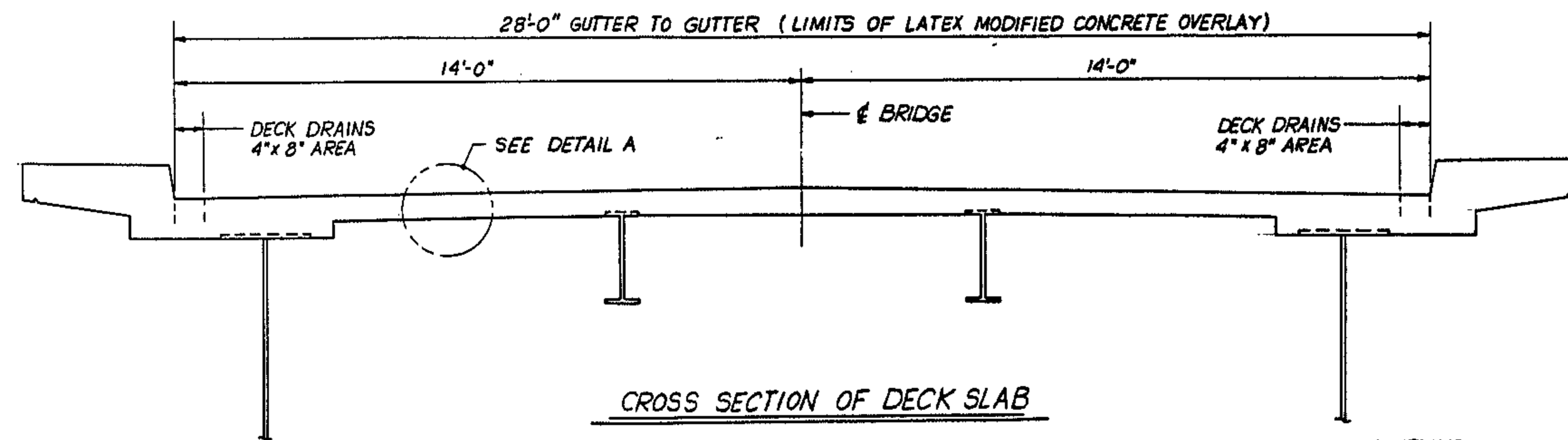
FOR REPAIR OF BRIDGE DECKS AND APPROACH PAVEMENT WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

DECK DRAINS SHALL BE PROTECTED DURING REMOVAL OF 1/2" CONCRETE FROM TOP DECK SLAB. A BLOCKOUT SHALL BE USED OVER DRAIN AREA WHEN OVERLAY IS APPLIED. DRAINS SHALL BE FREE OF TRASH AND DEBRIS WHEN WORK IS COMPLETED.

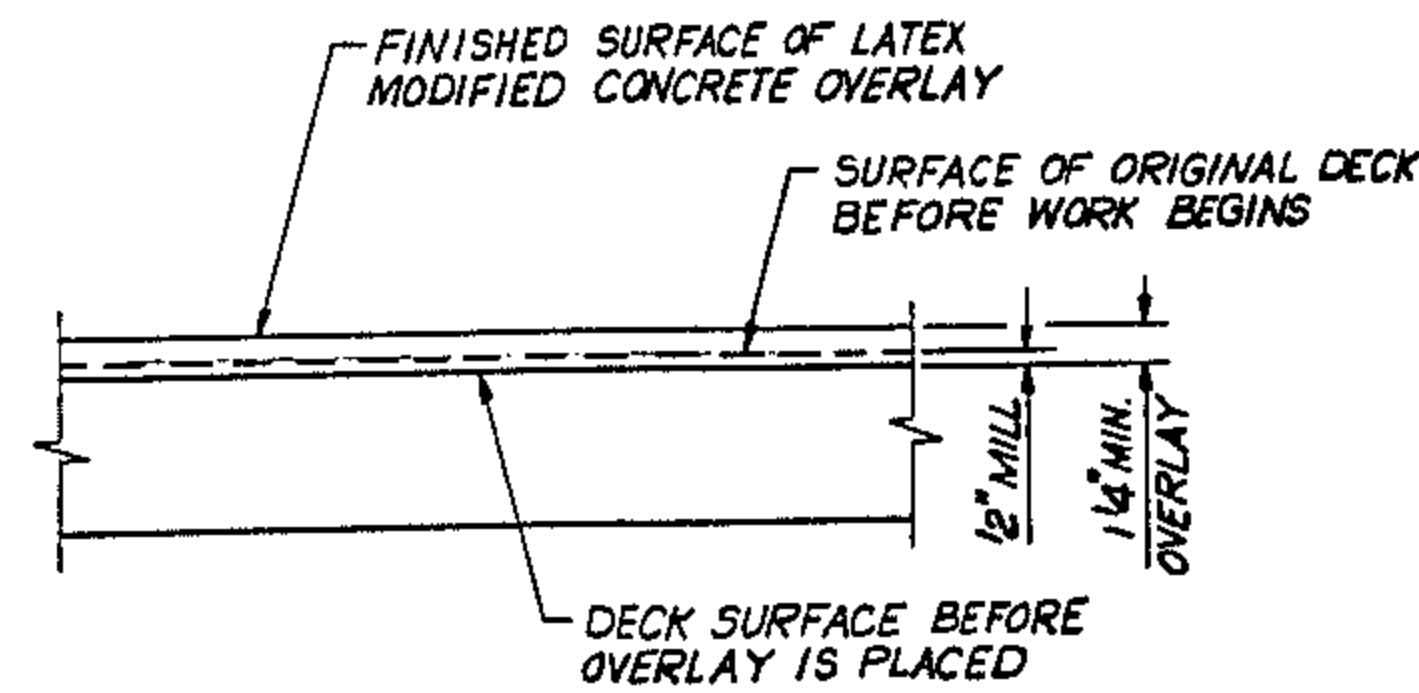
FOR DECK DRAIN RETROFIT, SEE SPECIAL PROVISIONS.

CONTRACTOR SHALL CLEAN AND MAINTAIN THE DECK DRAINS THROUGH THE LIFE OF THE PROJECT.

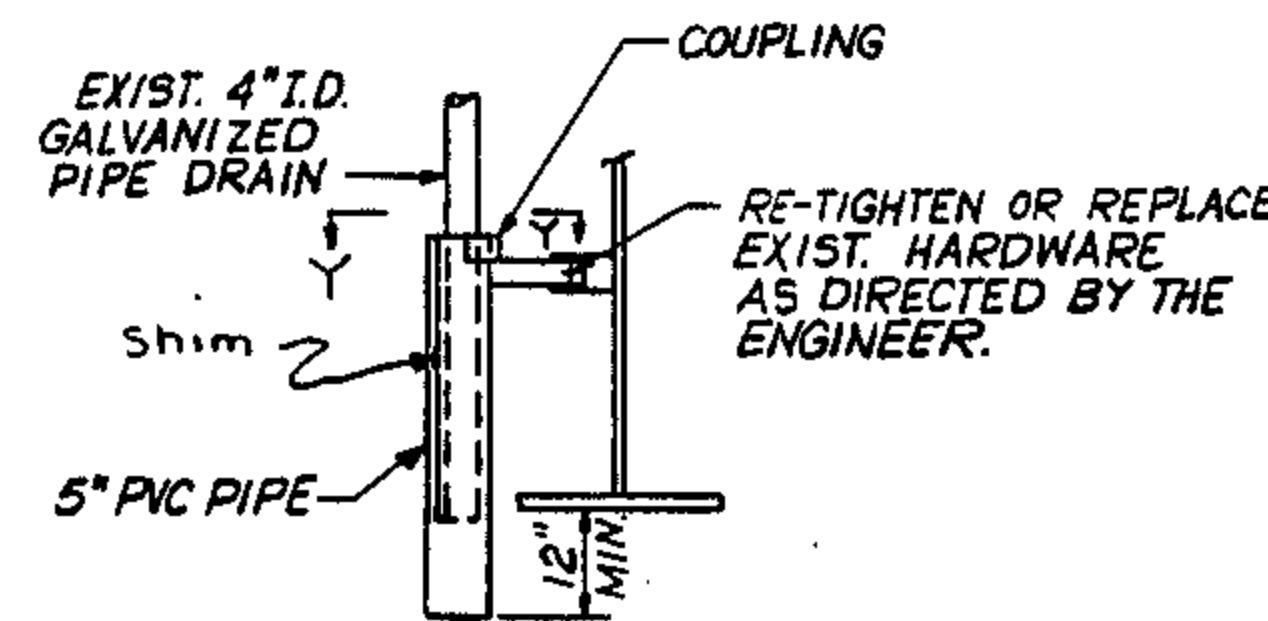
5" DIA PVC PIPE, PVC PIPE COUPLING, ALL HARDWARE, MATERIALS, LABOR, EQUIPMENT, AND ANY INCIDENTALS SHALL BE PAID FOR UNDER THE CONTRACT BID PRICE FOR DECK DRAIN RETROFIT.



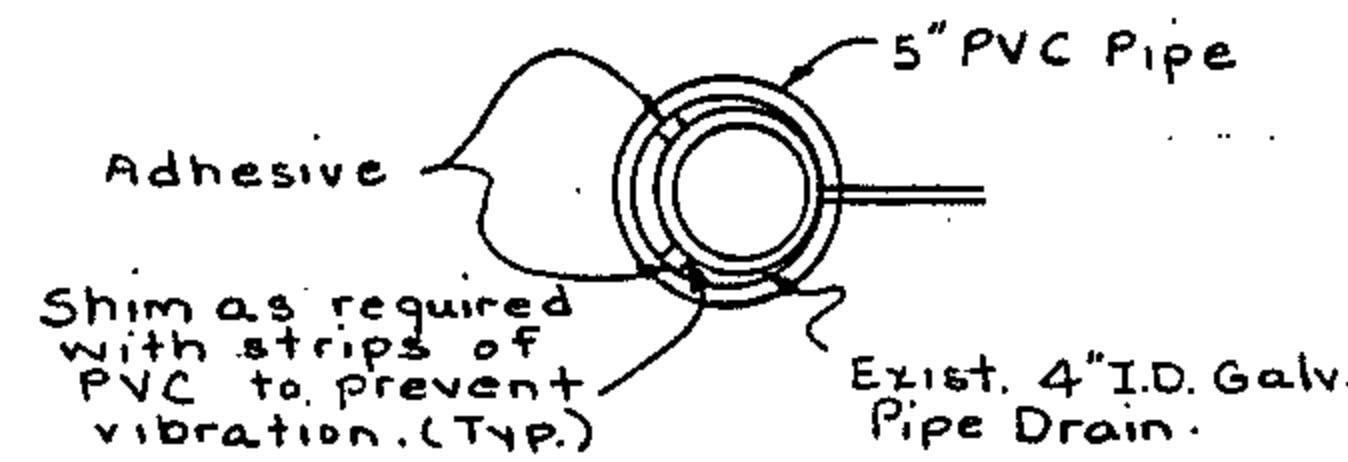
CROSS SECTION OF DECK SLAB



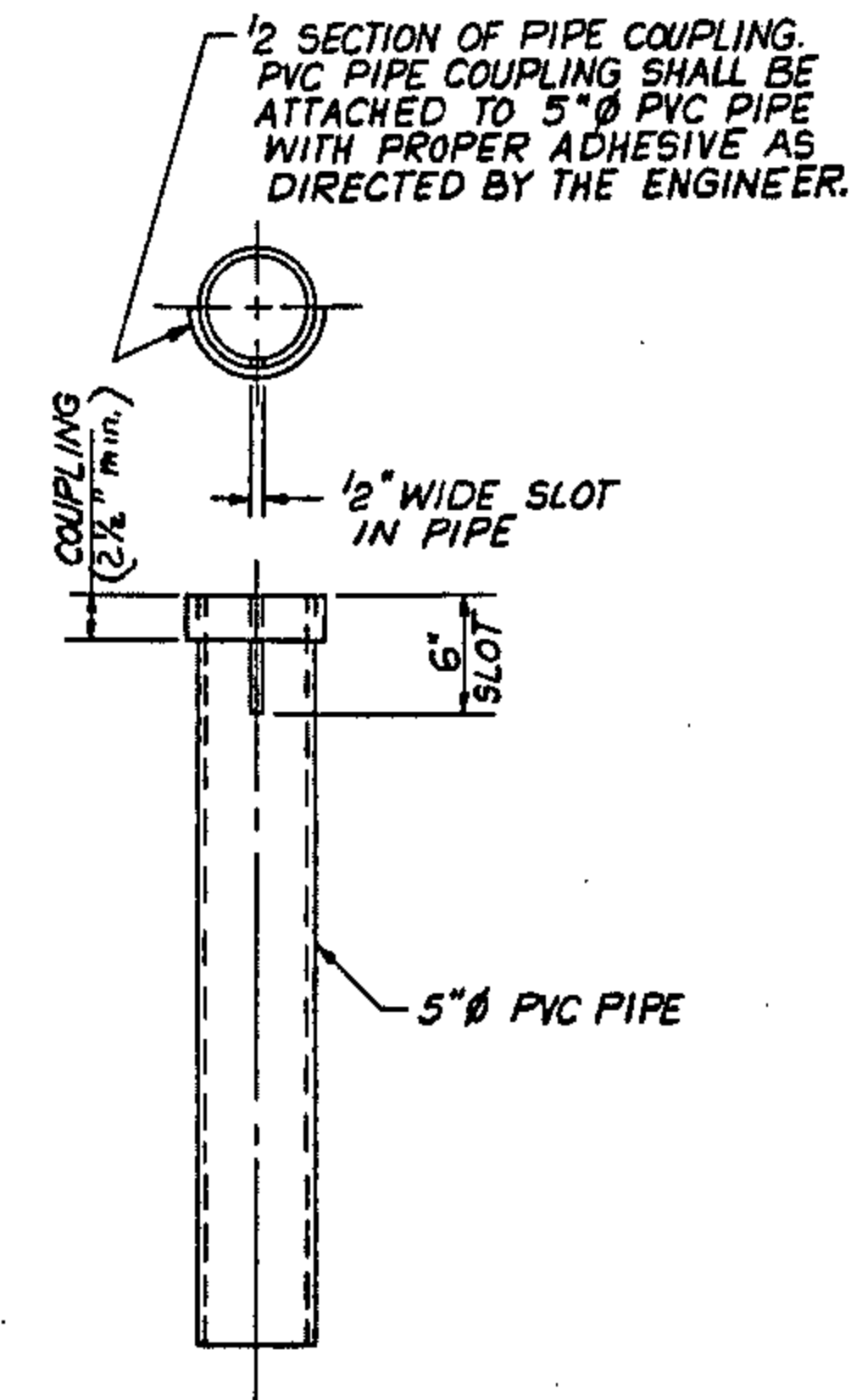
DETAIL A
LATEX MODIFIED CONCRETE OVERLAY



DECK DRAIN RETROFIT



SECTION Y-Y



PVC PIPE DETAILS
(144 ASSEMBLIES EA. BRIDGE)

BILL OF MATERIAL
(FOR ONE BRIDGE ONLY)

	CLASS I SURFACE PREP.	CLASS II SURFACE PREP.	CLASS III SURFACE PREP.	LATEX MODIFIED CONCRETE	PLACING & FINISHING L.M.C.
	SQ. YDS.	SQ. YDS.	SQ. YDS.	CU. YDS.	SQ. YDS.
DECK REPAIR	3,253	976	153	113	3,253
DECK DRAIN RETROFIT EA. 144					

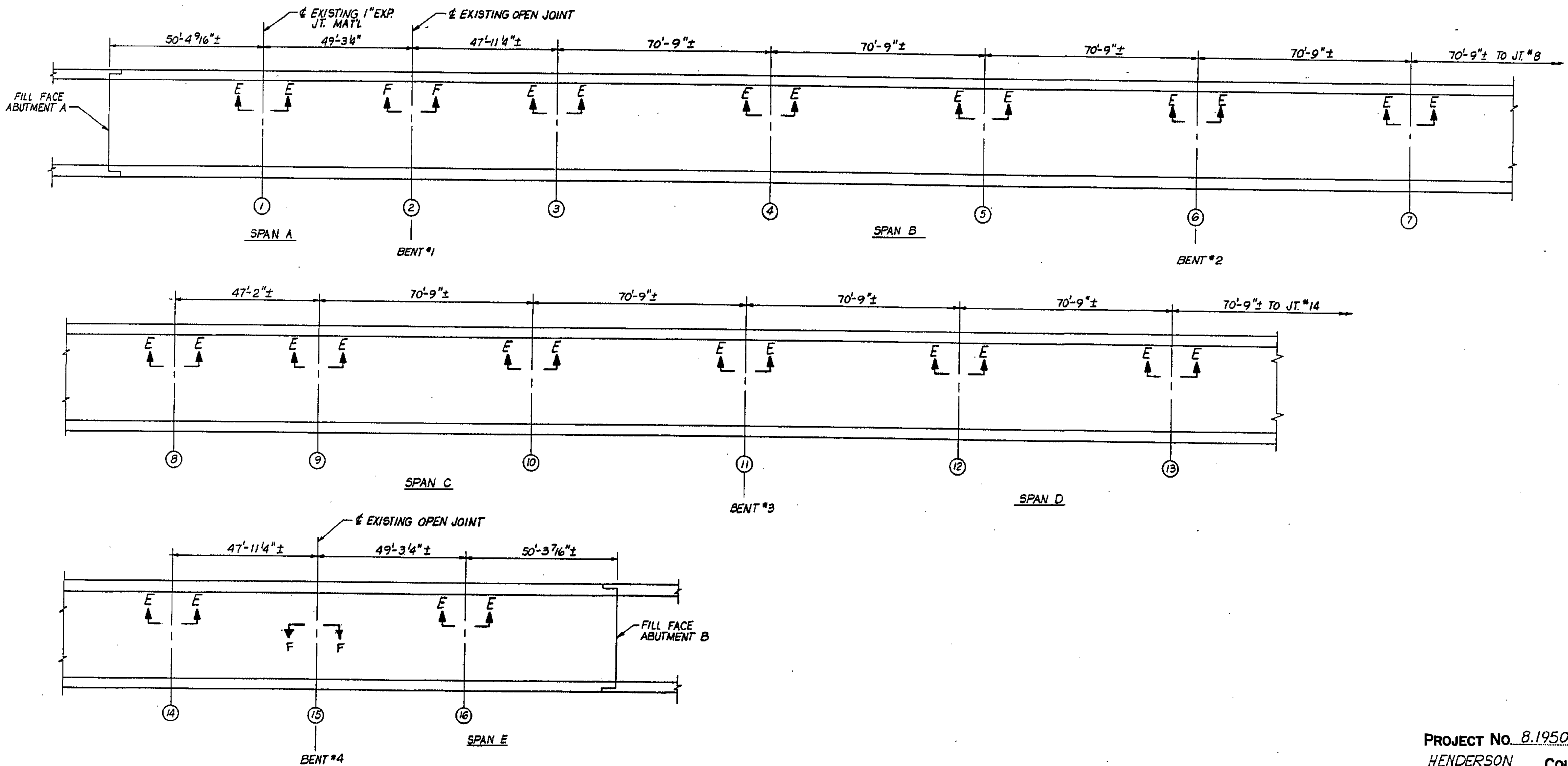
PROJECT No. 8.1950901
HENDERSON COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
DECK REPAIR
AND DECK DRAIN RETROFIT

REVISIONS						SHEET NO. 5-16
NO.	BY	DATE	NO.	BY	DATE	TOTAL SHEETS 31
1			3			
2			4			

DRAWN BY L.M. Patterson DATE 2/19/94
CHECKED BY Walker DATE 10/2/93

○ DENOTE JOINT LOCATION



PROJECT No. 8.1950901

HENDERSON COUNTY

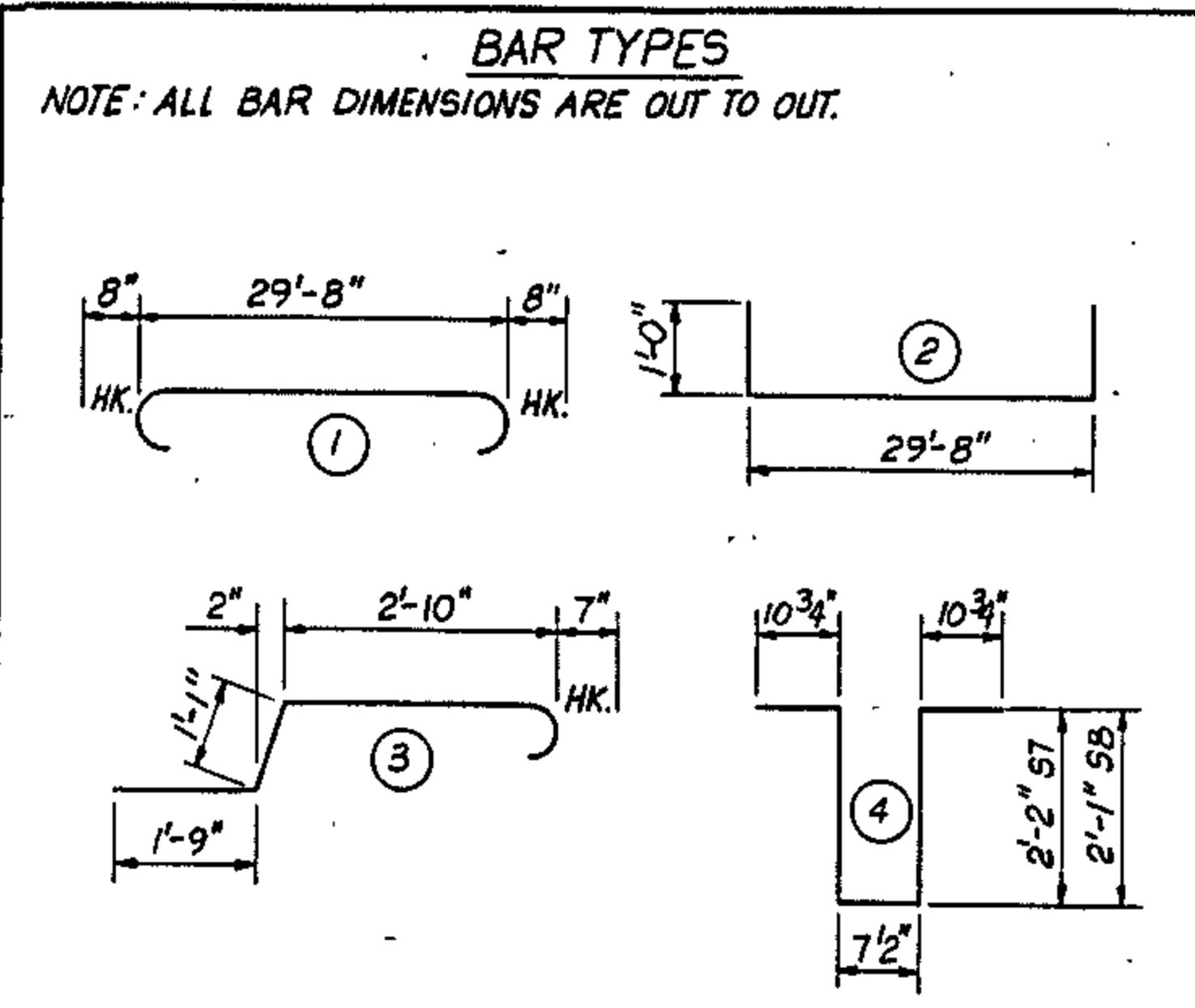
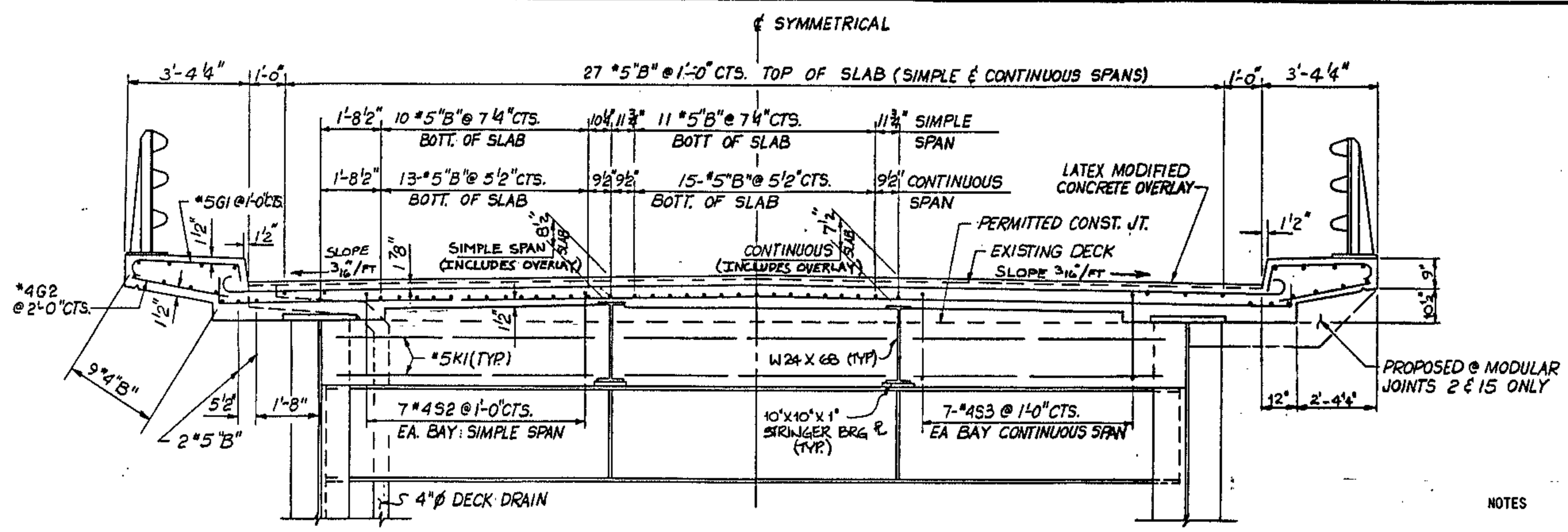
STATION: _____

SHEET 1 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PLAN OF BRIDGE DECK
 JOINT LOCATIONS

DRAWN BY G.M. Patterson DATE 8/23/92
 CHECKED BY Wilam. Kaur DATE 11/2/92

REVISIONS						SHEET NO. 5-17
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			



BILL OF MATERIAL (FOR ONE BRIDGE ONLY)

BILL OF MATERIAL FOR 14 JOINT REPLACEMENTS (JOINTS NO. 1, 3 THRU 14 & 16)

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	84	6	1 31-0	3,911
A2	70	6	2 31-8	3,329
B1	988	5	STR 2-5	2,490
B2	262	4	STR 2-5	407
G1	84	5	3 6-3	548
G2	56	4	STR 3-0	112
K1	168	5	STR 7-6	1,314
S7	42	5	4 6-9	296
S8	252	5	4 6-7	1,730

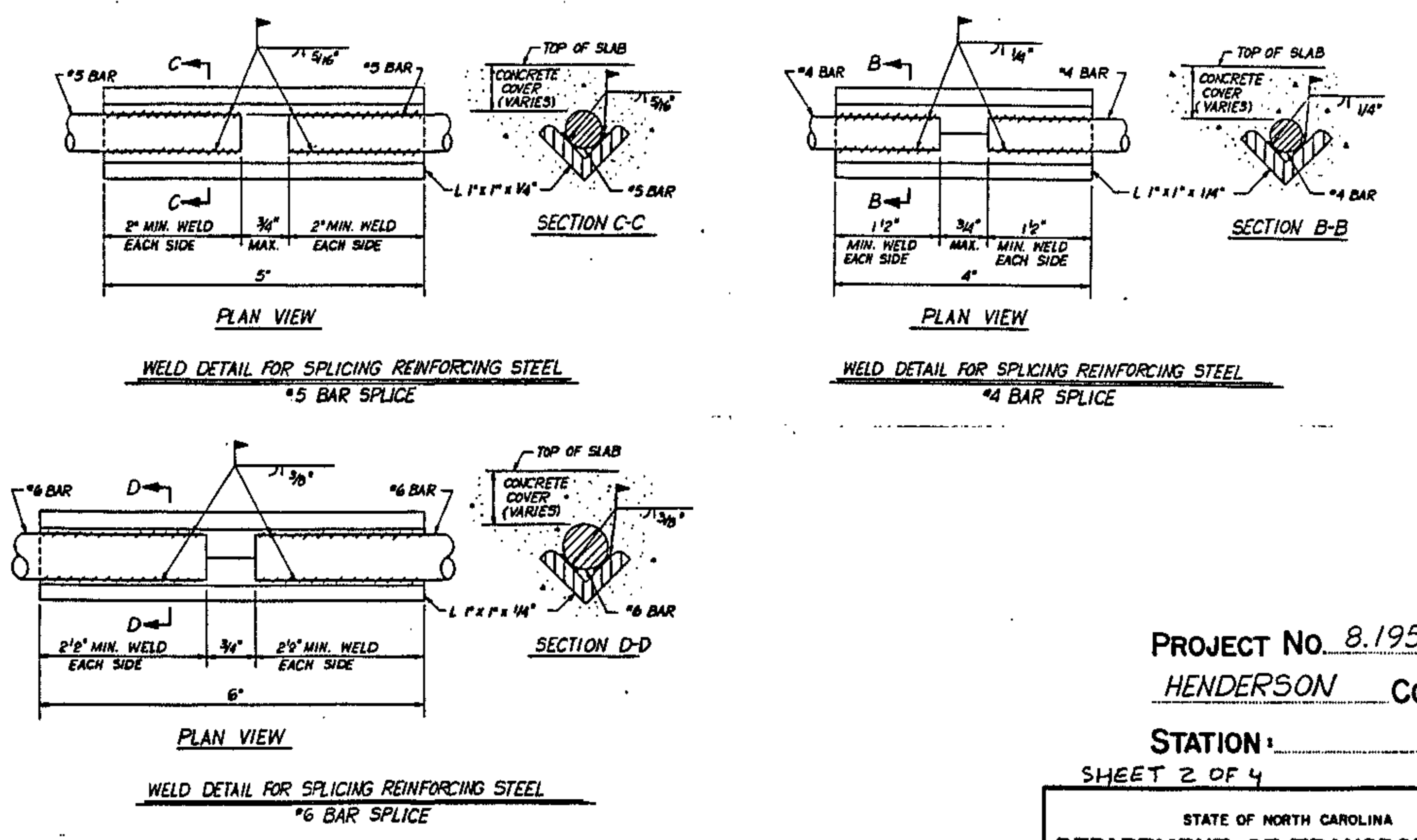
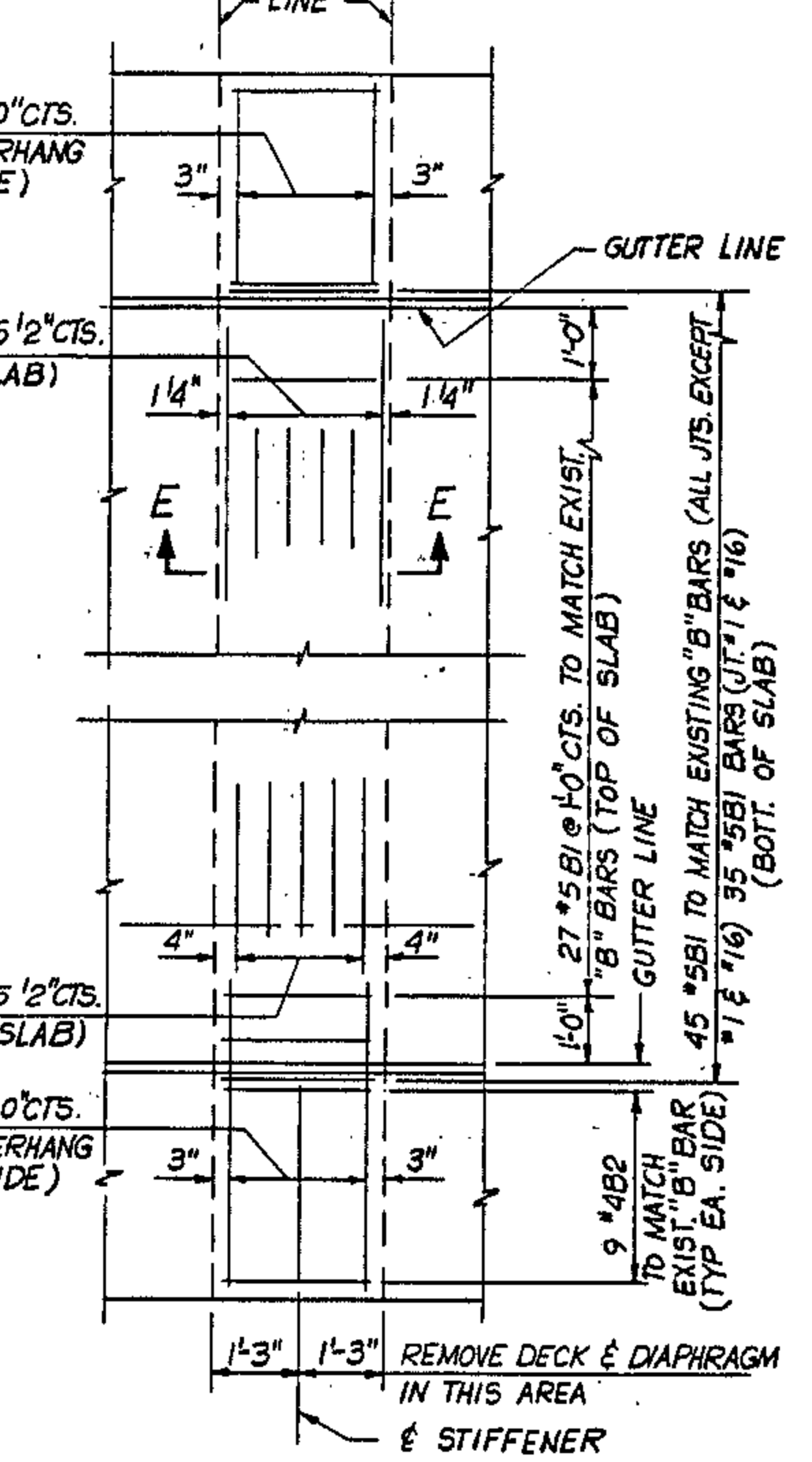
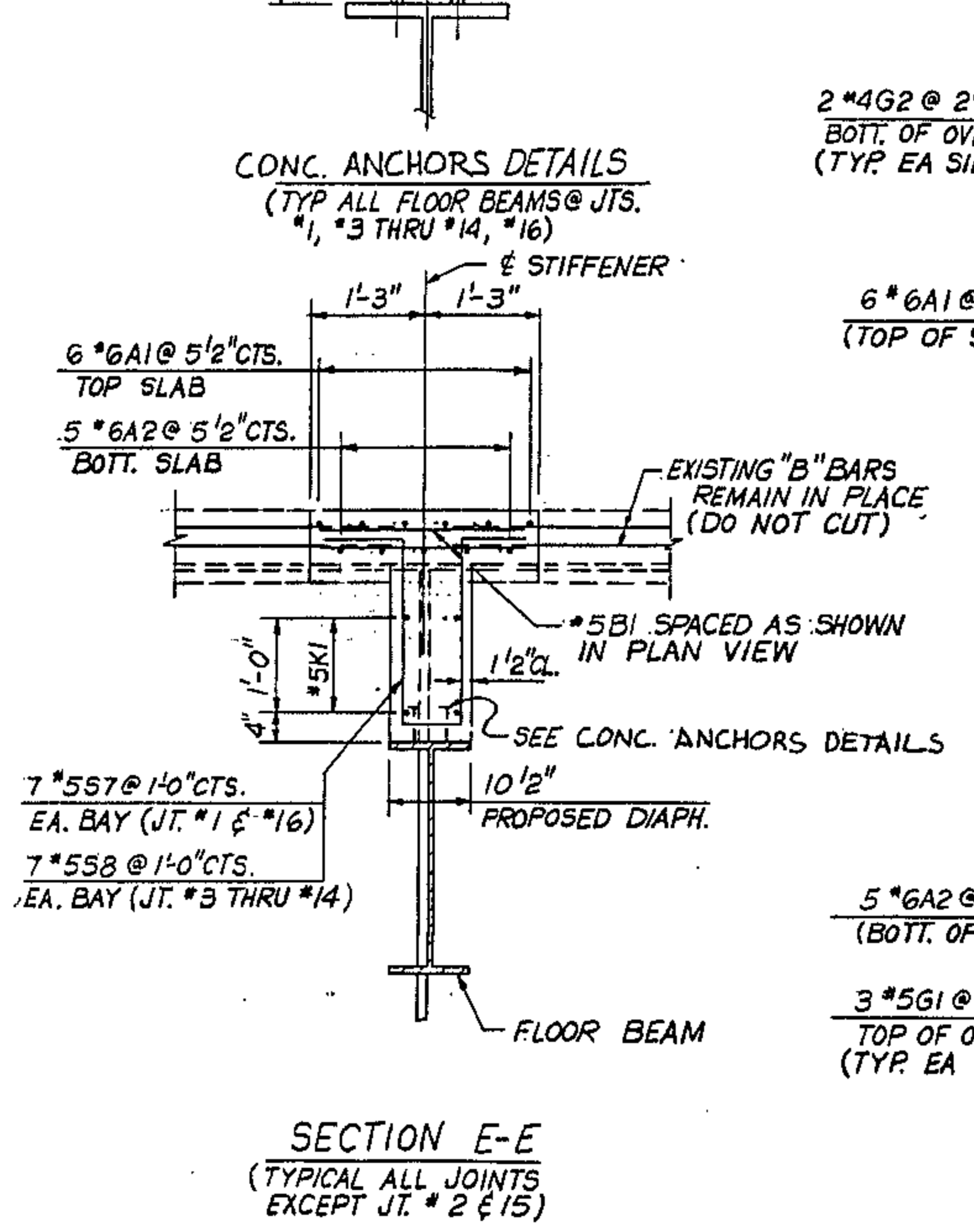
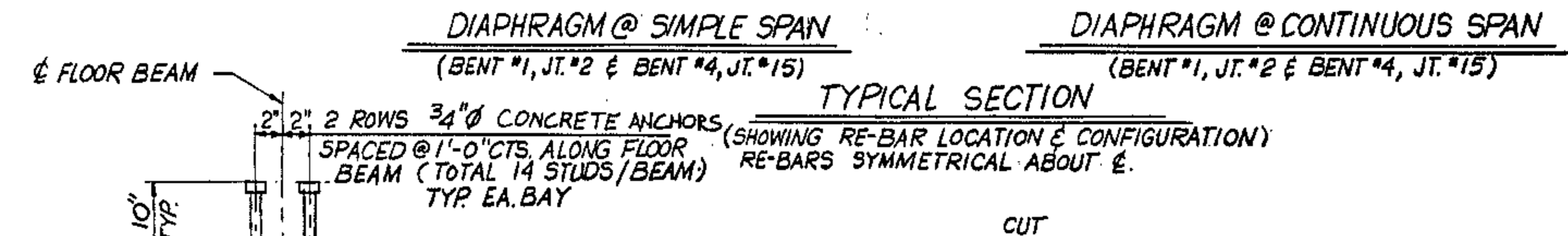
REINFORCING STEEL (LBS) = 14,137
TYPE "K" CONCRETE (CU.YDS.) = 53.7

STRUCTURAL STEEL (CONC. ANCHORS) NO. 588, = 870 LBS.

PAY ITEM JOINT REMOVAL EA. 14

NOTES

FOR JOINT REMOVAL, SEE SPECIAL PROVISIONS.
FOR TYPE "K" CONCRETE, SEE SPECIAL PROVISIONS.
ALL REINFORCING STEEL SHALL BE GRADE 60.
CONCRETE, REINFORCING STEEL, CONCRETE ANCHORS, LABOR, EQUIPMENT, ANY INCIDENTALS, AND THE REMOVAL OF THE EXISTING CONCRETE SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR JOINT REMOVAL.
FOR CONCRETE ANCHORS, SEE SPECIAL PROVISIONS.



DETAILS FOR REPAIR OF DAMAGE RE-BARS ONLY

PROJECT No. 8.1950901
HENDERSON COUNTY

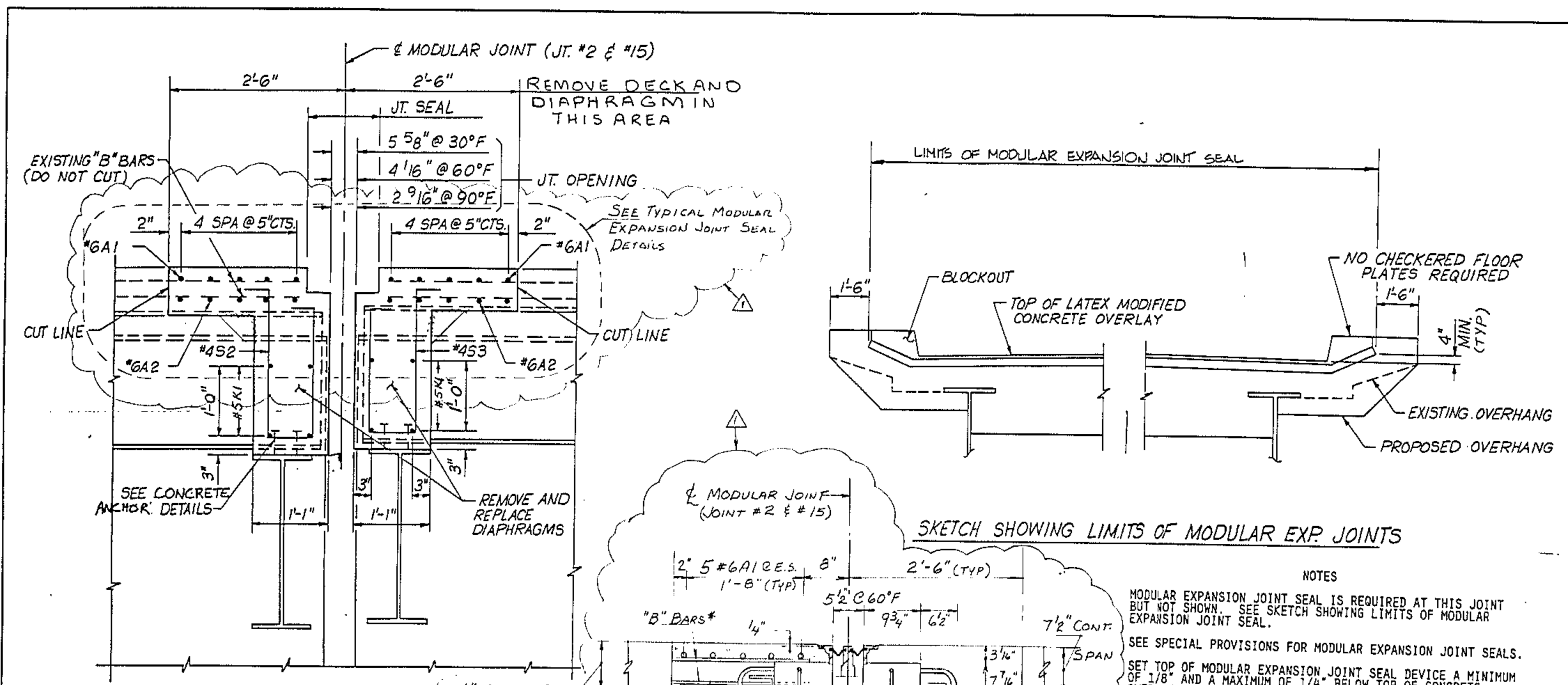
STATION:
SHEET 2 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

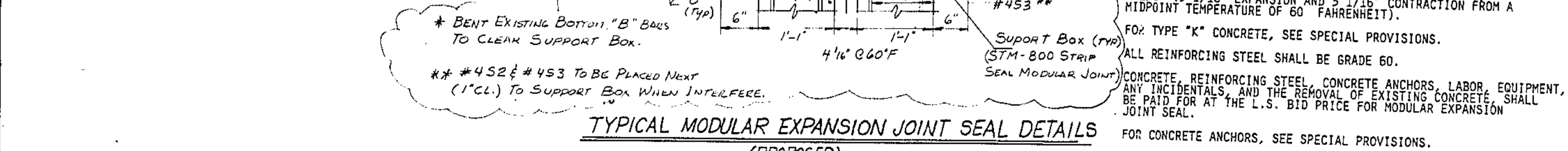
TYPICAL SECTION & PROPOSED JOINT REPLACEMENT DETAILS @ ALL JOINTS EXCEPT 2 & 15

REVISIONS						SHEET NO. 5-18
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

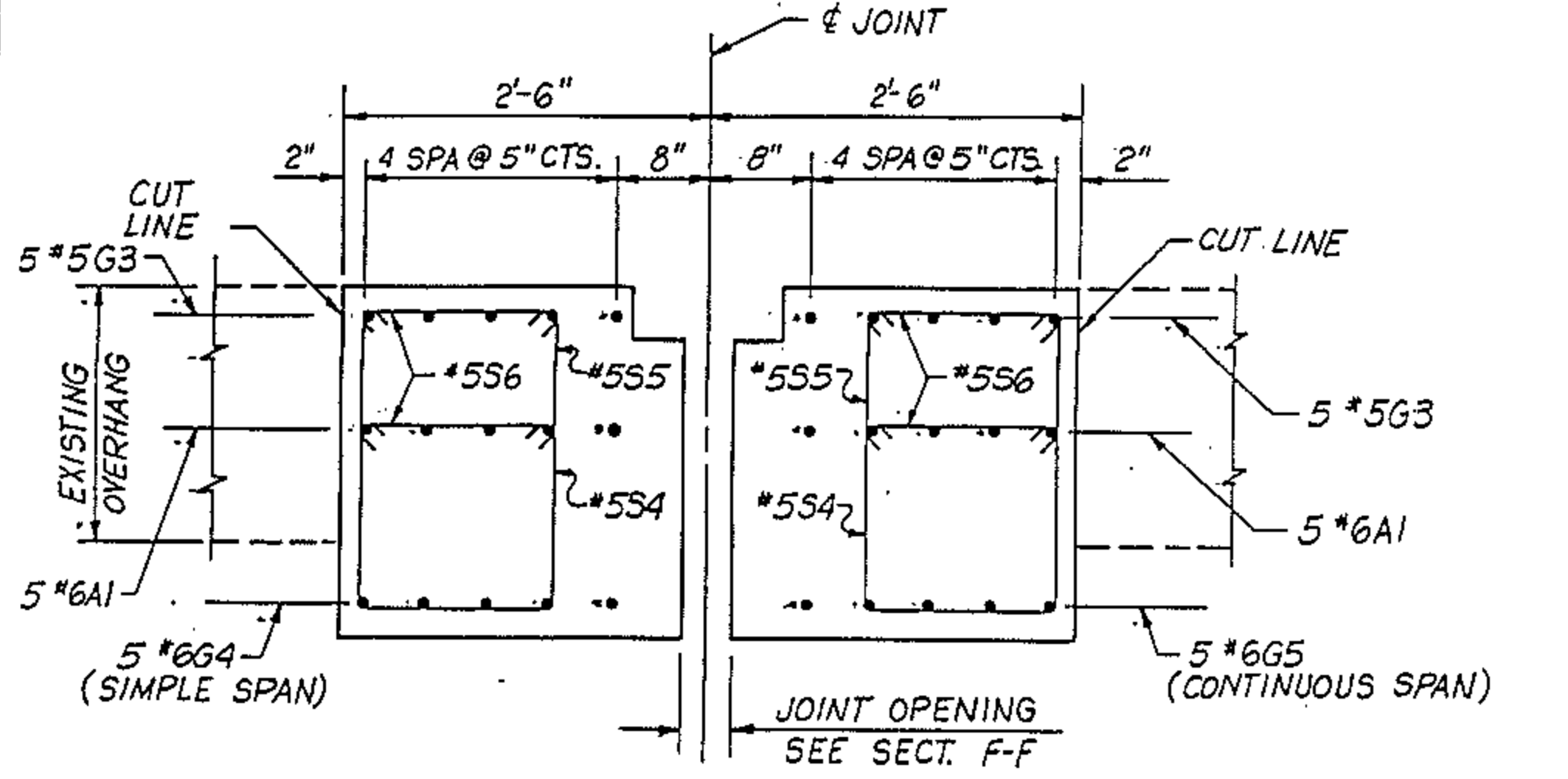
DRAWN BY G.M. PATTERSON DATE 10/28/92
CHECKED BY WILLIAM KAM DATE



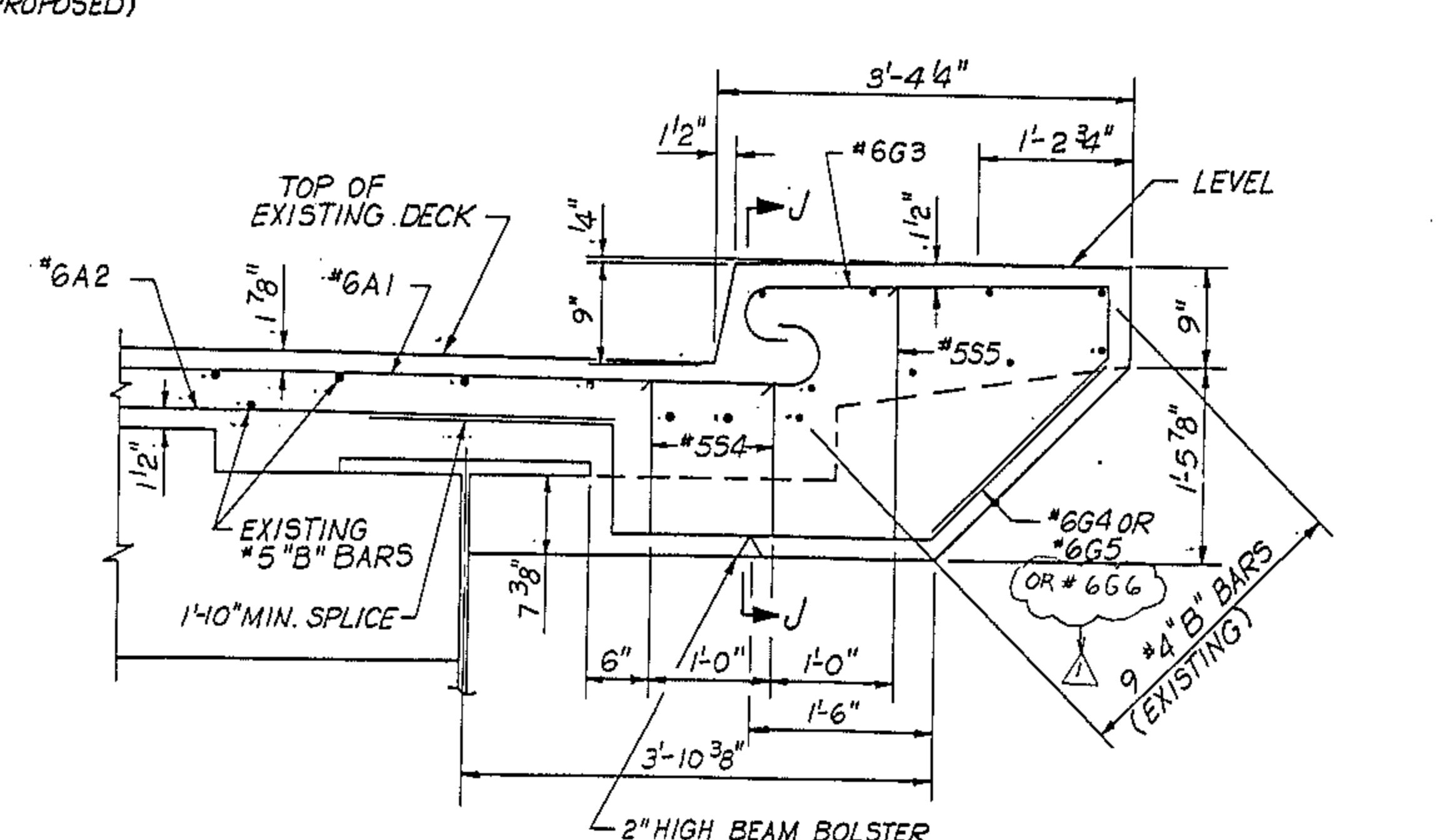
SECTION F-F
@ BENT #1 (JT. #2) & BENT #4 (JT. #15)



TYPICAL MODULAR EXPANSION JOINT SEAL DETAILS
(PROPOSED)



SECTION J-J



PROPOSED OVERHANG @ MODULAR JOINTS
(JOINTS #2 & #15)

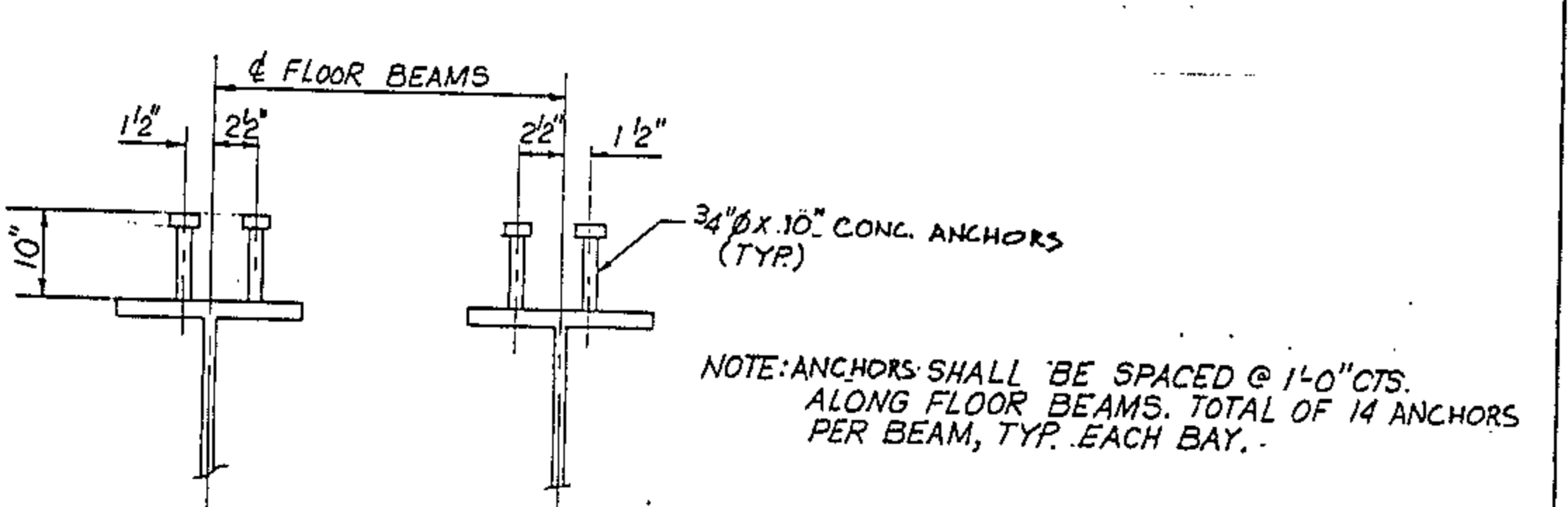
BAR TYPES
NOTE: ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL (FOR ONE BRIDGE ONLY)

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	
A1	20	6	31-0	931	
A2	20	6	STR 26-6	180	
	15			597	
G3	40	6	6-1	385	
G4	20	15	6	7-2	161
G5	20	15	6	7-3	163
G6	16	6	3	5-5	130
K1	48	5	STR 7-6	375	
K2	24	5	7	4-4	163
S2	42	4	4	5-7	157
S3	42	4	4	5-5	152
S4	16	5	5	4-11	82
S5	8	5	5	6-6	54
S6	24	5	6	2-4	58

REINFORCING STEEL (LBS.) = 3,403
TYPE "K" CONCRETE (CU. YD.) = 19.9
ADDITIONAL CONCRETE ON CHAMFERS (CY) = 0.45
STRUCTURAL STEEL (CONC. ANCHORS) NO. 168 = 250 LBS.
PAY ITEM MODULAR EXPANSION JOINT SEALS=L.S.

NOTES
MODULAR EXPANSION JOINT SEAL IS REQUIRED AT THIS JOINT BUT NOT SHOWN. SEE SKETCH SHOWING LIMITS OF MODULAR EXPANSION JOINT SEAL.
SEE SPECIAL PROVISIONS FOR MODULAR EXPANSION JOINT SEALS.
SET TOP OF MODULAR EXPANSION JOINT SEAL DEVICE A MINIMUM OF 1/8" AND A MAXIMUM OF 1/4" BELOW TOP OF CONCRETE OVERLAY.
THE MODULAR EXPANSION JOINT SEAL AT BENT NO. 1 AND BENT NO. 4 SHALL BE CAPABLE OF HANDLING A TOTAL THERMAL MOVEMENT, MEASURED PARALLEL TO THE CENTER LINE OF THE ROADWAY, OF 6 1/8" (3 1/16" EXPANSION AND 3 1/16" CONTRACTION FROM A MIDPOINT TEMPERATURE OF 60° FAHRENHEIT).
FOR TYPE "K" CONCRETE, SEE SPECIAL PROVISIONS.
ALL REINFORCING STEEL SHALL BE GRADE 60.
CONCRETE, REINFORCING STEEL, CONCRETE ANCHORS, LABOR, EQUIPMENT, ANY INCIDENTALS, AND THE REMOVAL OF EXISTING CONCRETE, SHALL BE PAID FOR AT THE L.S. BID PRICE FOR MODULAR EXPANSION JOINT SEAL.
FOR CONCRETE ANCHORS, SEE SPECIAL PROVISIONS.



CONC. ANCHOR... DETAILS
(TYP. @ JT. #2 & JT. #15)

NOTE: ANCHORS SHALL BE SPACED @ 1'-0" CTS. ALONG FLOOR BEAMS. TOTAL OF 14 ANCHORS PER BEAM, TYP. EACH BAY.

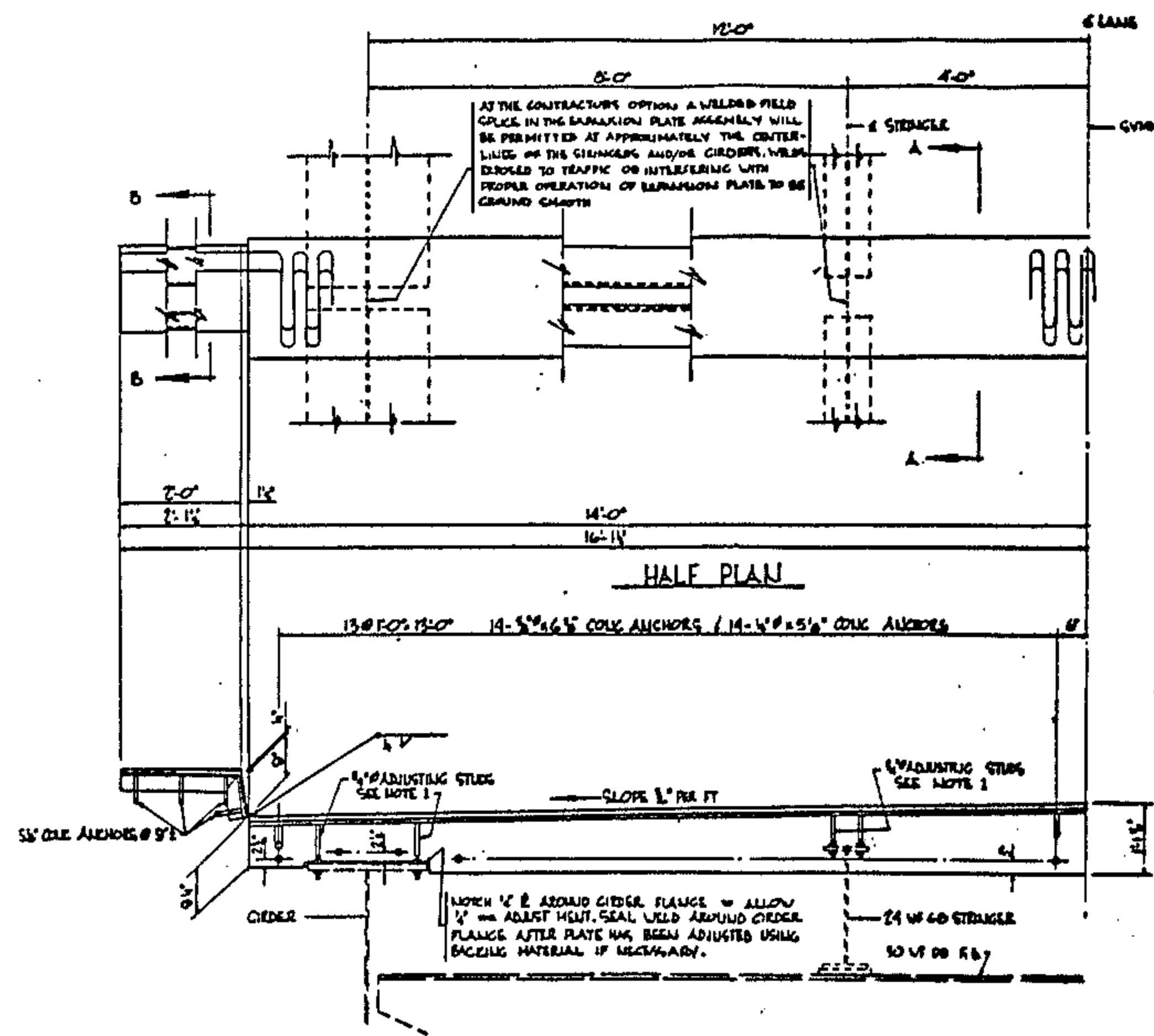
PROJECT No. 8.1950901
HENDERSON COUNTY

STATION: _____
SHEET 3 OF 4

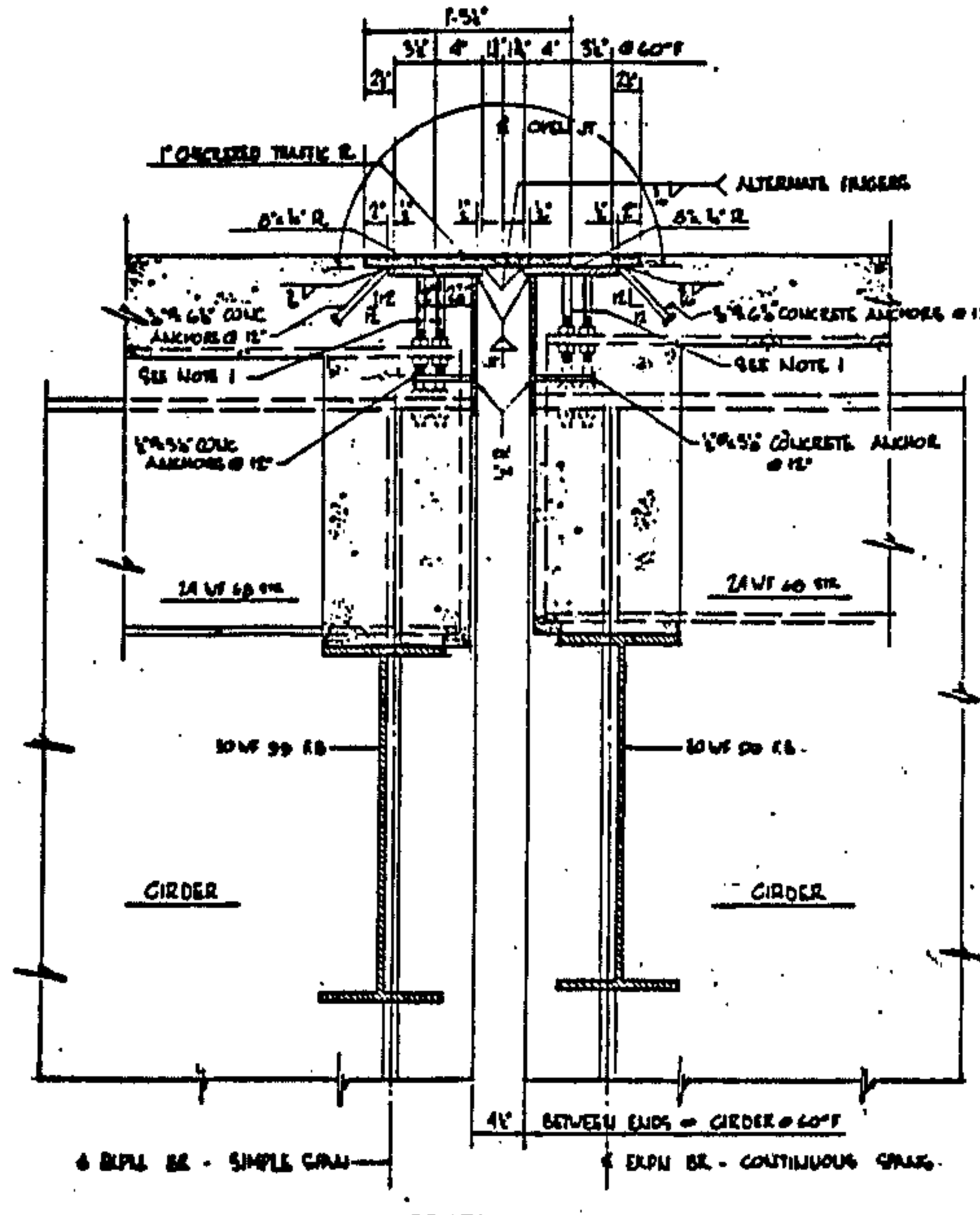


SEALED FOR ITEMS DENOTED

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	5-19
1	AH	8-31-13	3			TOTAL SHEETS 21

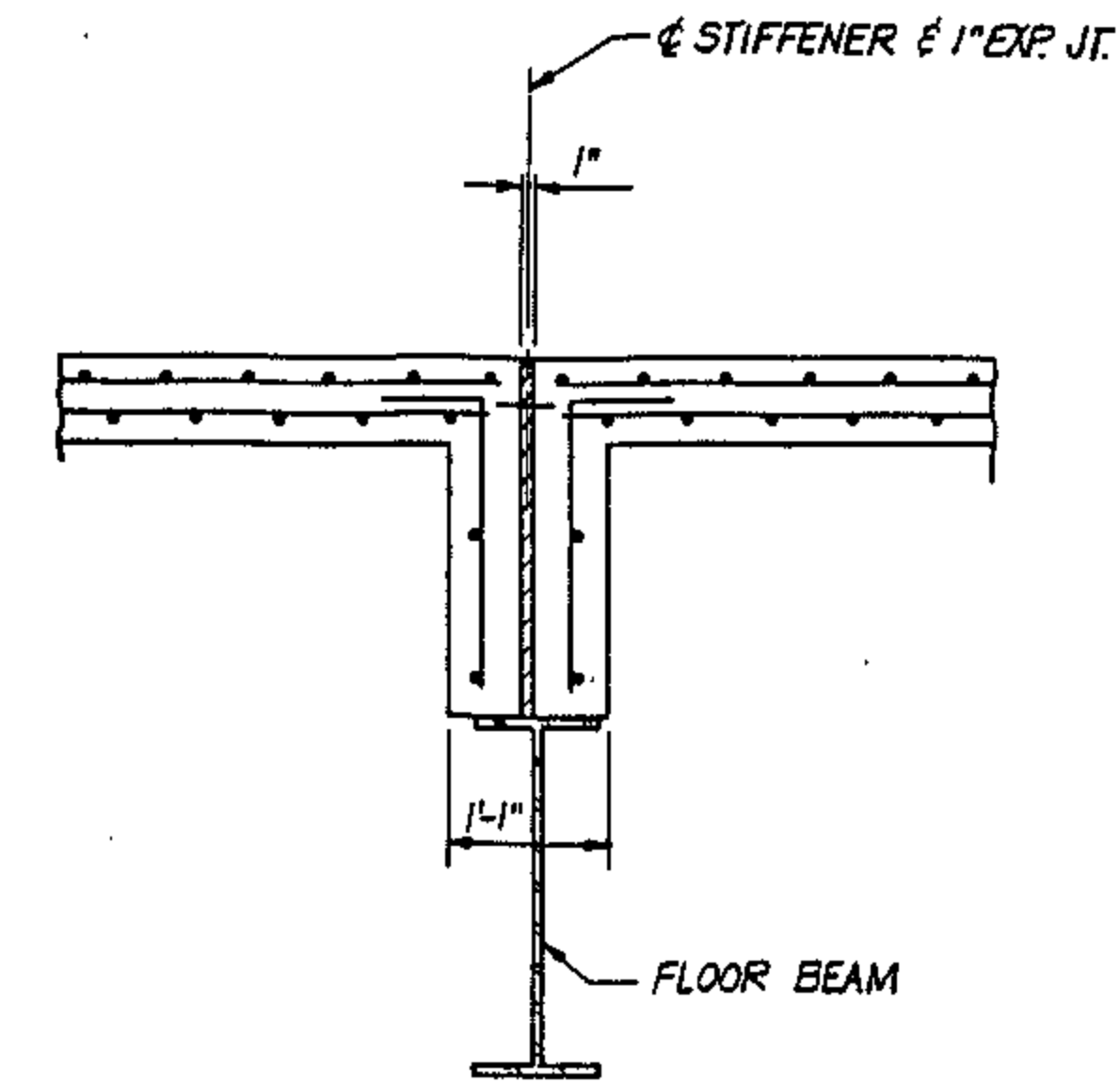


HALF ELEVATION

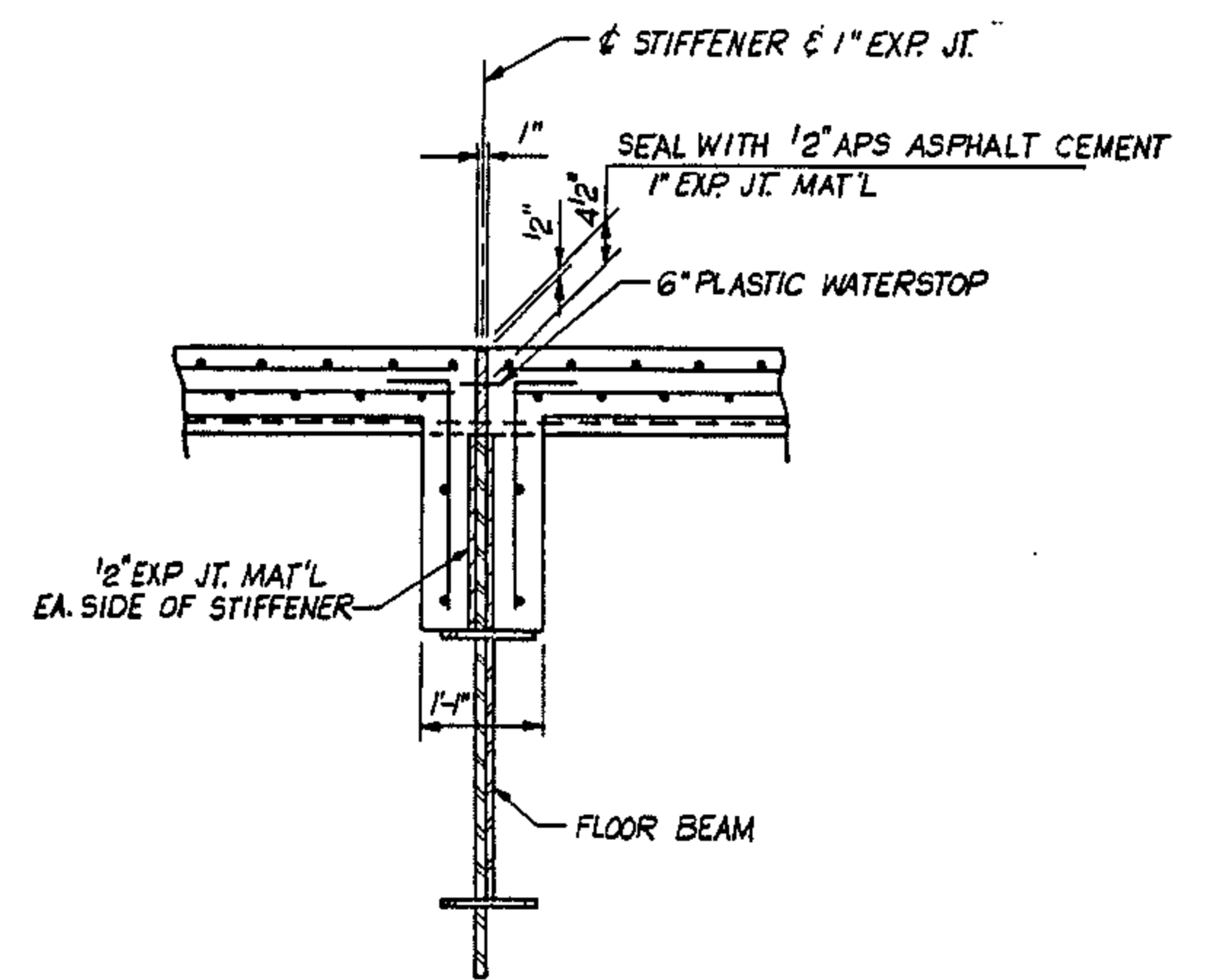


SECTION A-A

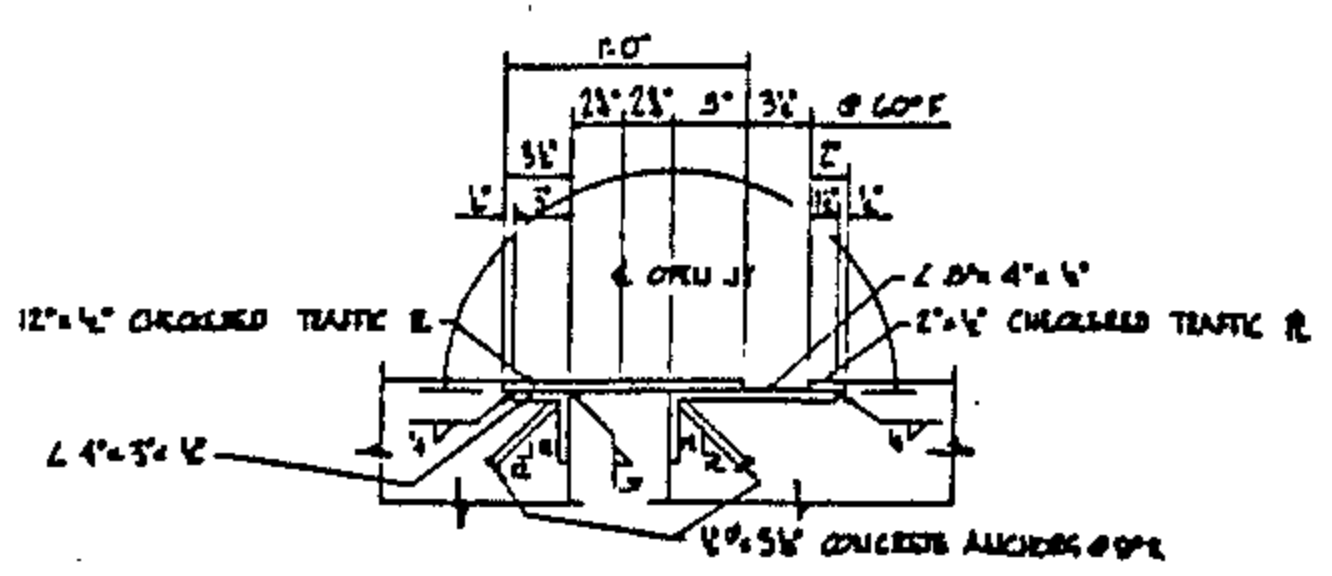
NOTE 1
2" x 4" THROLD STUDS WITH 2" x 4" BRK @ END OF GIRDERS AND STRINGERS, PER DRAWING DIMENSIONS.



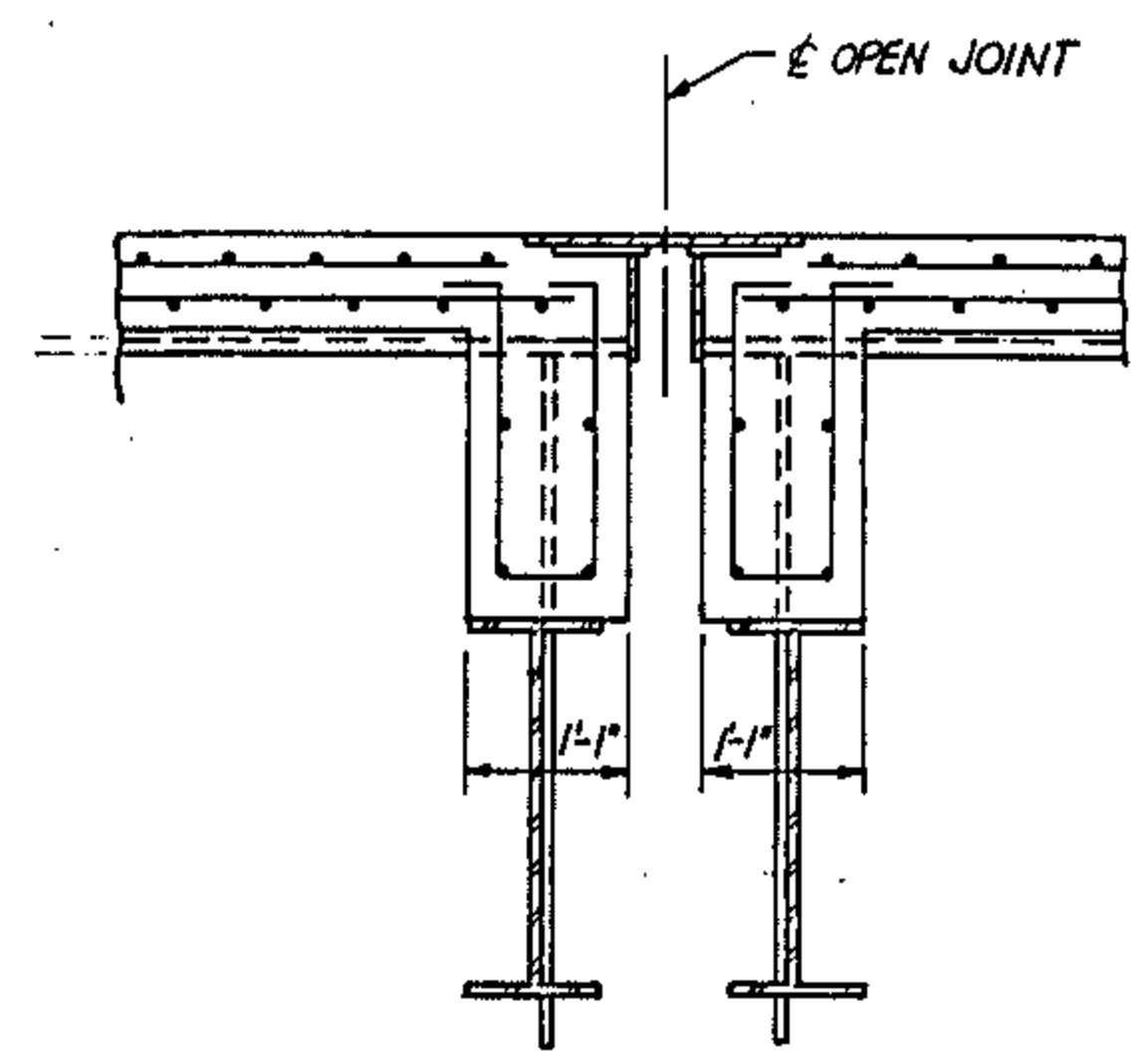
SECTION THRU EXP. JT. BETWEEN STIFFENERS



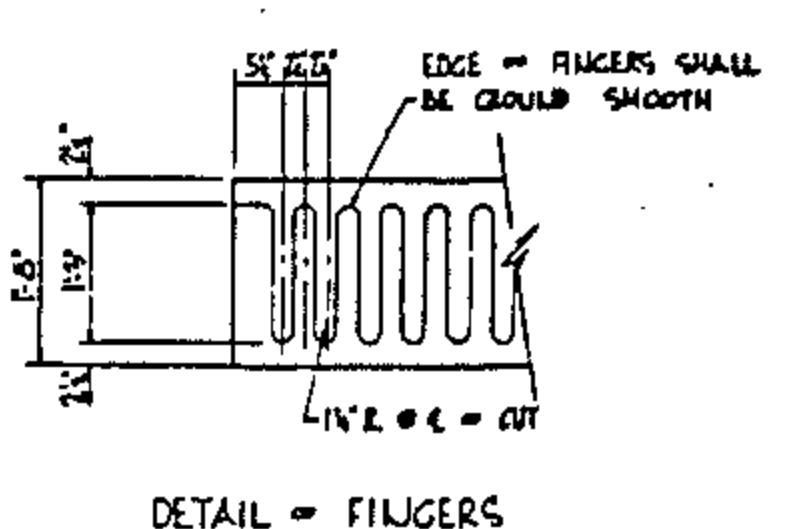
SECTION THRU EXP. JT. @ STIFFENER



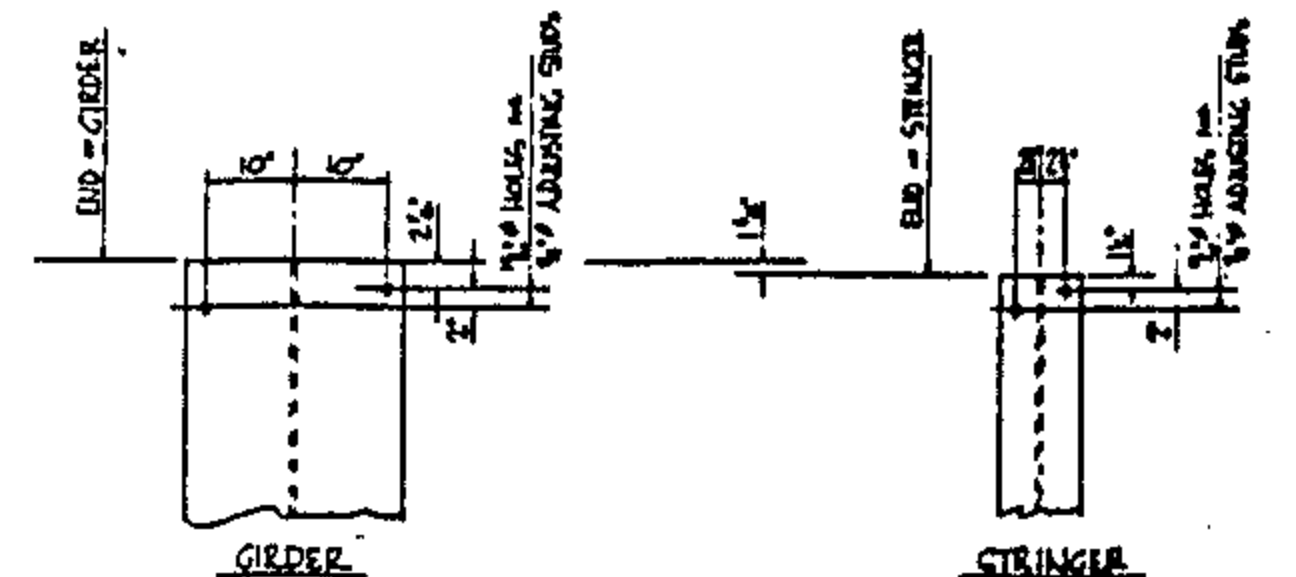
SECTION B-B



EXISTING OPEN JOINT



DETAIL - FINGERS



DETAIL - TOP FLANGES OF GIRDER AND STRINGER LOCATING HOLES - EXPANSION PLATE ADJUSTING STUDS

EXISTING OPEN JOINT DETAILS (@ POSITION 2, 15)

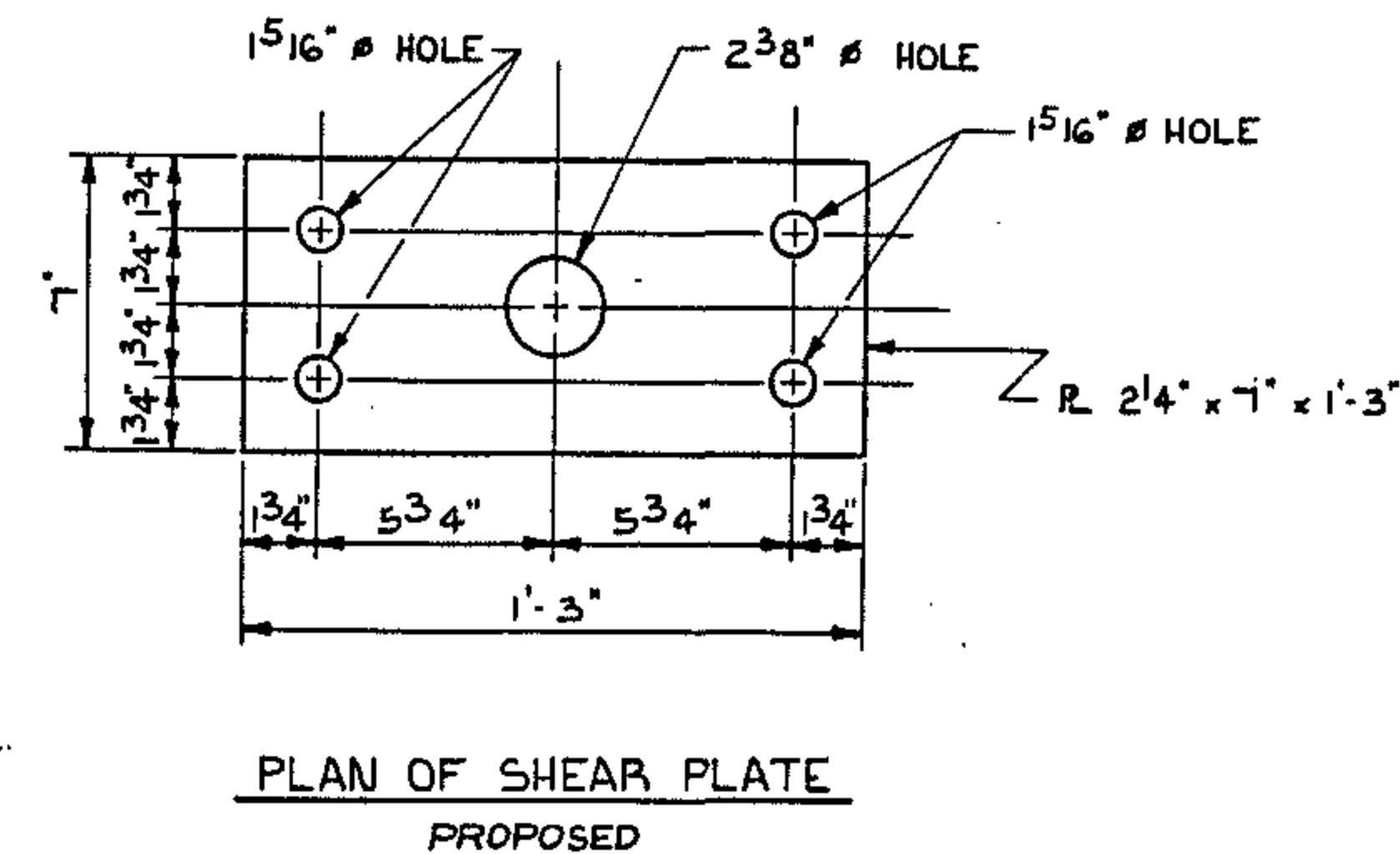
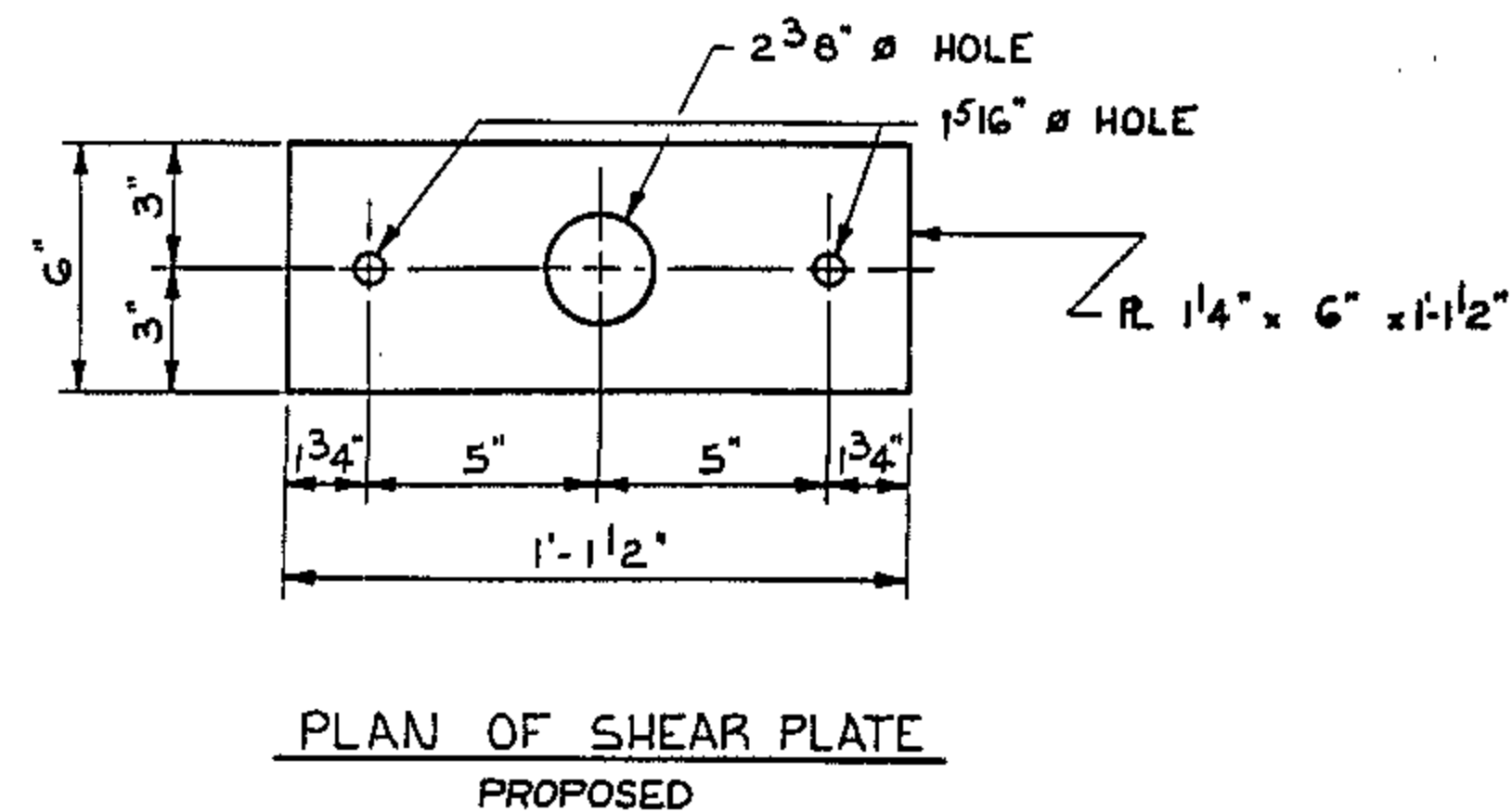
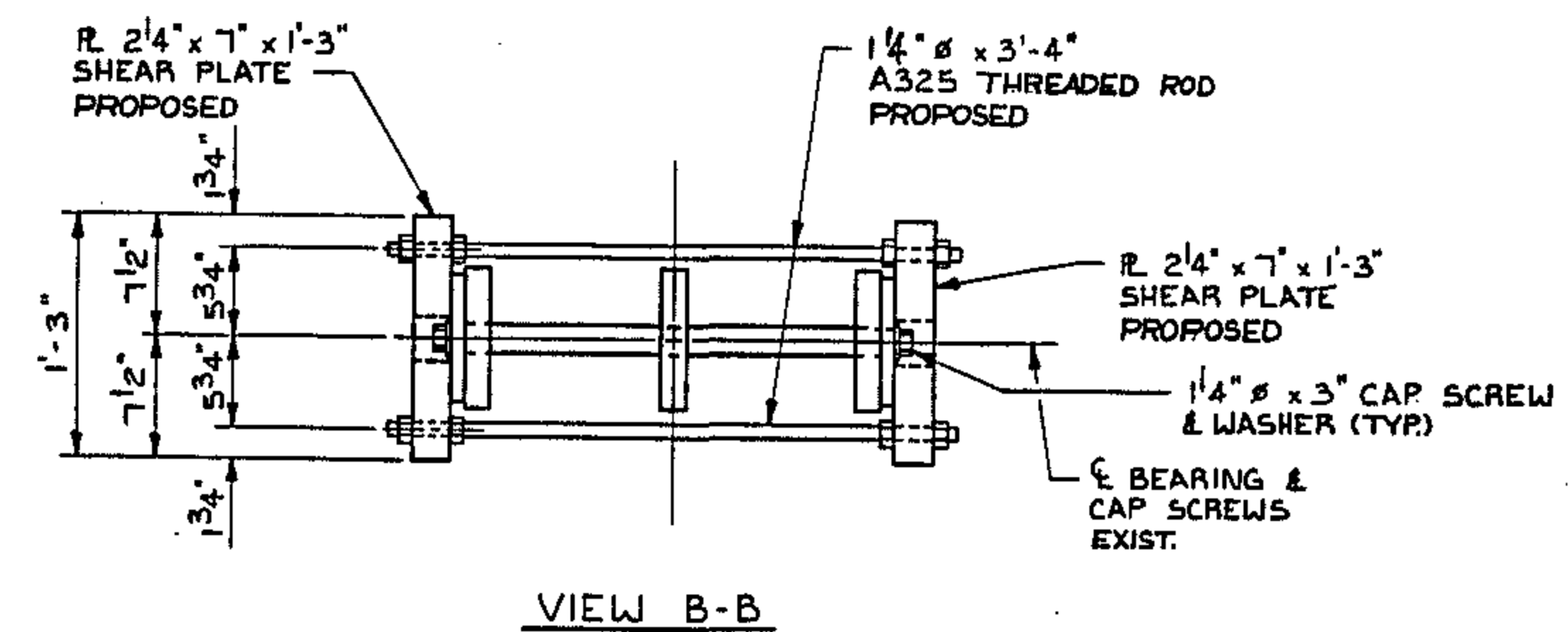
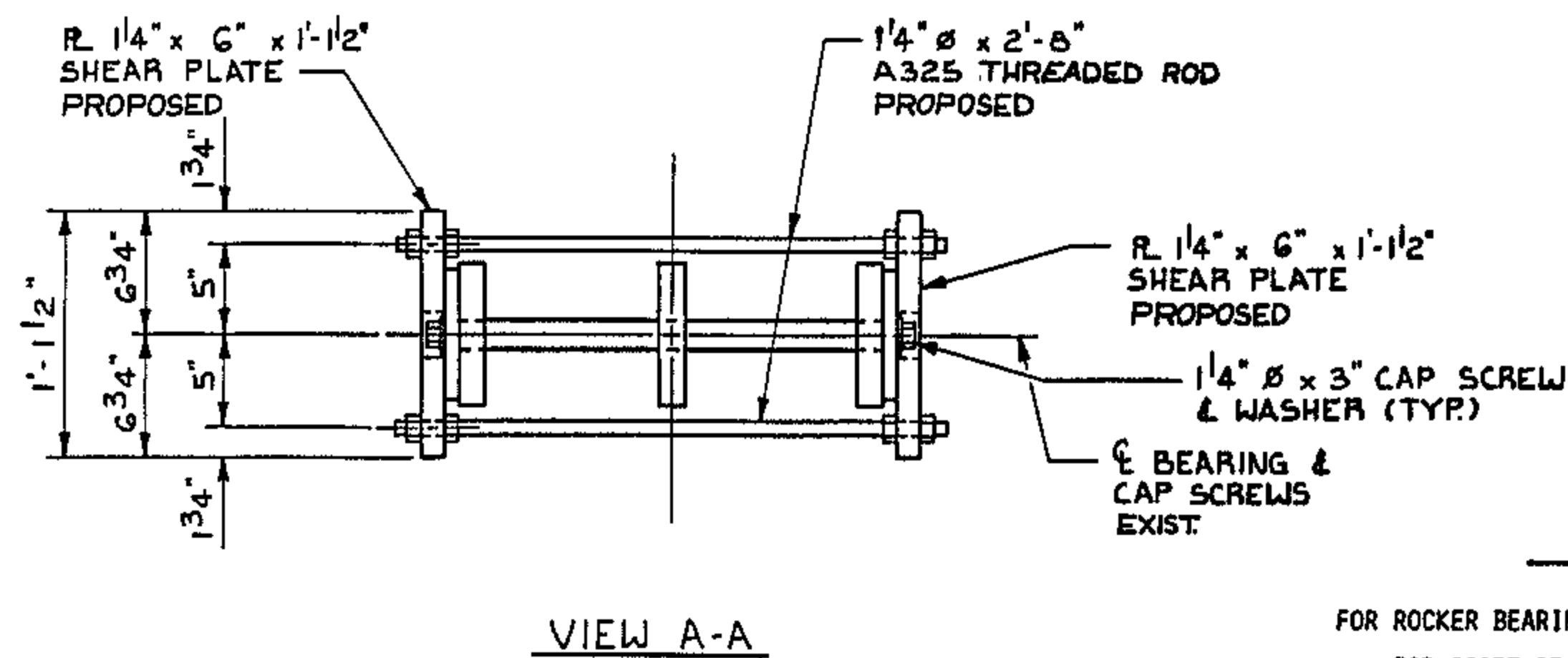
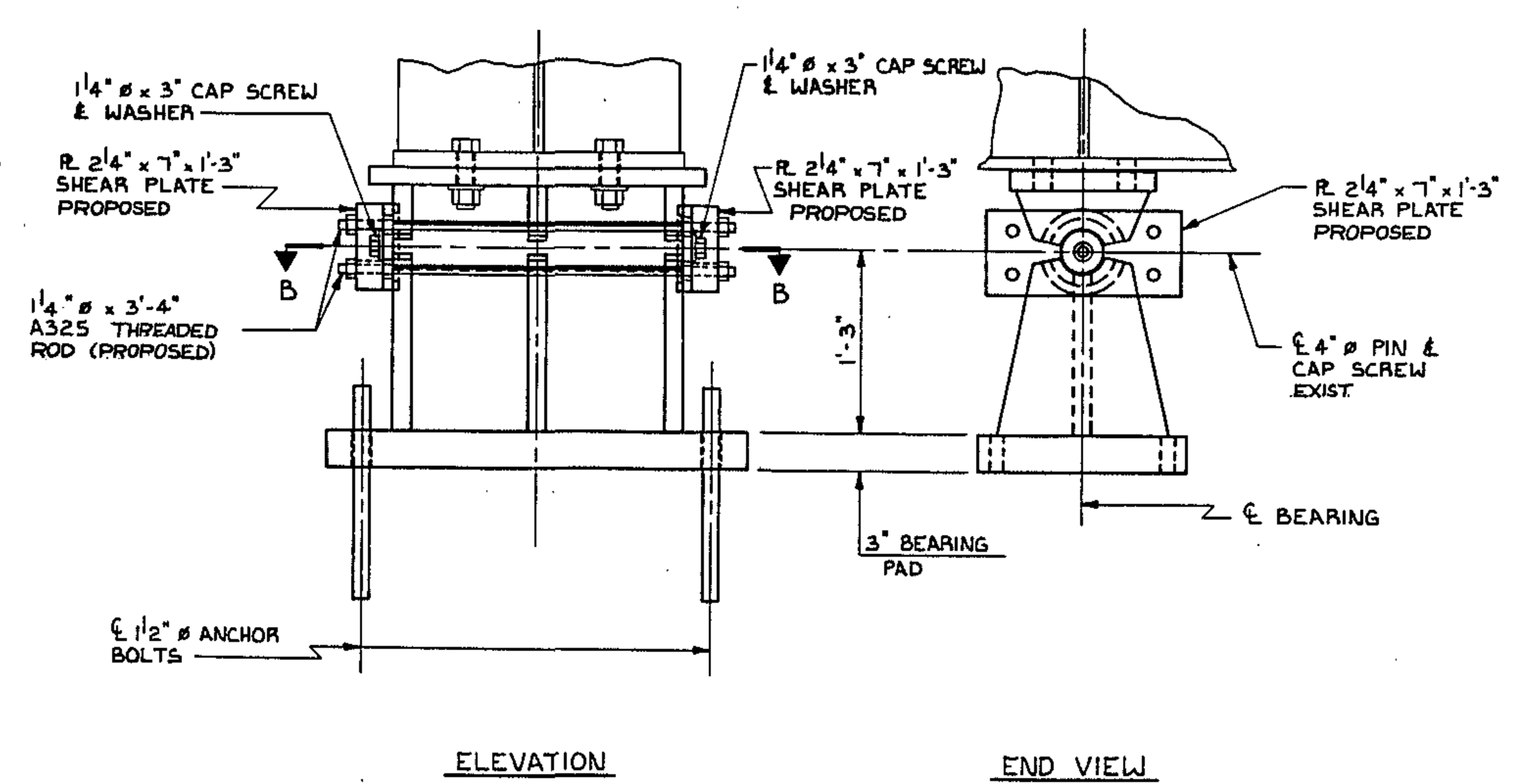
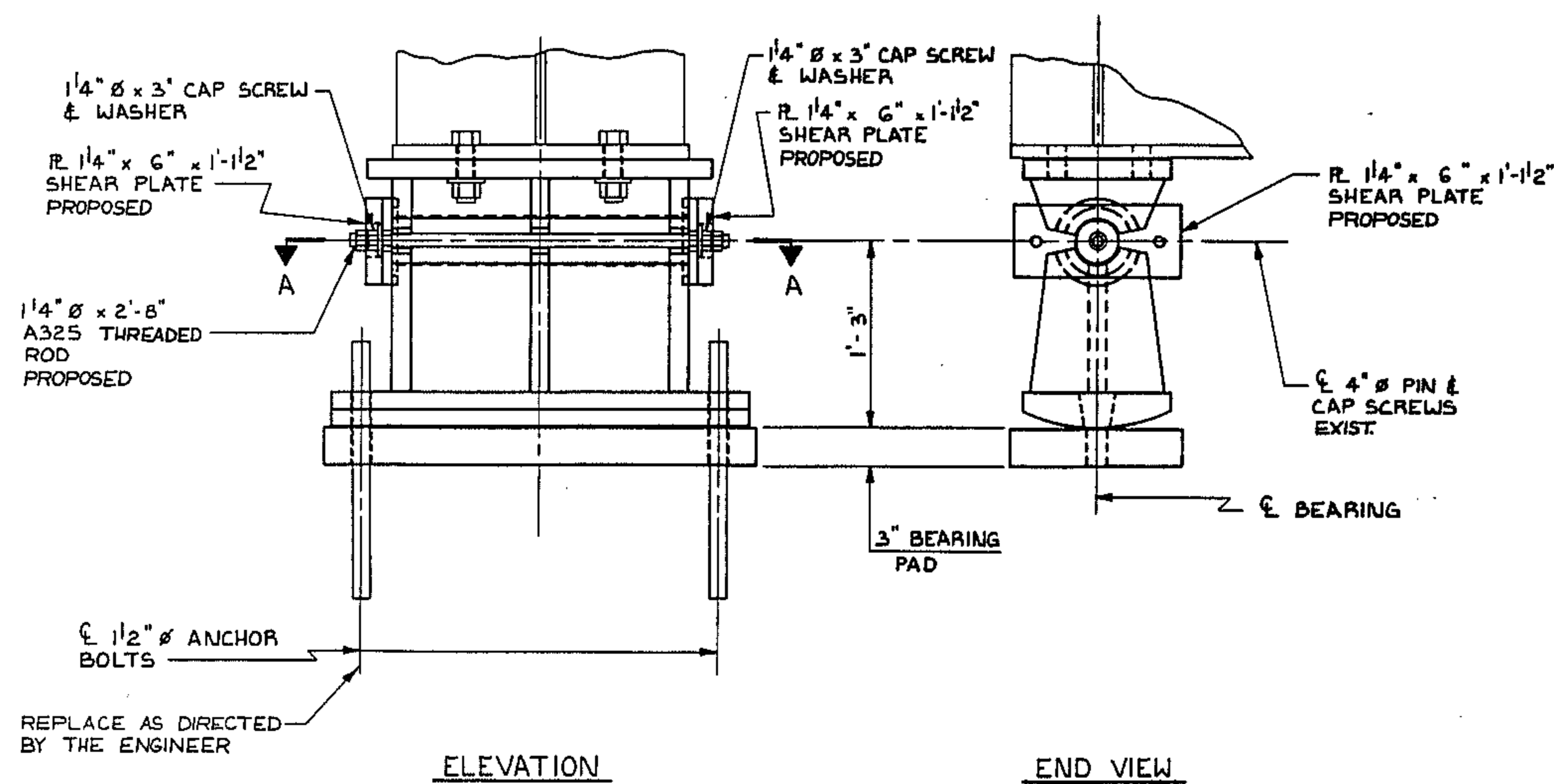
PROJECT No. 8.1950901
HENDERSON COUNTY

EXISTING 1" EXP. JT. DETAILS (@ POSITION 1, 3 THRU 14, 16)
STATION: _____
SHEET 4 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
EXISTING JOINT DETAILS

DRAWN BY J. D. KLEINSMITH DATE 11/2/92
CHECKED BY William Kain DATE 11/2/92

REVISIONS						SHEET NO. 5-20
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			



NOTES

FOR ROCKER BEARING RETROFIT:

FOR SCOPE OF WORK SEE SPECIAL PROVISIONS FOR "ROCKER BEARING ASSEMBLY RETROFIT".

1 1/4" Ø x 3" CAP SCREWS SHALL BE REPLACED IF MORE THAN 25% HEAD LOSS HAS OCCURRED AS DIRECTED BY THE ENGINEER.

STRUCTURAL STEEL FOR ROCKER-BEARING ASSEMBLY RETROFIT SHALL BE A-588.

THE A-325 THREADED ROD MAY BE SUBSTITUTED WITH AN EQUAL OR GREATER STRENGTH MATERIAL TO BE APPROVED BY THE ENGINEER.

FOR PAINTING EXISTING STEEL, SEE SPECIAL PROVISIONS.

FOR REPLACEMENT OF ANCHOR BOLTS:

FOR "REPLACE ANCHOR BOLTS" SEE SPECIAL PROVISIONS.

1 1/2" Ø ANCHOR BOLTS SHALL BE REPLACED IF MORE THAN 25% HEAD LOSS HAS OCCURRED AS DIRECTED BY THE ENGINEER. AT THE LOCATION OF EXISTING ANCHOR BOLTS DRILL OVERSIZE HOLES IN BEARING PLATES, AND TAP BASE PLATE TO ACCEPT 1 3/4" Ø A-325 H.S. BOLTS.

ALL BOLTS, NUTS, WASHERS, EQUIPMENT, LABOR, AND INCIDENTALS SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR EACH "REPLACE ANCHOR BOLTS" ITEM.

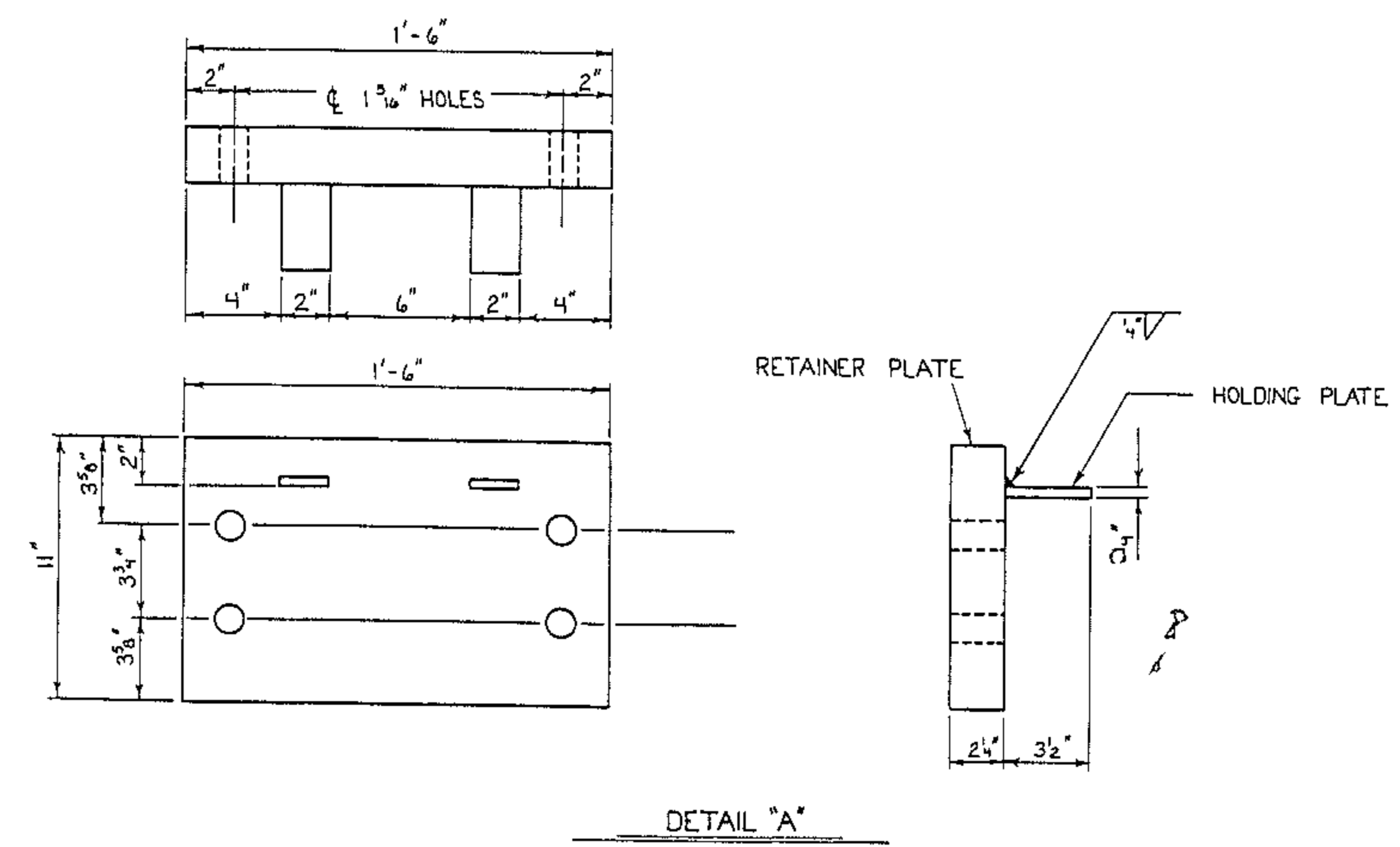
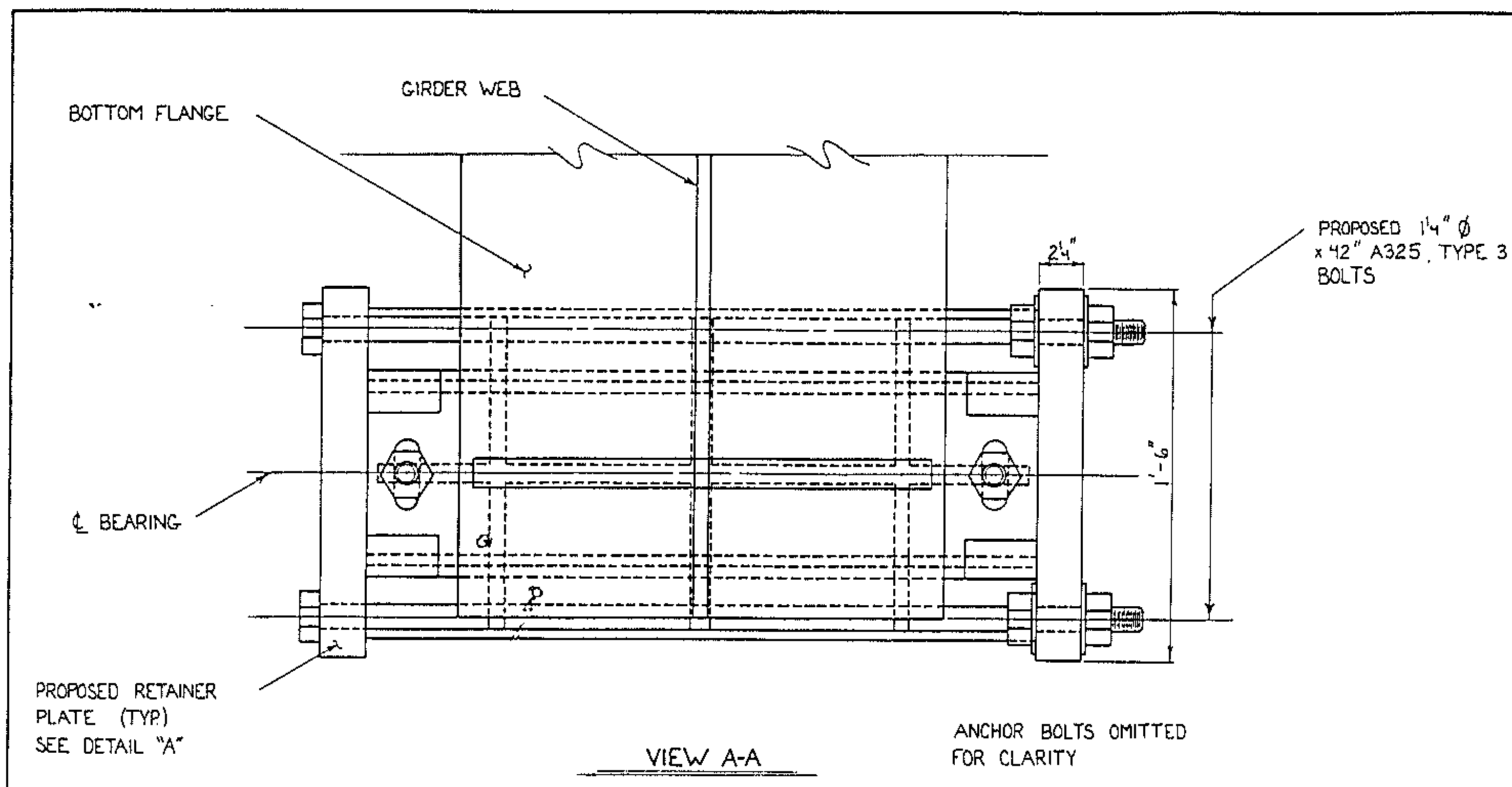
BILL OF MATERIAL	
STRUCTURAL STEEL	1422 LBS.
EAST BOUND BRIDGE:	
EXPANSION BEARING ASSEMBLY	EA 1
FIXED BEARING ASSEMBLY	EA 4
REPLACE ANCHOR BOLTS	EA 4
WEST BOUND BRIDGE:	
EXPANSION BEARING ASSEMBLY	EA 1
FIXED BEARING ASSEMBLY	EA 4
REPLACE ANCHOR BOLTS	EA 4
TOTAL PAY ITEMS FOR BOTH BRIDGES	
ROCKER BEARING ASSEMBLY RETROFIT	EA 10
REPLACE ANCHOR BOLTS	EA 8

PROJECT No. 8.1950901
 HENDERSON COUNTY
 STATION: _____

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
ROCKER-BEARING ASSEMBLY RETROFIT					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO.	5-21
TOTAL SHEETS	31

DRAWN BY L. A. HALL DATE 10-10-92
 CHECKED BY P. E. KELLY DATE 10-10-92

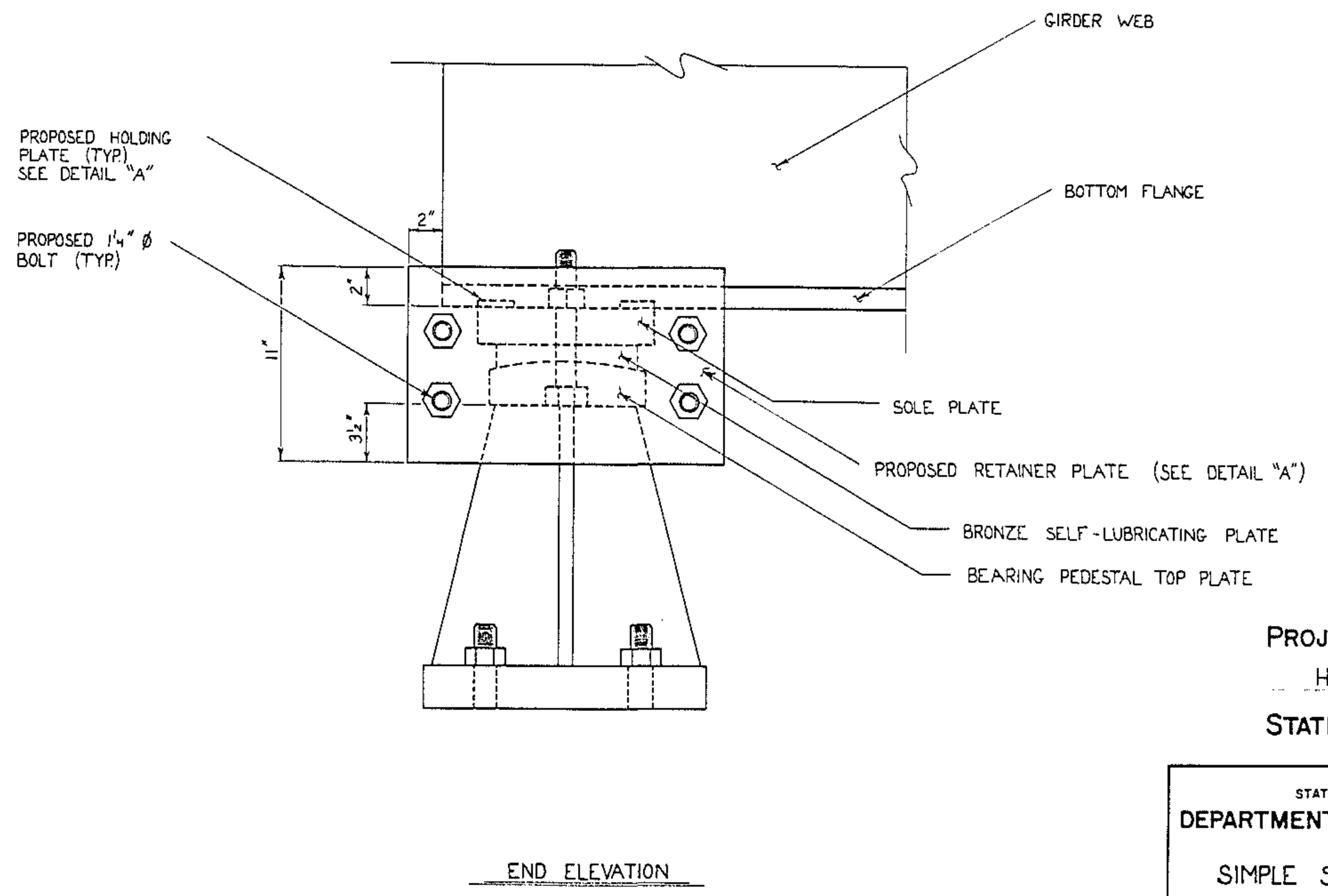
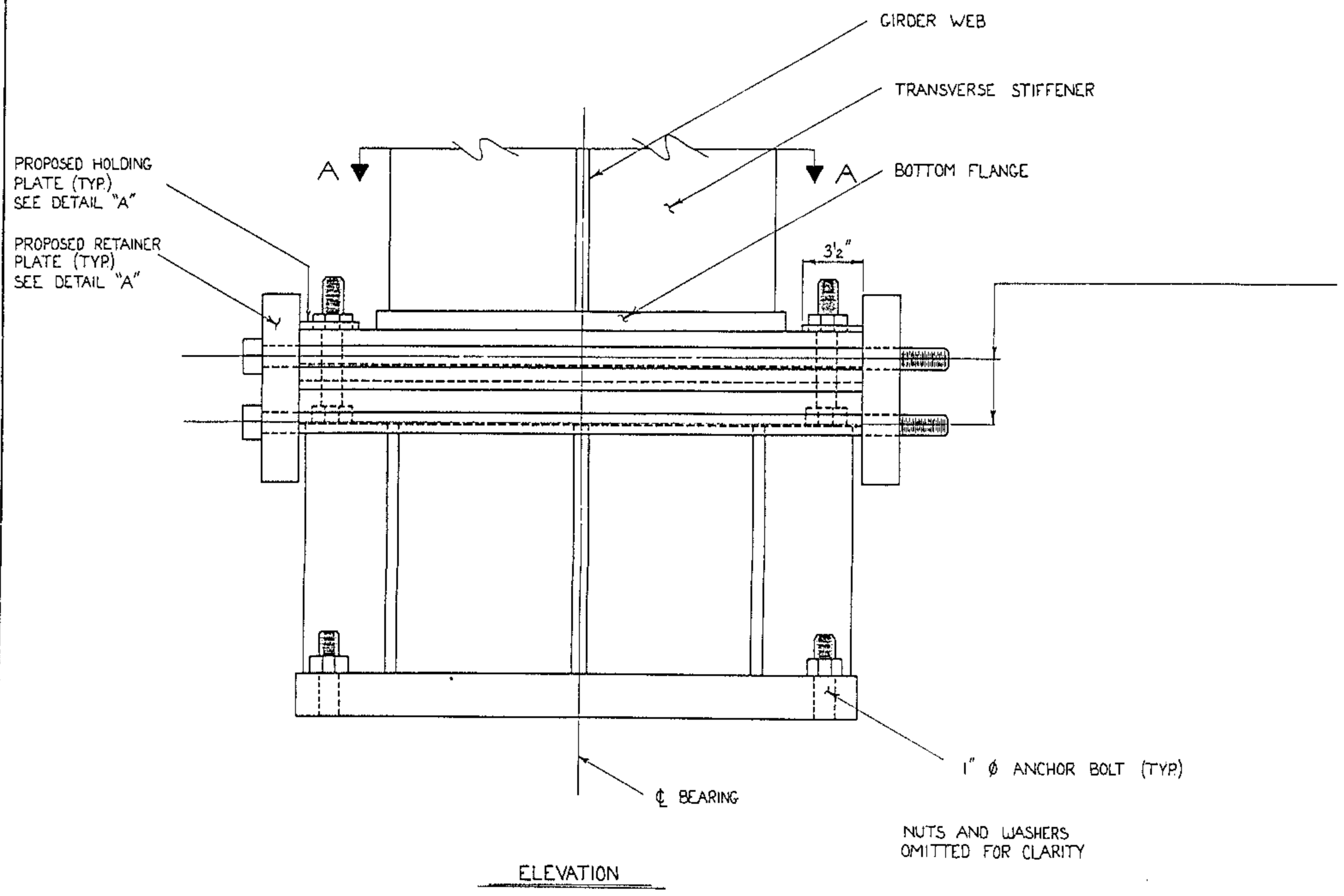


NOTES

ALL STEEL SHALL BE ASTM A-588.

THERE WILL BE TWO RETAINER PLATES PER BEARING FOR A TOTAL OF EIGHT PLATES PER BRIDGE.

STRUCTURAL STEEL ... 327 LBS. (PER BEARING)



PROJECT No. 8.1950901

HENDERSON COUNTY

STATION:

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SIMPLE SPAN BEARING
 RETROFIT @ BENTS 1 & 4

REV. SHEET ADDED TO SHOW SIMPLE SPAN BEARING RETROFIT @ BENTS 1 & 4
 RBR 10/24/93
 /BY: BOK 11/2/93

DRAWN BY R.D. KOEHLER DATE 10/21/92
 CHECKED BY B.D. KLAPPENACK DATE 11/3/93

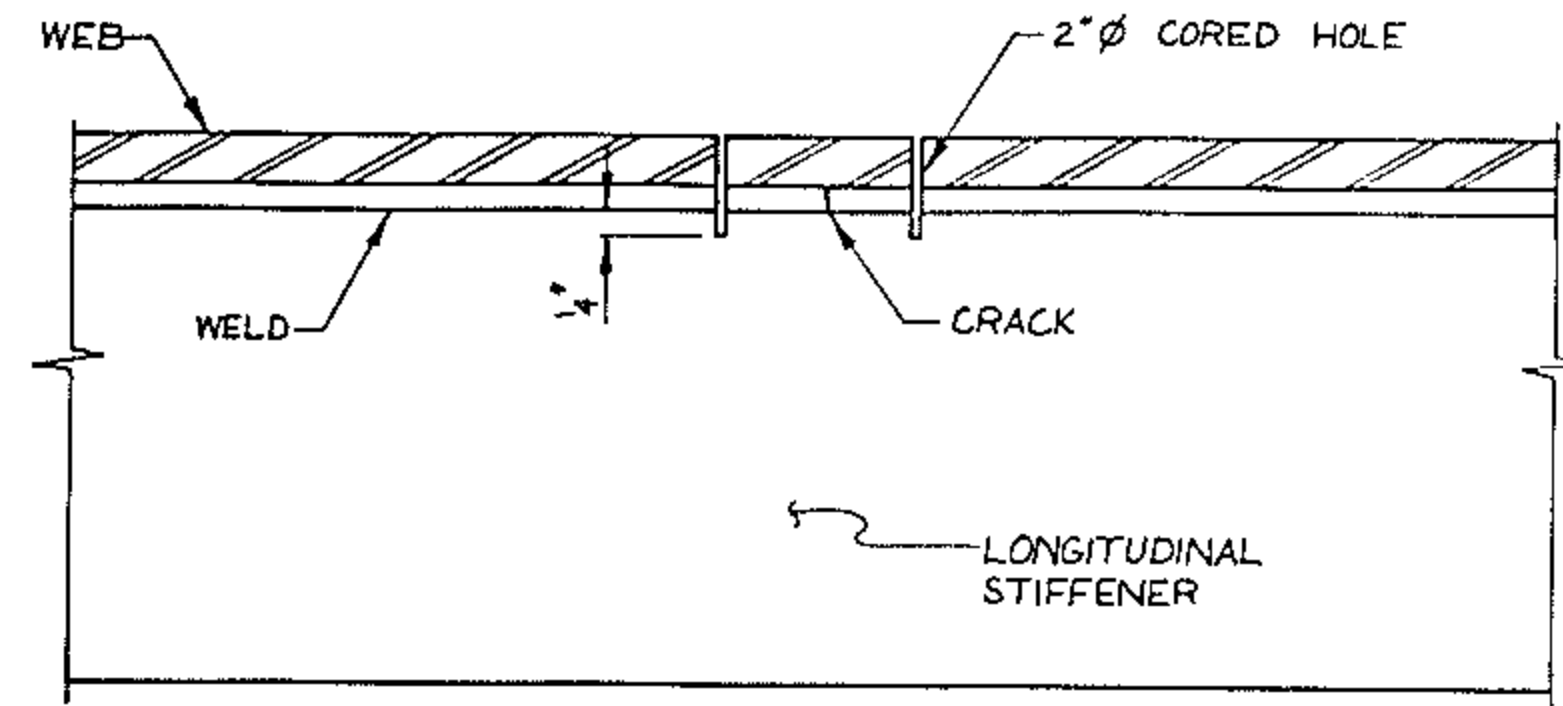
REVISIONS						SHEET NO. S-21A
NO.	BY	DATE	NO.	BY	DATE	
1	RBR	10/24/93	3			TOTAL SHEETS 31
2			4			

LONGITUDINAL STIFFENER REPAIR
FOR LONGITUDINAL STIFFENER REPAIR, SEE SPECIAL PROVISIONS.
THE ENGINEER SHALL VERIFY THE LOCATION OF EACH LONGITUDINAL STIFFENER REPAIR.

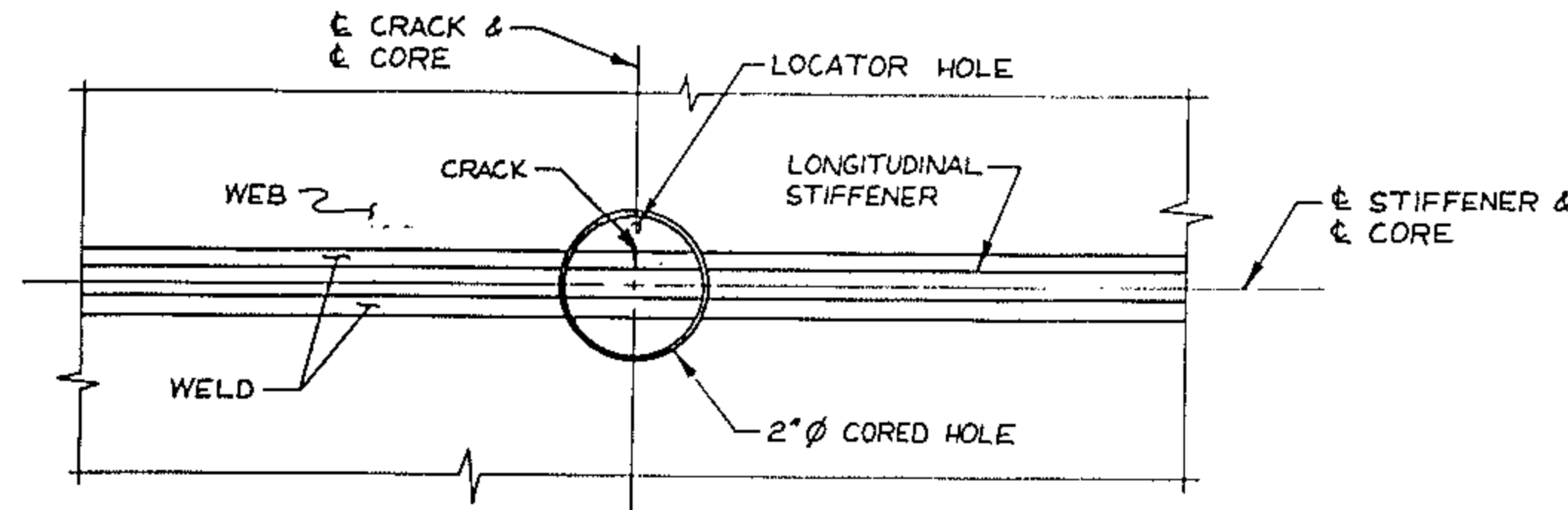
THE CONTRACTOR IS PERMITTED TO DRILL A SMALL LOCATOR HOLE FROM OUTSIDE OF THE WEB ABOVE THE CRACK TO FACILITATE CORING FROM THE INTERIOR SIDE OF THE GIRDER. THE LOCATOR HOLE SHALL BE SIZED AND POSITIONED SO IT IS COMPLETELY WITHIN THE CORE DIAMETER.

ALL LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE PAID FOR AT THE CONTRACT UNIT BID PRICE FOR EACH LONGITUDINAL STIFFENER REPAIR.

FOR MULTIPLE CRACK AREAS, USE THE ALTERNATE DETAIL PROVIDED. FIRST, CORE TWO OUTSIDE CRACKS INDIVIDUALLY; THEN CUT TWO THIN SLOTS BETWEEN THEM AS SHOWN.



PLAN



ELEVATION

LONGITUDINAL STIFFENER REPAIR

TRANSVERSE STIFFENER REPAIR

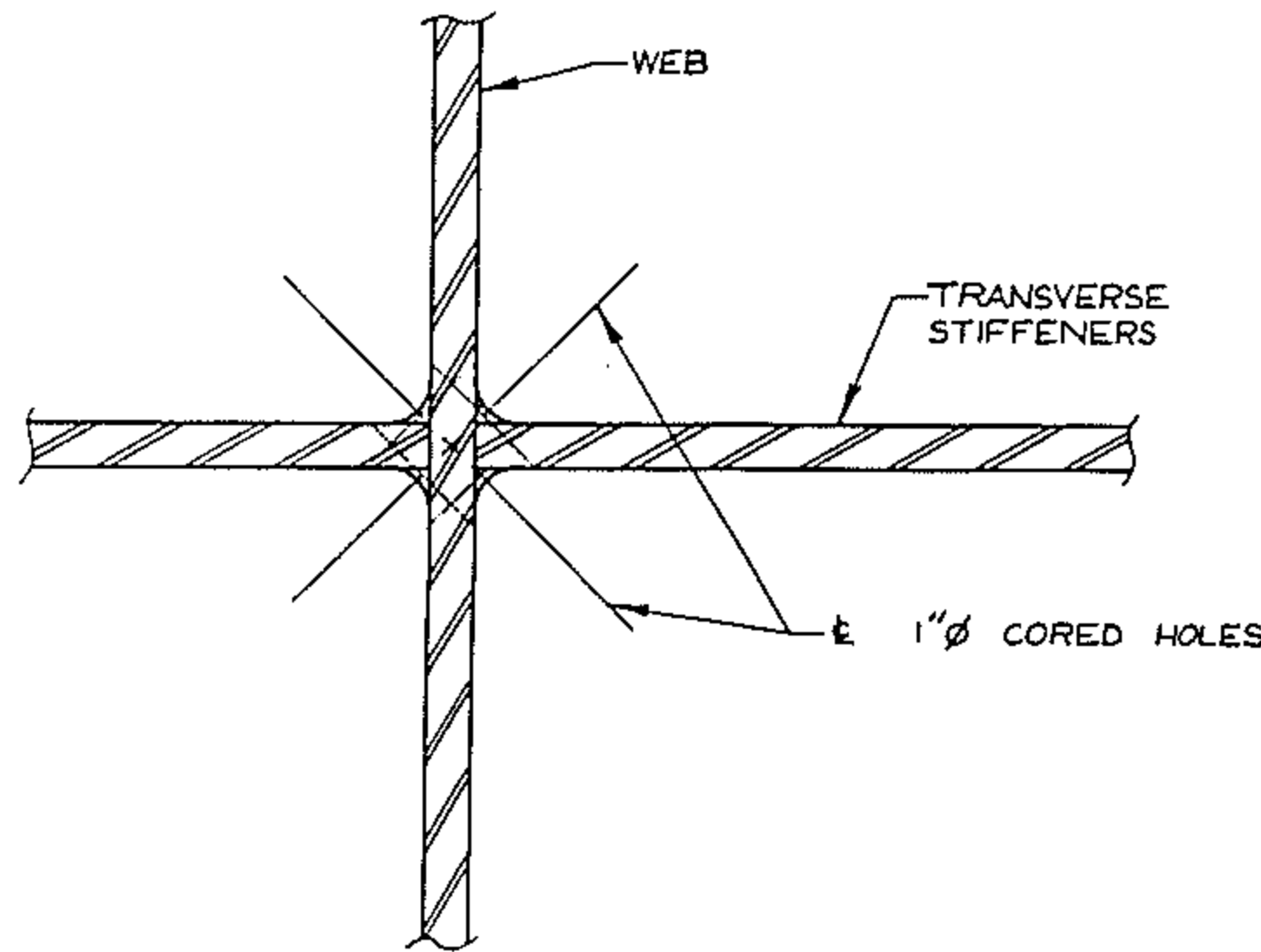
FOR TRANSVERSE STIFFENER REPAIR, SEE SPECIAL PROVISIONS.
THE ENGINEER SHALL VERIFY THE LOCATION OF EACH TRANSVERSE STIFFENER REPAIR.

THE CONTRACTOR SHALL POSITION THE CORES SO THAT THE TIPS OF EACH CRACK ARE ENTIRELY WITHIN THE CORES.
THE ENGINEER SHALL VERIFY THAT EACH TERMINATION OF THE CRACK WAS REMOVED BY THE CORE.

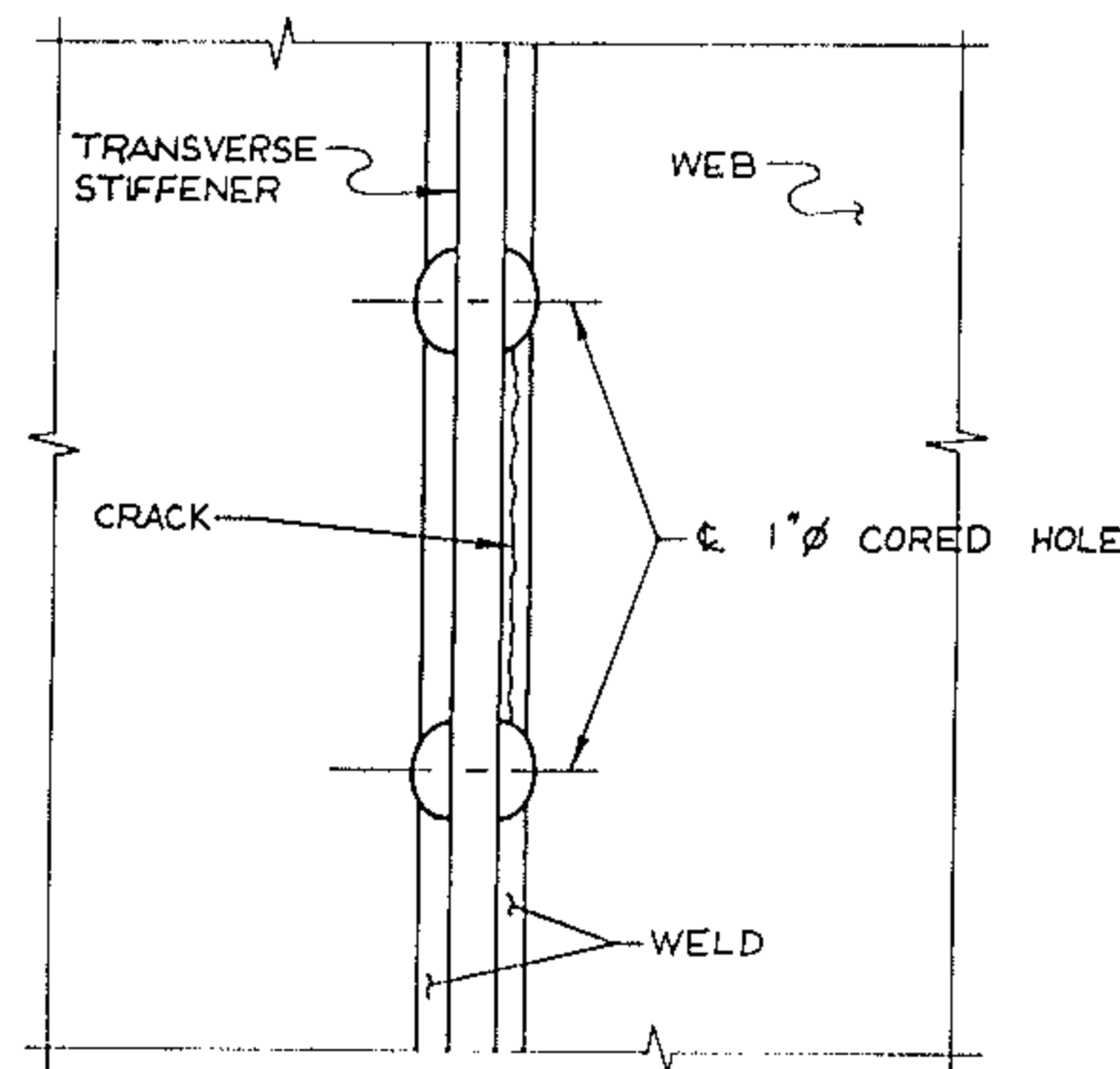
IF MORE THAN ONE CRACK EXISTS ALONG ONE TRANSVERSE STIFFENER, CORES SHALL BE LOCATED AS DIRECTED BY THE ENGINEER.

ALL EDGES SHALL BE GROUND SMOOTH.

ALL LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE PAID FOR AT THE CONTRACT UNIT BID PRICE FOR EACH TRANSVERSE STIFFENER REPAIR.



PLAN



ELEVATION

TRANSVERSE STIFFENER REPAIR

K-FRAME RETROFIT

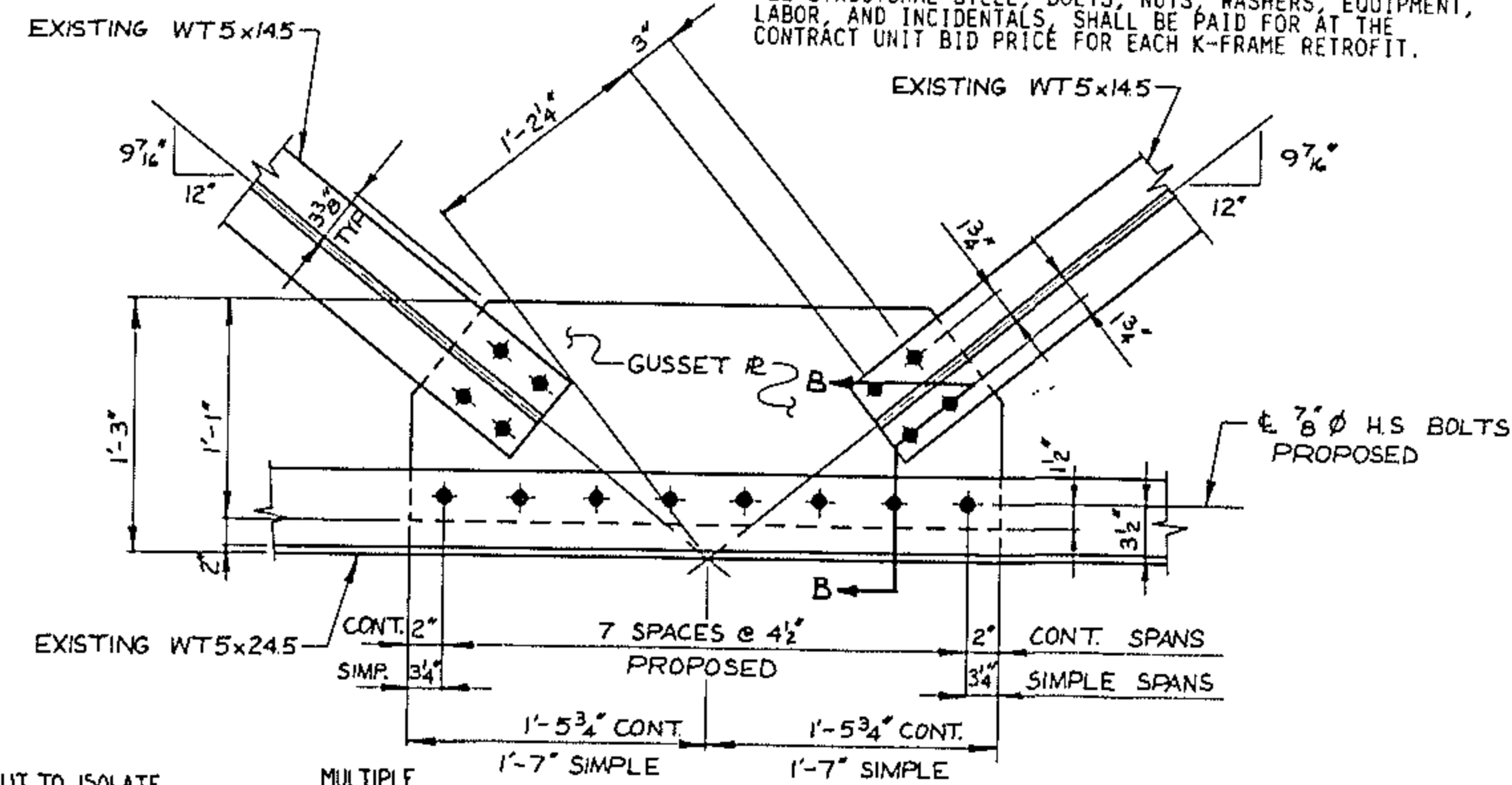
FOR K-FRAME RETROFIT, SEE SPECIAL PROVISIONS.

ANY WELD MATERIAL REMAINING ON EXISTING GUSSET PLATE FROM PREVIOUS REPAIRS SHALL BE GROUND SMOOTH PRIOR TO INSTALLATION OF NEW GUSSET PLATE.

STRUCTURAL STEEL WEIGHT PER K-FRAME IN CONTINUOUS SPANS = 83 LBS. SIMPLE SPANS = 88 LBS.

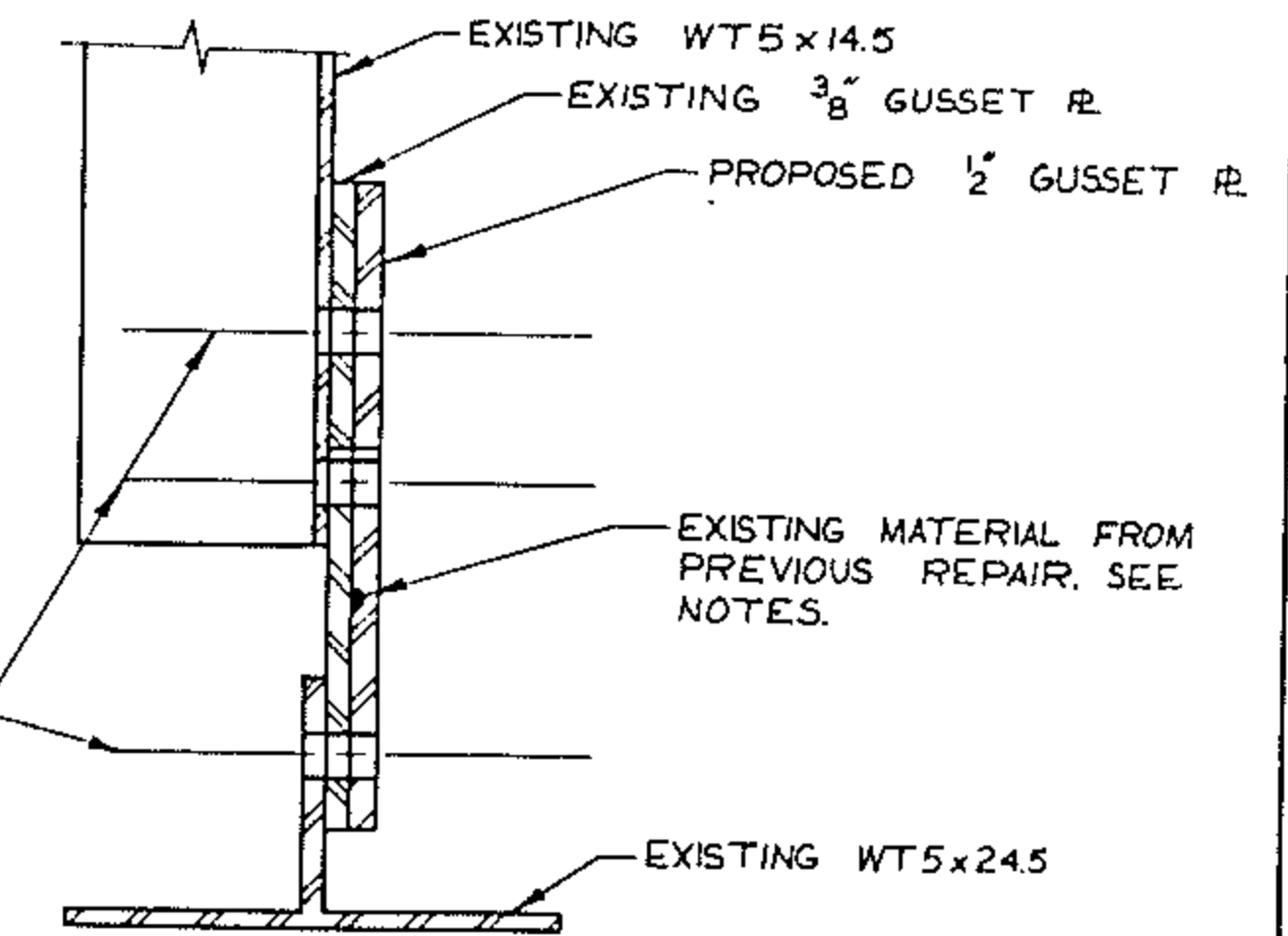
ALL BOLTS SHALL BE ASTM A-325. SEE SPECIAL PROVISIONS.

ALL STRUCTURAL STEEL, BOLTS, NUTS, WASHERS, EQUIPMENT, LABOR, AND INCIDENTALS SHALL BE PAID FOR AT THE CONTRACT UNIT BID PRICE FOR EACH K-FRAME RETROFIT.

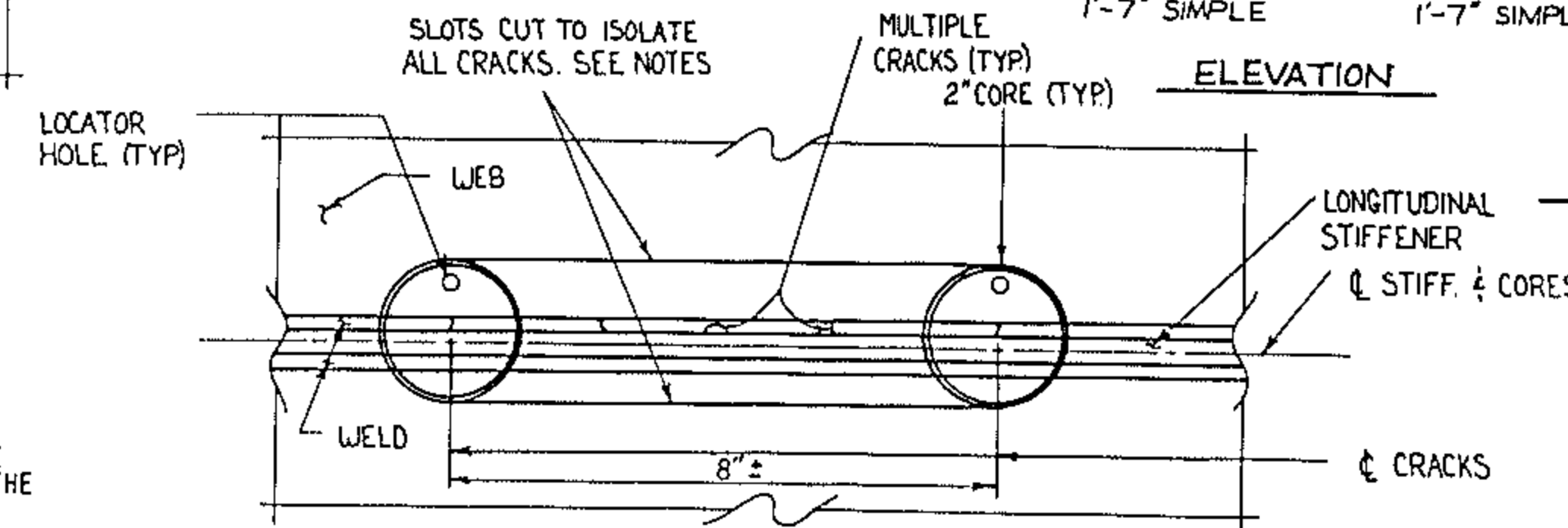


ELEVATION

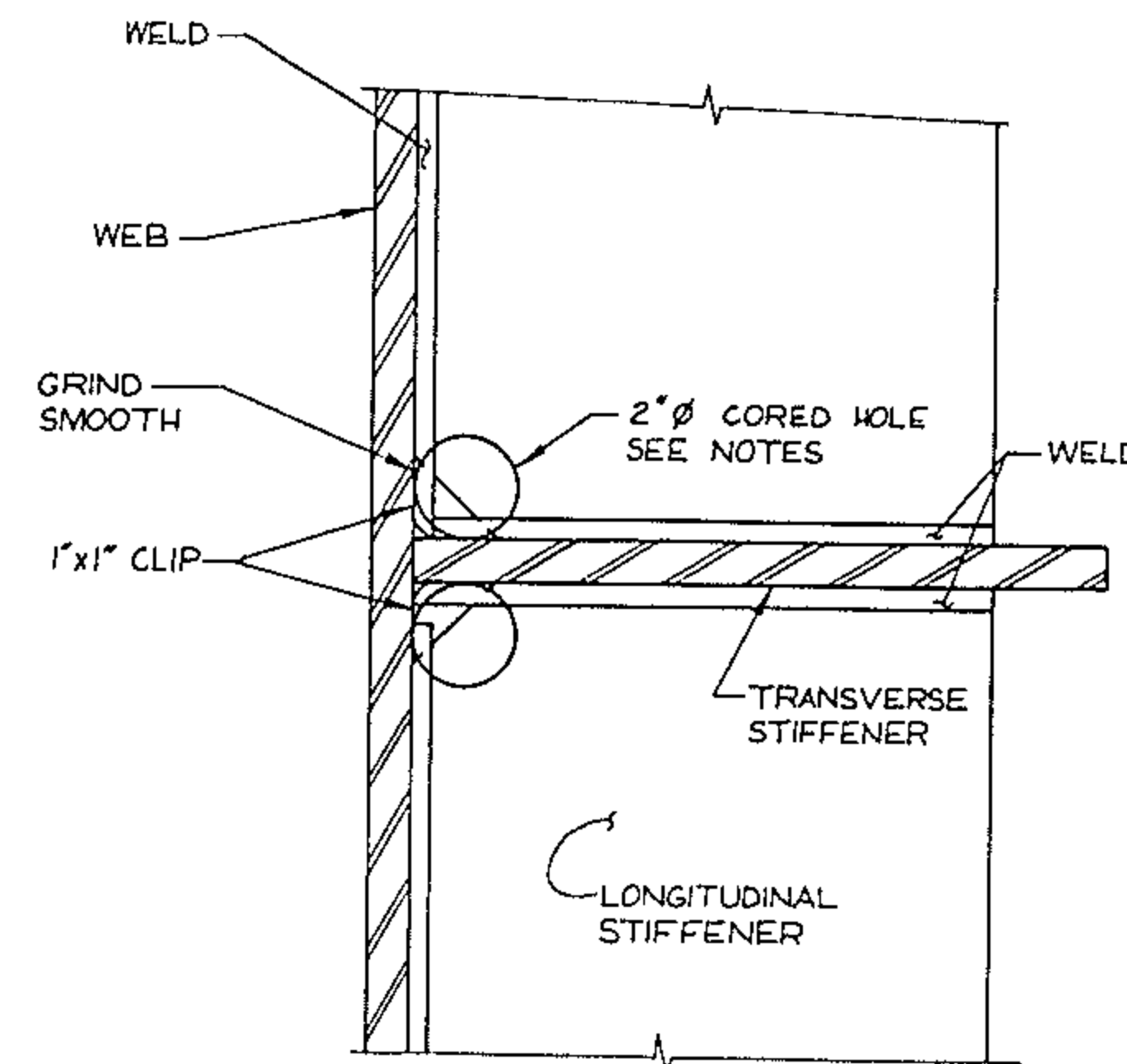
K-FRAME RETROFIT



SECTION B-B



LONGITUDINAL STIFFENER REPAIR (FOR MULTIPLE CRACKS)



STIFFENER INTERSECTION REPAIR

STIFFENER INTERSECTION REPAIR

FOR STIFFENER INTERSECTION REPAIR, SEE SPECIAL PROVISIONS.

THE ENGINEER SHALL VERIFY THAT THE 1" X 1" CLIP SHOWS NO EVIDENCE OF INTERSECTING WELDS. ANY LOCATION FOUND WITH INTERSECTING WELDS IN THE 1" X 1" CLIP SHALL BE CORED TO A 2" DIAMETER AS SHOWN.

THE ENGINEER SHALL VERIFY THE LOCATION OF EACH STIFFENER INTERSECTION REPAIR.

ALL LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE PAID FOR AT THE CONTRACT UNIT BID PRICE FOR EACH STIFFENER INTERSECTION REPAIR.

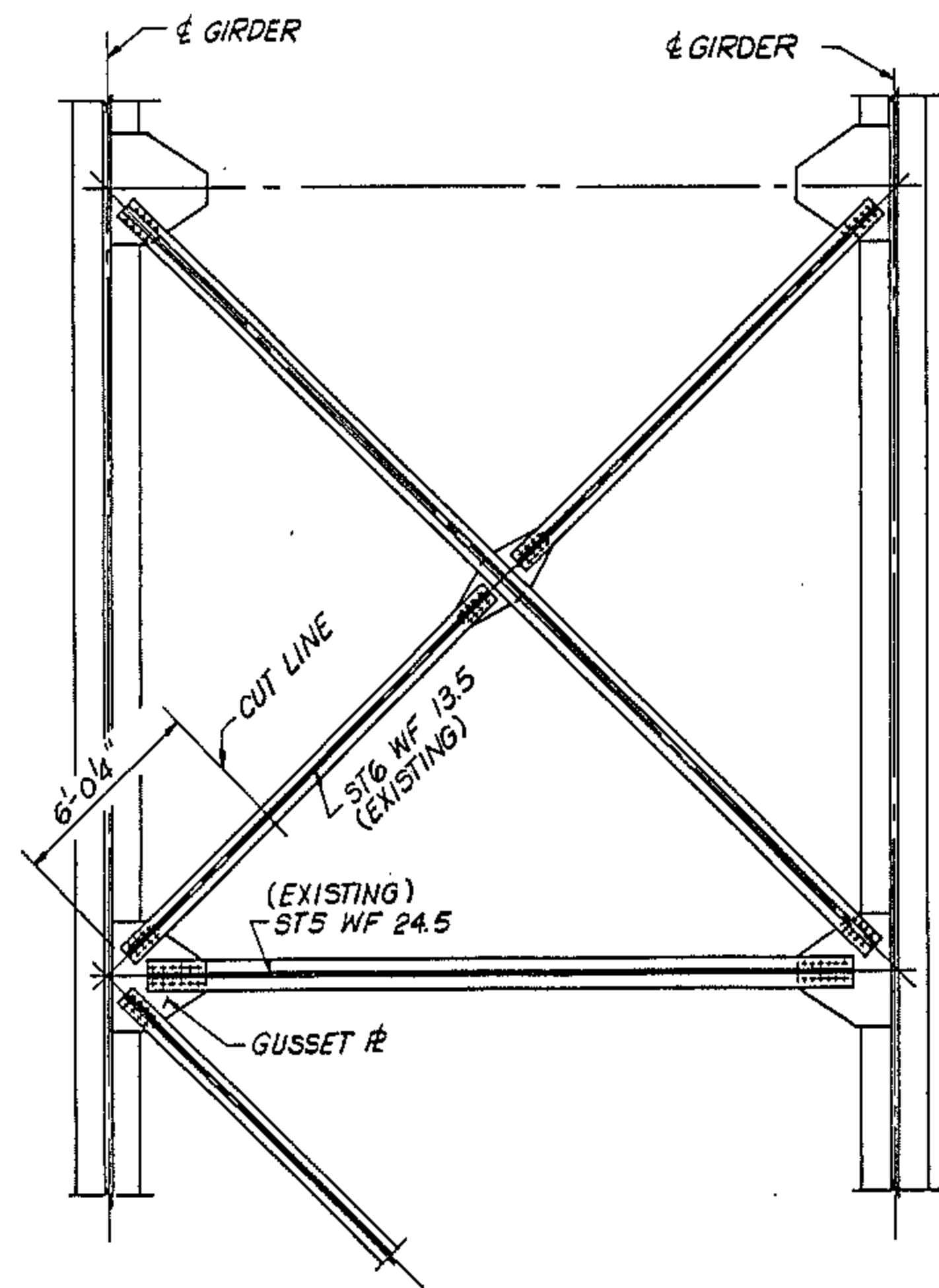
BILL OF MATERIAL			
	EAST BRIDGE	WEST BRIDGE	TOTAL
LONGITUDINAL STIFFENER REPAIR	17	11	28
TRANSVERSE STIFFENER REPAIR	0	2	2
K-FRAME RETROFIT	37	37	74
STIFFENER INTERSECTION REPAIR	21	17	38

PROJECT NO. 81950901
HENDERSON COUNTY
STATION: I-26 GREEN RIVER

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
WELD REPAIR DETAILS

REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	5-27	
1	ReR	6/30/93	3			TOTAL SHEETS 31	
2			4				

REV. ADDED DETAIL FOR LONGITUDINAL STIFFENER REPAIR FOR MULTIPLE CRACK REGION. ADDED NOTE TO LONGITUDINAL STIFFENER REPAIR NOTES.
RDR 6/30/93 /sy: BDK 4/30/93



TYPICAL LATERAL BRACING

NOTES

THE ACTUAL NUMBER OF LOCATIONS TO BE REPAIRED WILL BE DETERMINED BY THE ENGINEER.

THE DETAIL SHOWN IS FOR THE REPAIR OF THE BOTTOM LATERAL BRACING DUE TO CORROSION INDUCED SECTION LOSS. IF REPAIR OF LATERAL BRACING DIRECTLY ADJACENT TO BENT #2 OR #3 IS REQUIRED, A WT6 X 15 WILL BE NEEDED. THE NUMBER OF BOLTS REQUIRED FOR THE REPAIR SHALL MATCH THE NUMBER OF BOLTS IN THE EXISTING GUSSET PLATE CONNECTION. THE SPLICE LENGTH SHALL BE ADJUSTED TO ACCOMMODATE THE REQUIRED NUMBER OF BOLTS. AT ALL OTHER LOCATIONS A WT6 X 13 WILL BE REQUIRED AS DETAILED.

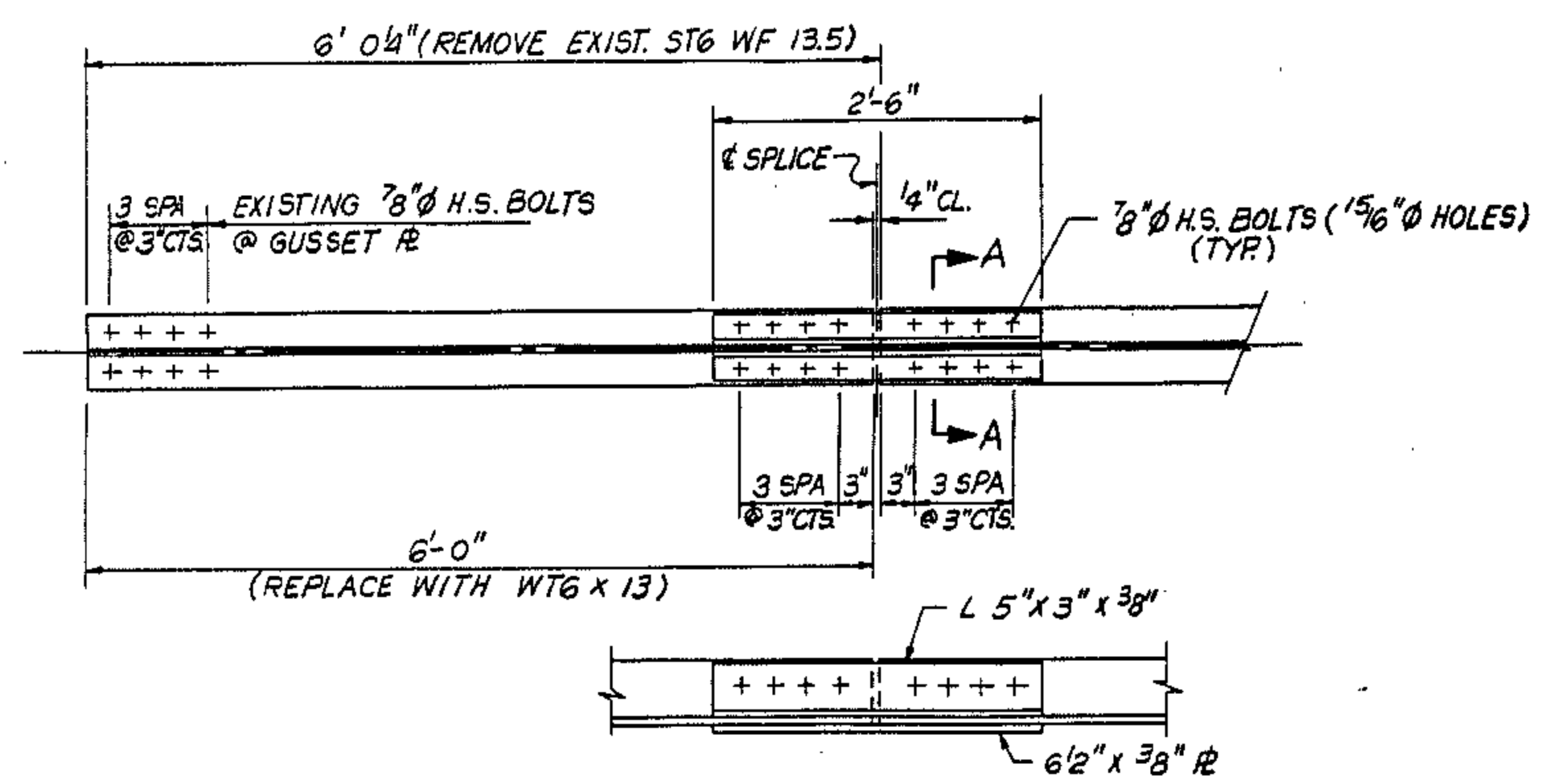
STRUCTURAL STEEL FOR LATERAL BRACING RETROFIT SHALL BE A-588.

THE EXISTING 7/8" Ø BOLTS AT THE GUSSET PLATE SHALL BE REPLACED IF 25% HEAD LOSS HAS OCCURED AS DIRECTED BY THE ENGINEER. THESE BOLTS SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR "REPLACE STRUCTURAL BOLTS".

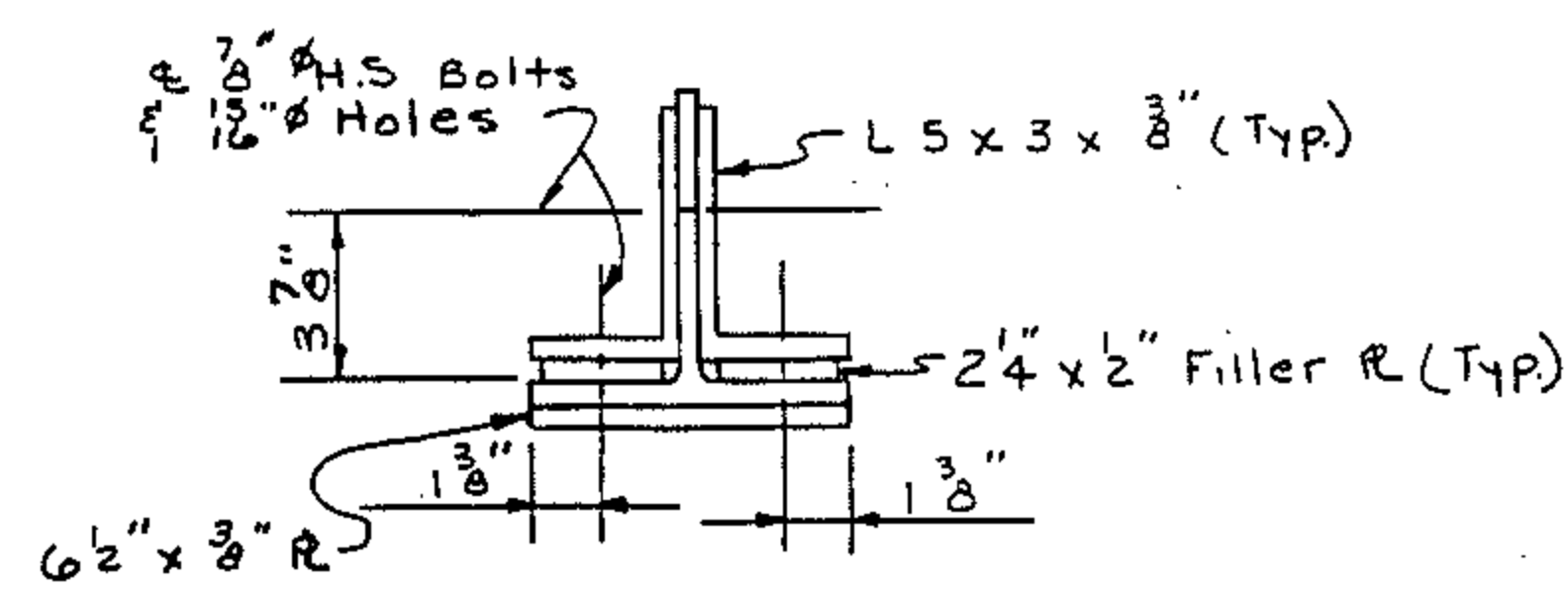
ALL STRUCTURAL STEEL, NUTS, BOLTS, WASHERS, EQUIPMENT, LABOR, AND INCIDENTALS WILL BE PAID FOR AT THE CONTRACT BID PRICE FOR "LATERAL BRACING RETROFIT". ANY BOLTS REQUIRED FOR ERECTION OF STRUCTURAL MEMBERS SHALL NOT BE INCLUDED IN THE BID ITEM "REPLACE STRUCTURAL BOLTS".

ALL BOLTS SHALL BE ASTM A-325; SEE SPECIAL PROVISIONS. FOR LATERAL BRACING RETROFIT, SEE SPECIAL PROVISIONS.

BILL OF MATERIAL (FOR ONE BRIDGE ONLY)	
STRUCTURAL STEEL (LBS.) =	188
PAY ITEM	
LATERAL BRACING RETROFIT, EA. =	1



TYPICAL LATERAL BRACING SPLICE



SECTION A-A

PROJECT No. 8.1950901
 HENDERSON COUNTY
 STATION: _____

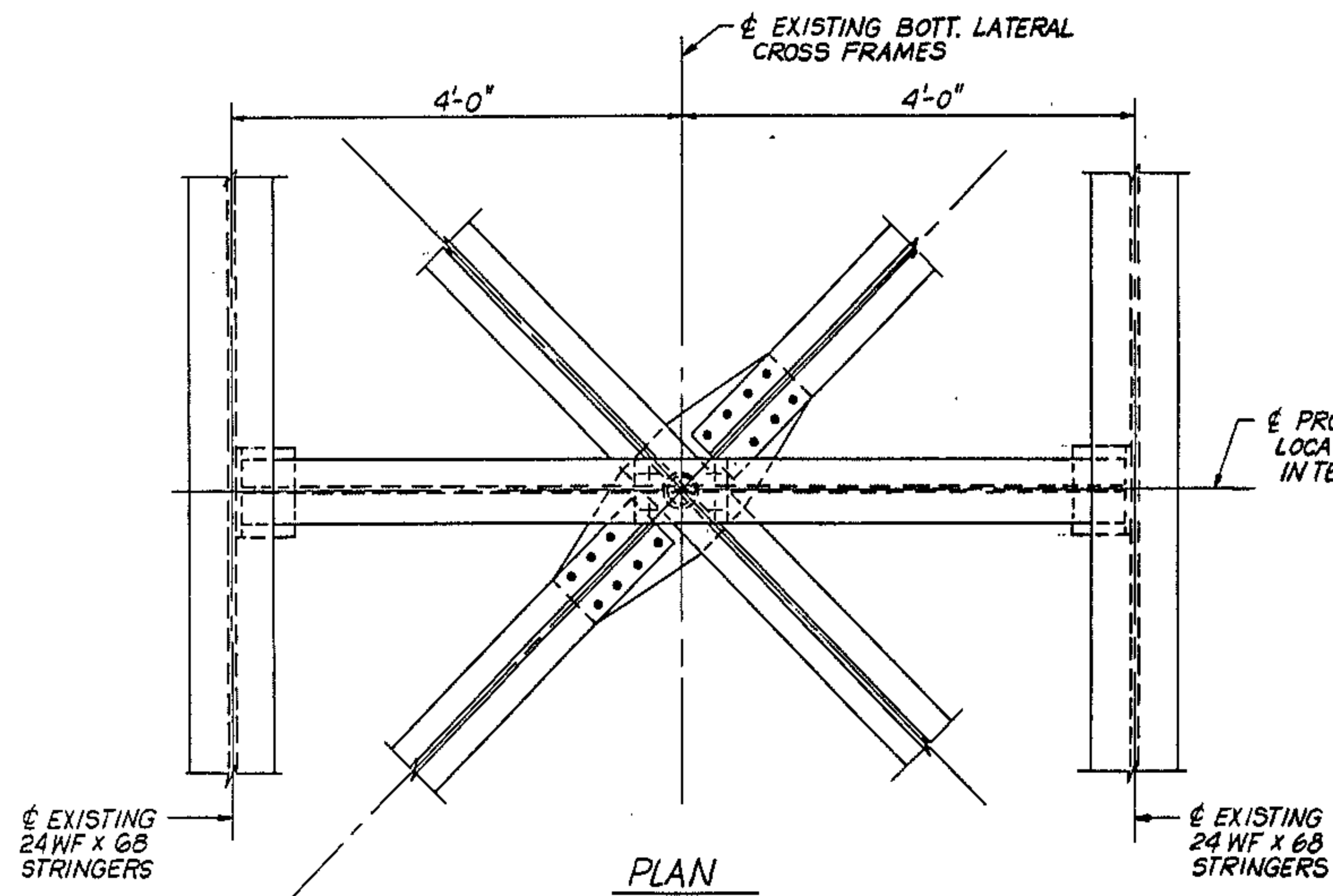
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BOTTOM LATERAL BRACING
 RETROFIT

REVISIONS						SHEET NO. 5-23
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

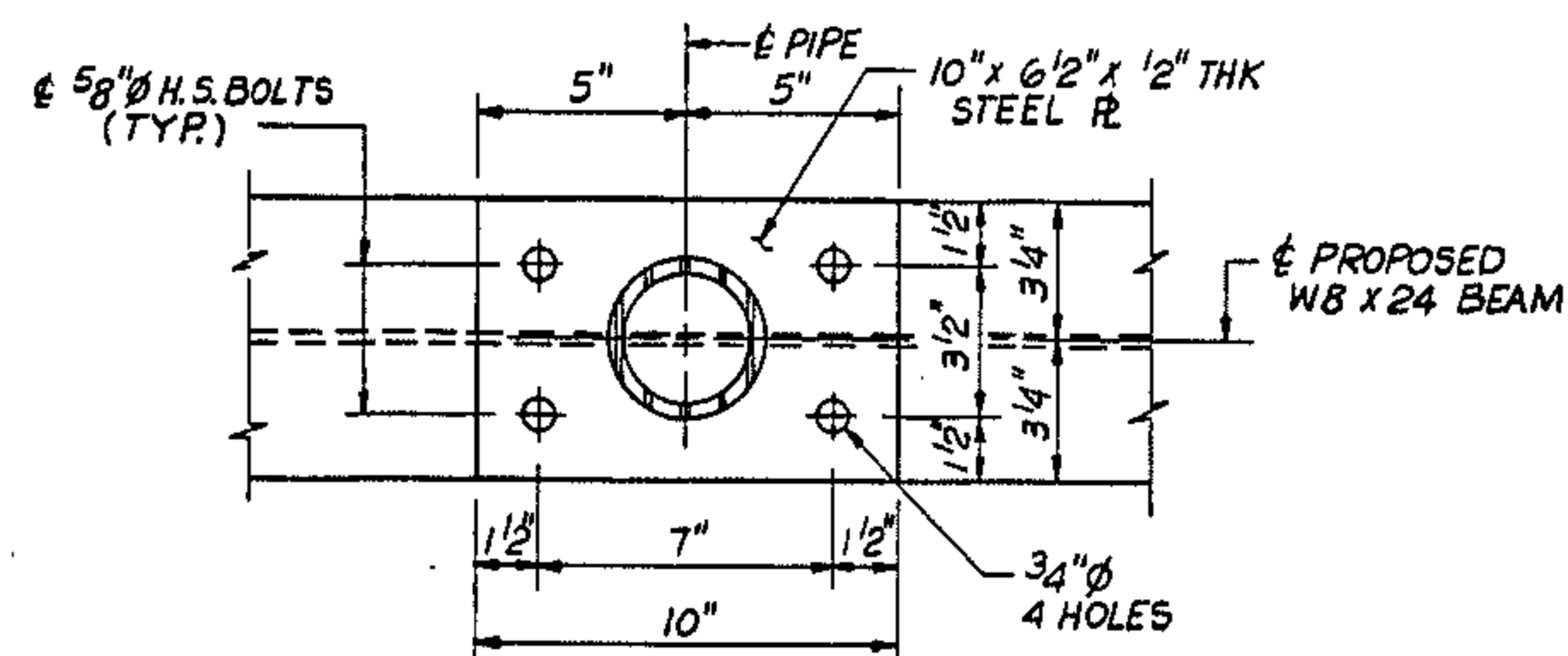
DRAWN BY G.M. Patterson DATE 12/10/92
 CHECKED BY B.D. BLATTENBACH DATE 12/13/92

NOTES

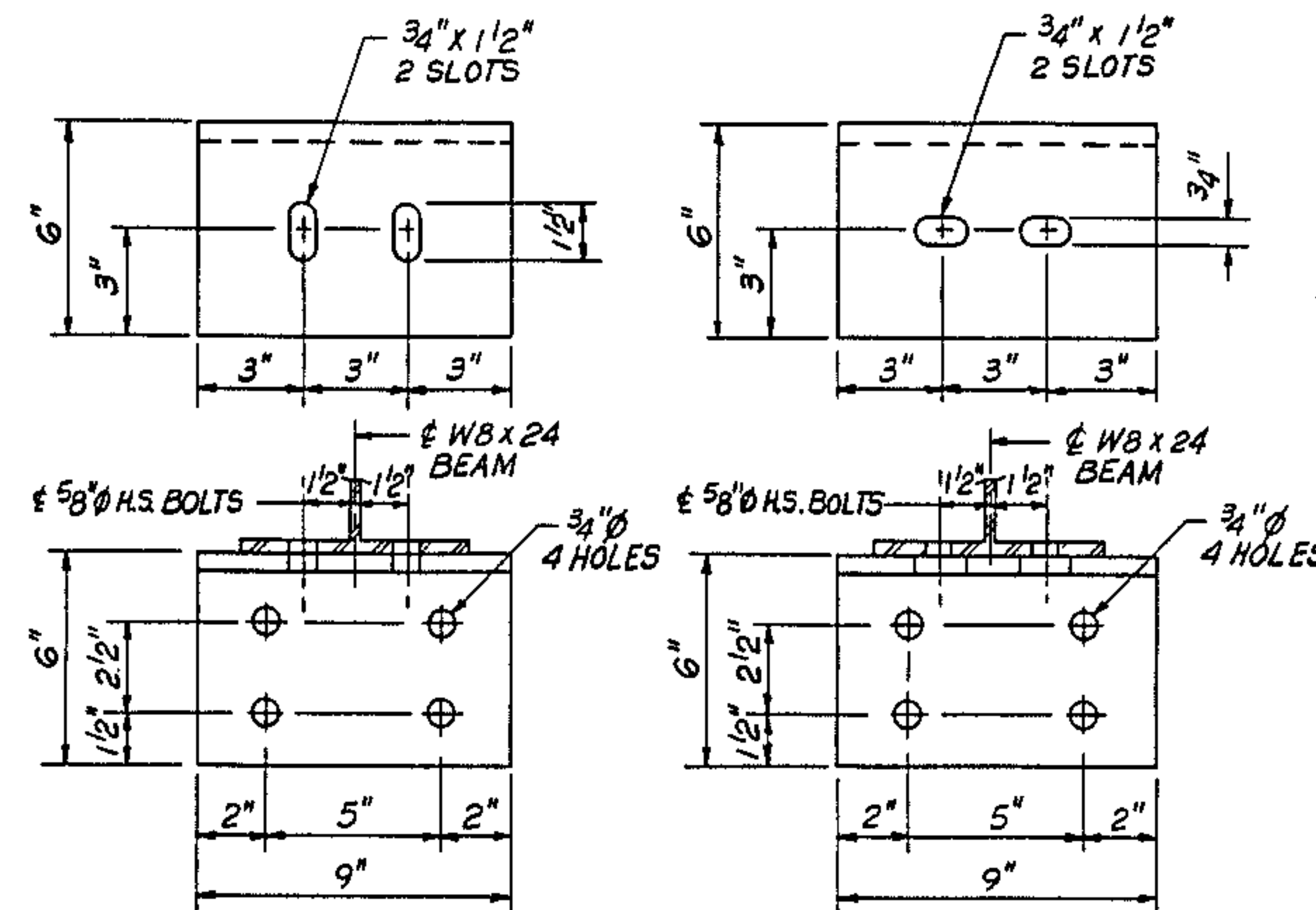
THE PROPOSED W8 x 24 BEAM, THE 6 x 6 x 1 ANGLE, AND THE W6 x 13 SHALL BE ASTM A-588.
 THE 3" Ø STEEL PIPE AND 10" x 6 1/2" x 1/2" STEEL PLATES SHALL BE ASTM A-36 AND SHALL BE PAINTED. SEE SPECIAL PROVISIONS FOR LATERAL BRACING STABILIZER.
 ALL STRUCTURAL STEEL, PAINTING OF STRUCTURAL STEEL, BOLTS, NUTS, WASHERS, EQUIPMENT, LABOR, AND ANY INCIDENTALS, SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR LATERAL BRACING STABILIZER.
 FOR LATERAL BRACING STABILIZER, SEE SPECIAL PROVISIONS.



PROPOSED STABILIZER TO BE LOCATED WHERE CROSS FRAMES INTERSECT

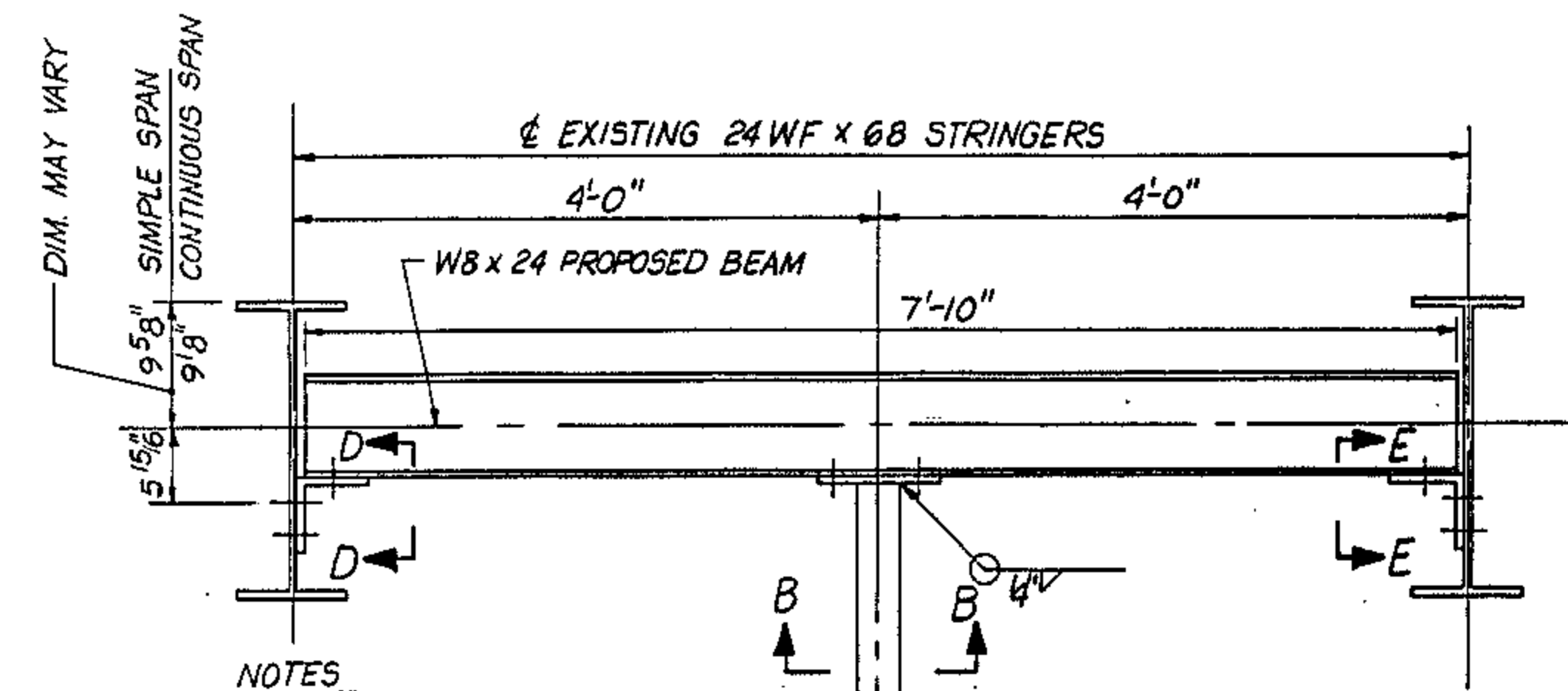


SECTION B-B (TOP PLATE)



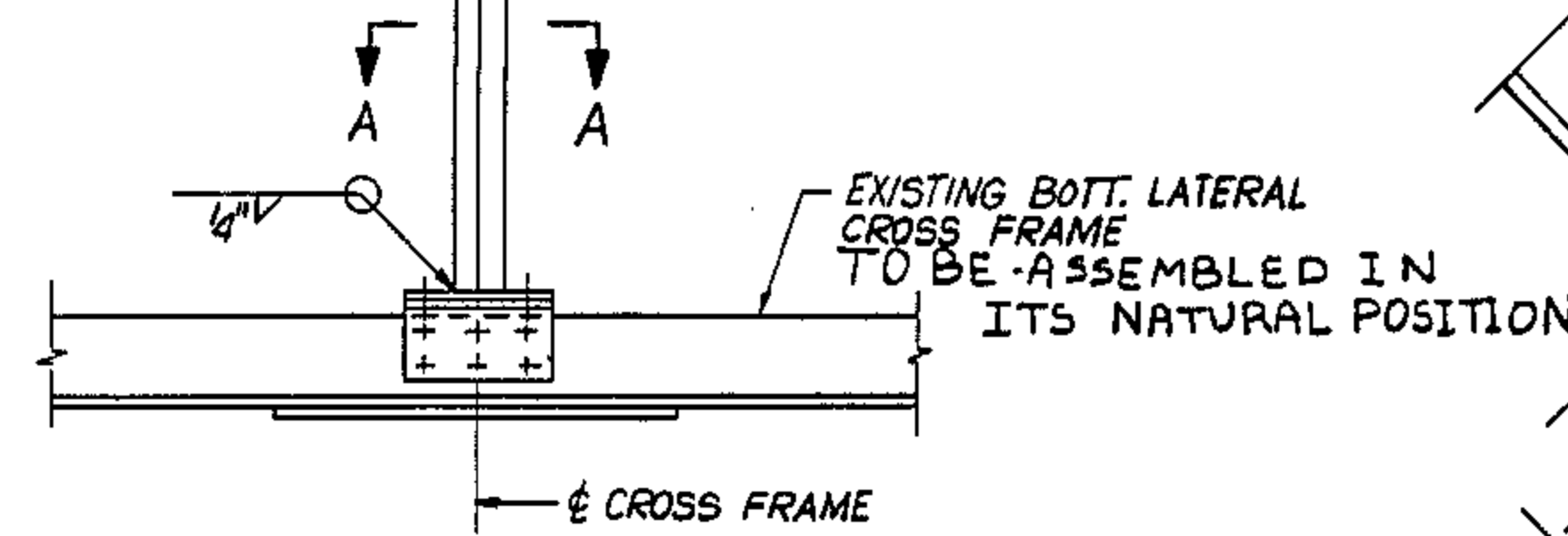
SECTION D-D (L6" x 6" x 1" STEEL ANGLE)

SECTION E-E (L6" x 6" x 1" STEEL ANGLE)

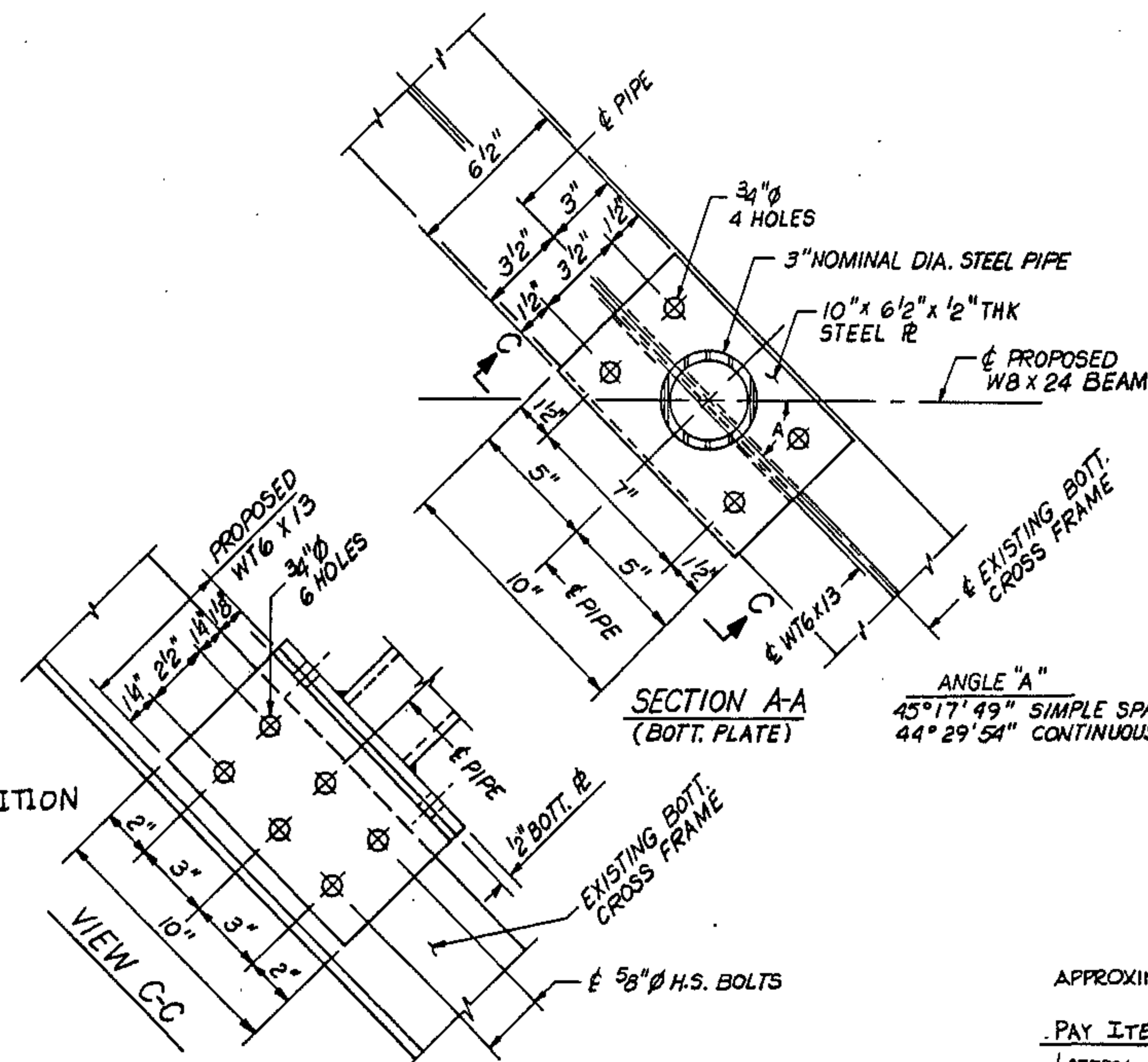


NOTES

ALL BOLTS SHALL BE 5/8" Ø H.S. BOLTS. 26 BOLTS, NUTS & LOCKWASHERS REQUIRED AT EACH ASSEMBLY
 BEFORE ASSEMBLY, MEASUREMENTS SHALL BE MADE TO VERIFY DIMENSIONS. THE CONTRACTOR SHALL NOT APPLY ANY LOAD TO THE BOTTOM LATERAL CROSS BRACING.



ELEVATION (PROPOSED LATERAL BRACING STABILIZER)
 8 ASSEMBLIES - SIMPLE SPANS
 36 ASSEMBLIES - CONTINUOUS SPANS
 EACH BRIDGE



SECTION A-A (BOTTOM PLATE)

ANGLE "A"
 45° 17' 49" SIMPLE SPAN
 44° 29' 54" CONTINUOUS SPAN



VIEW C-C

APPROXIMATE WT. EACH ASSEMBLY 350 LBS.

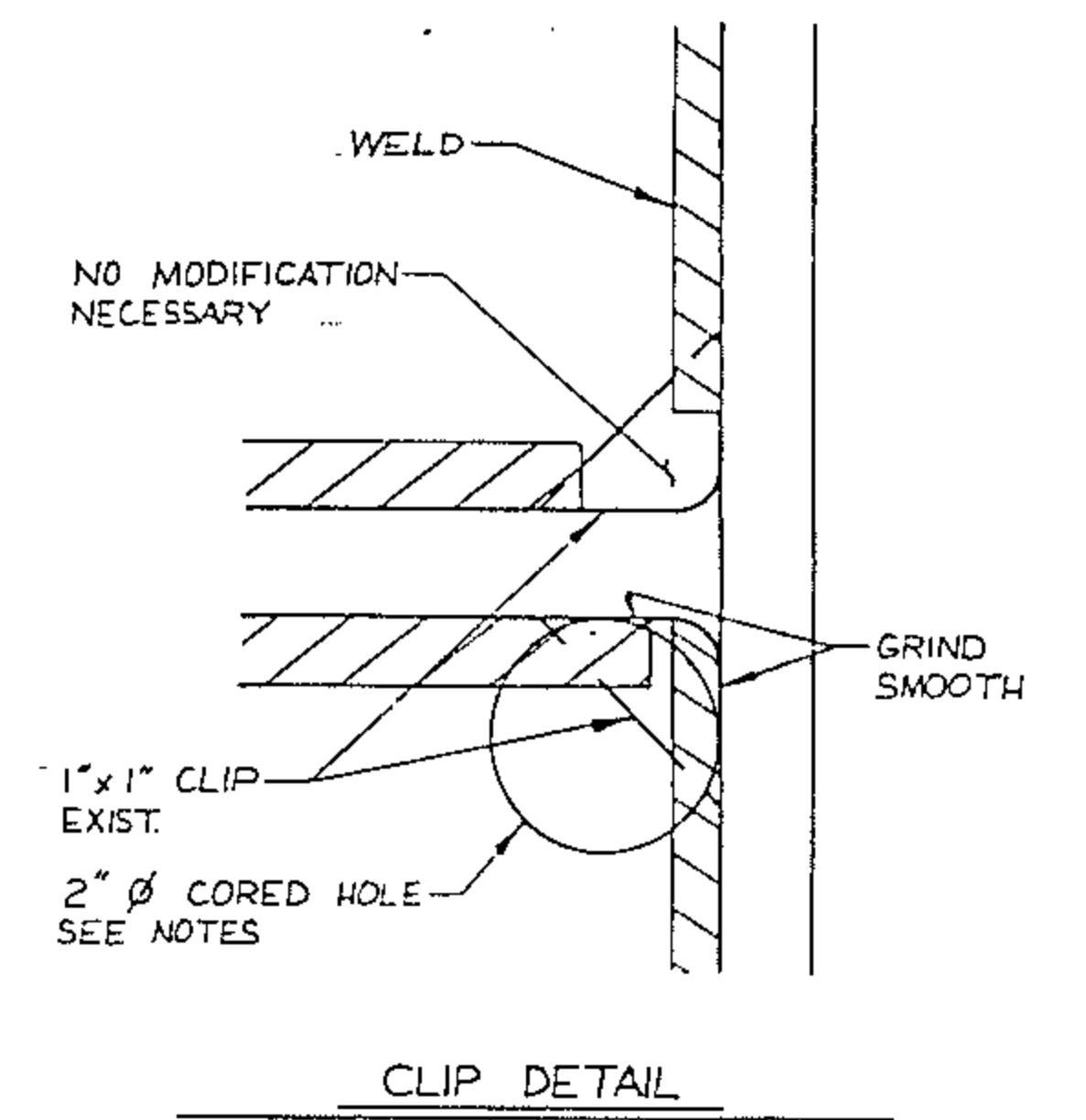
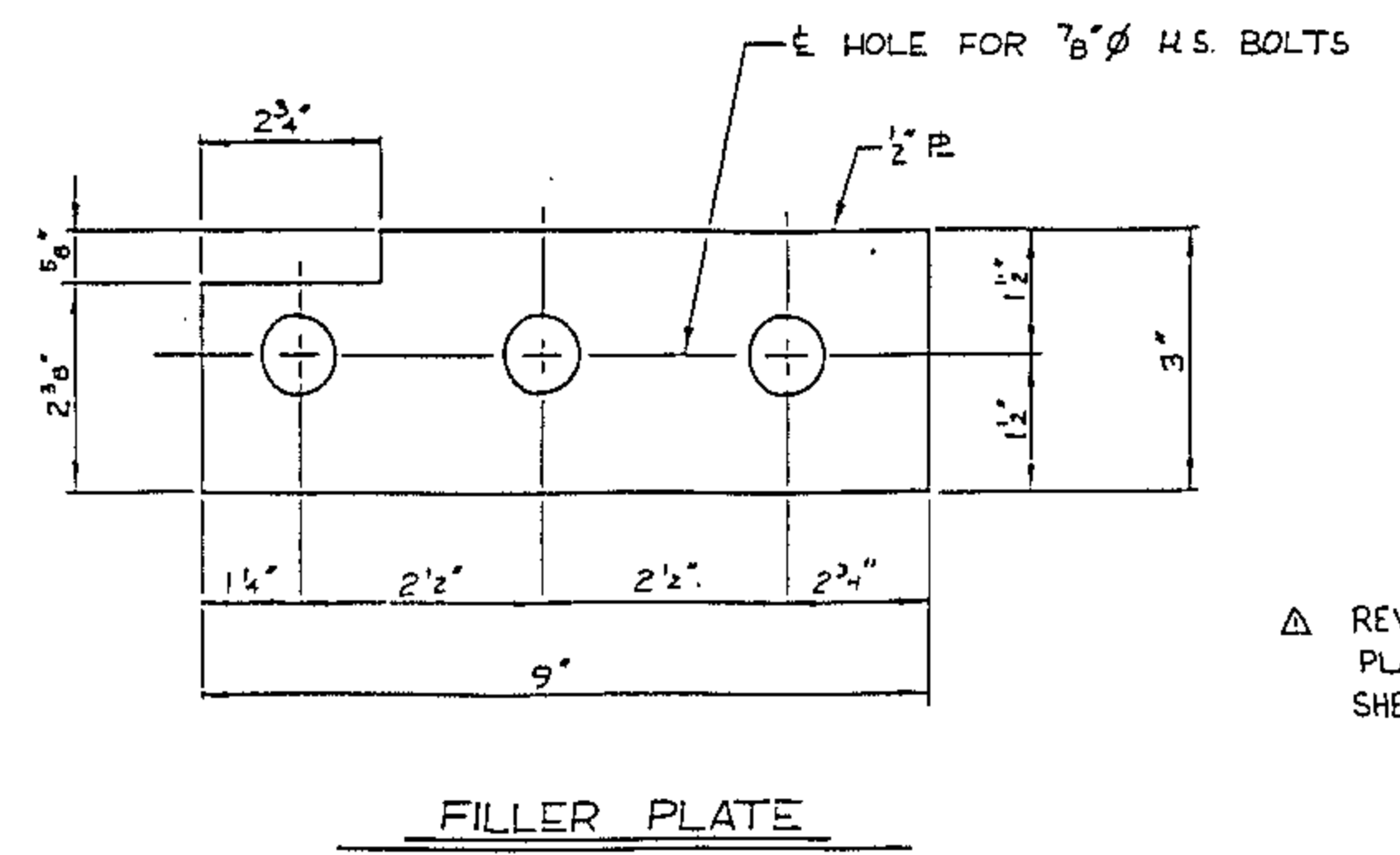
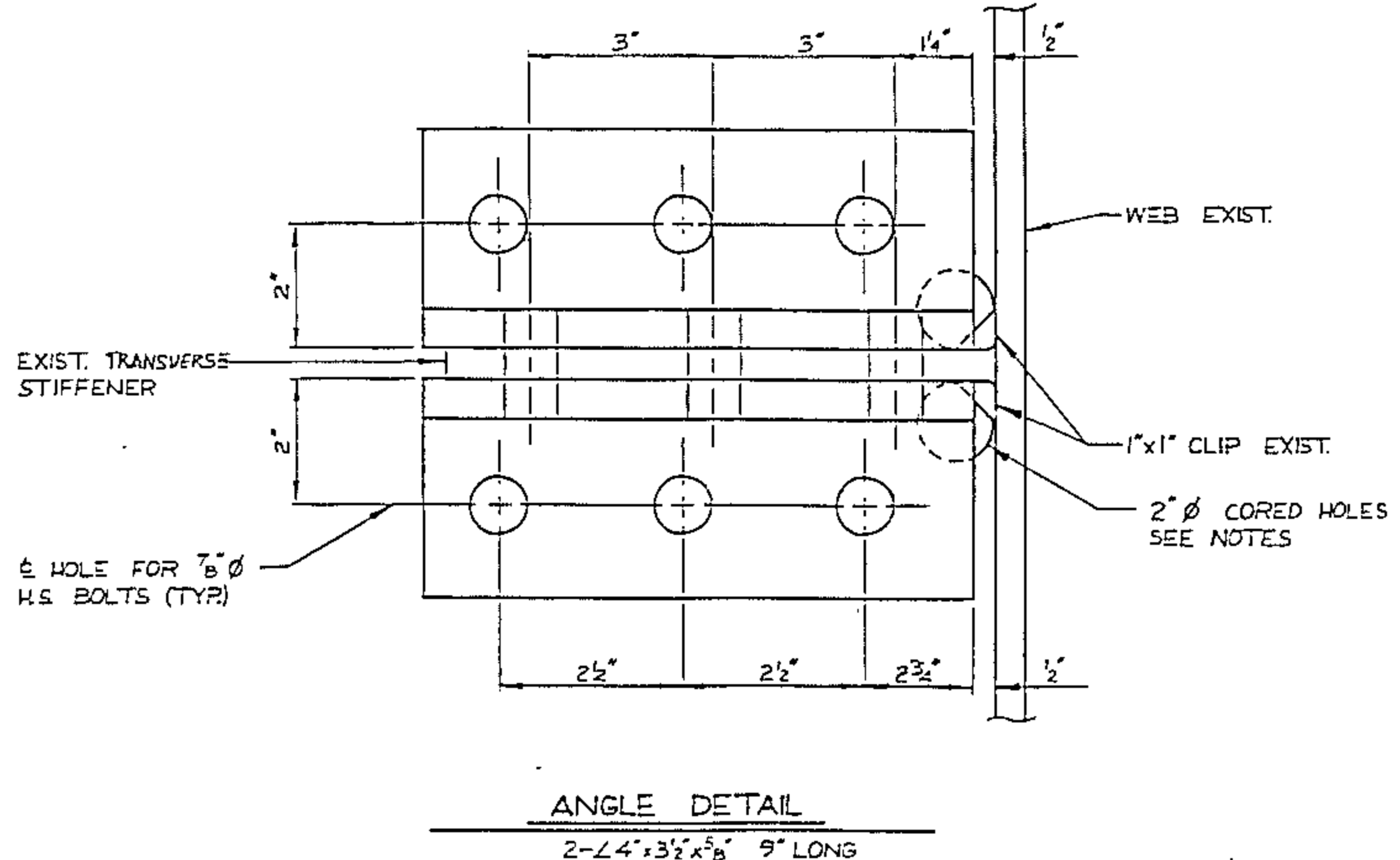
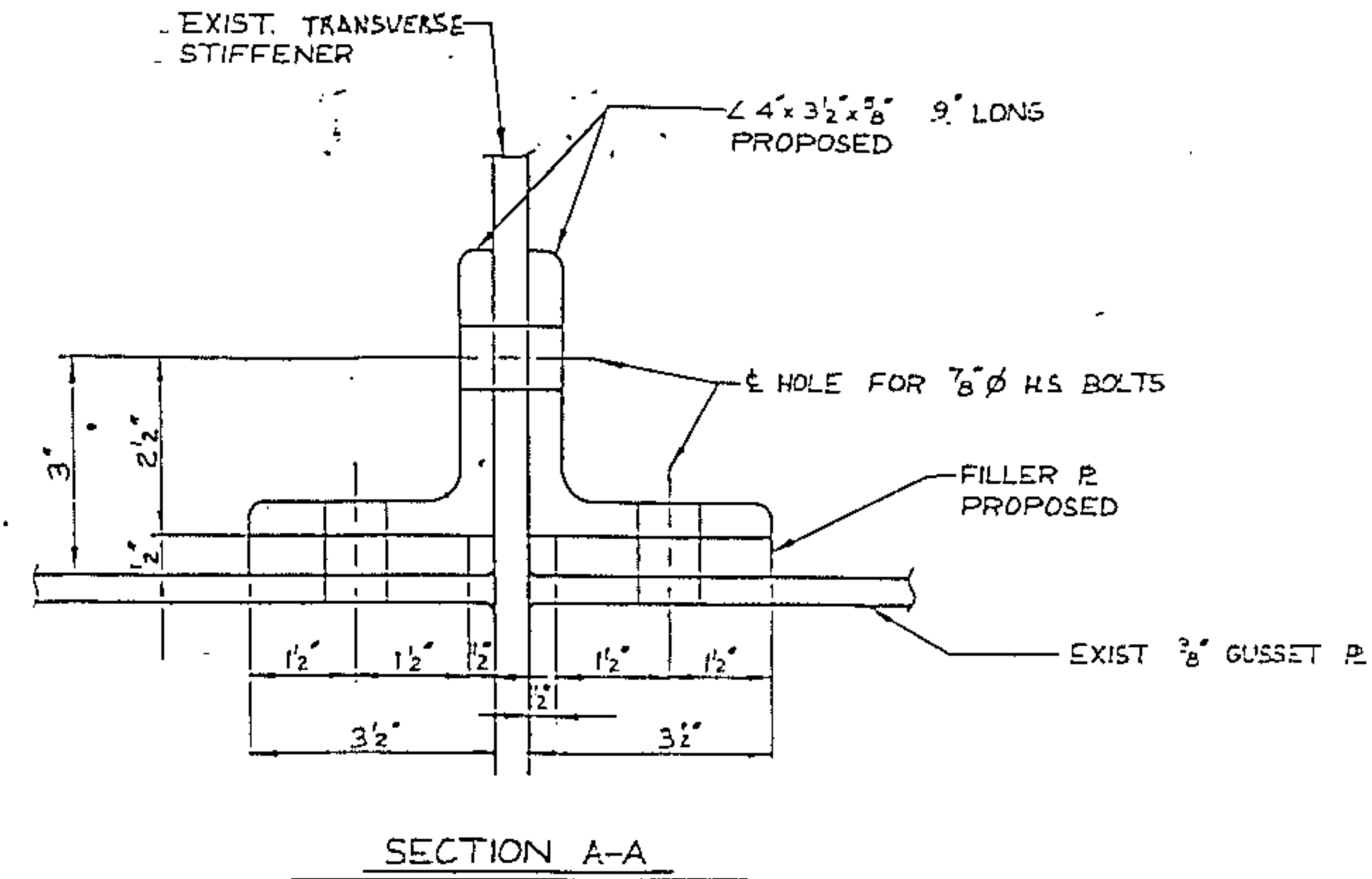
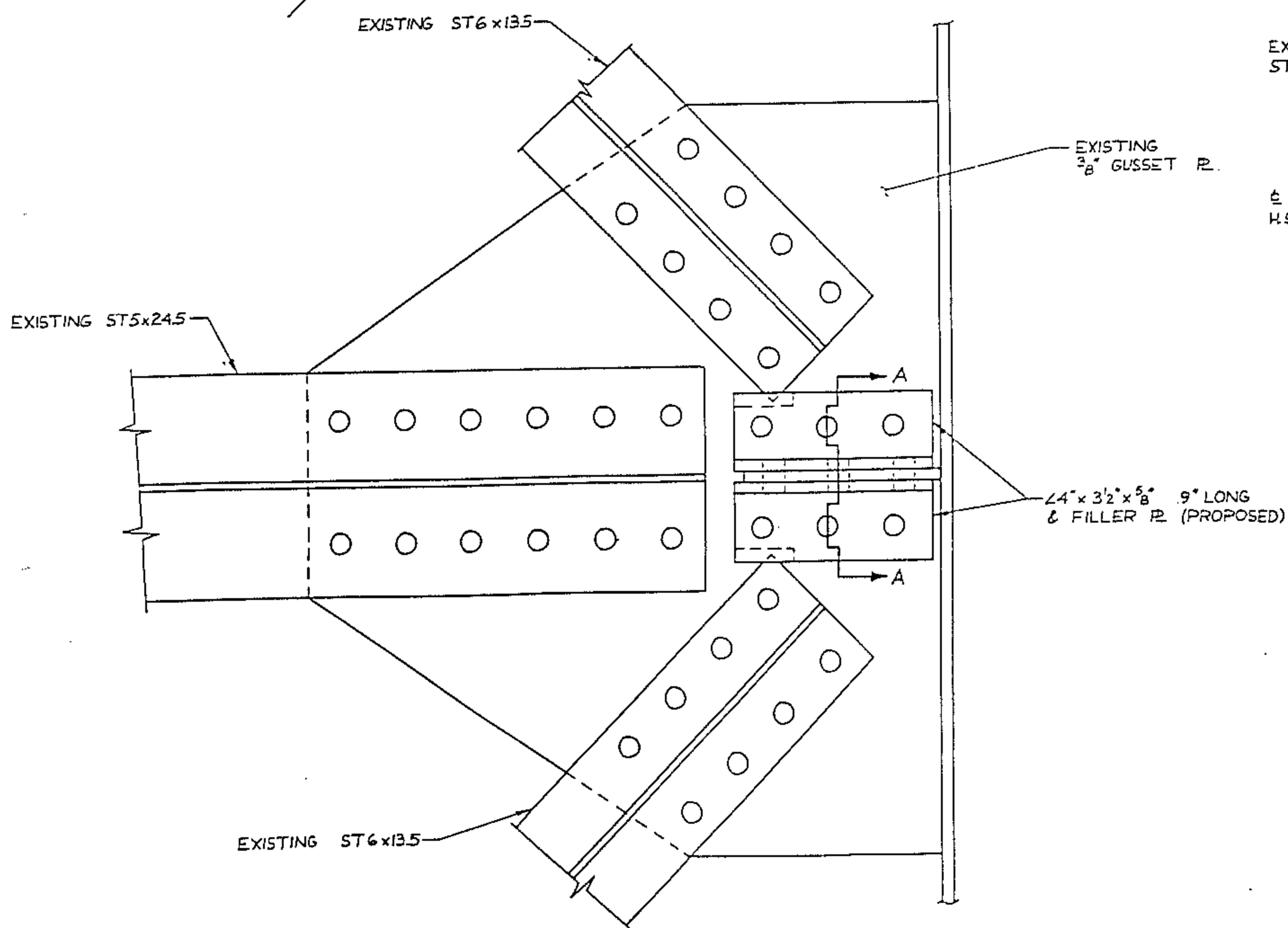
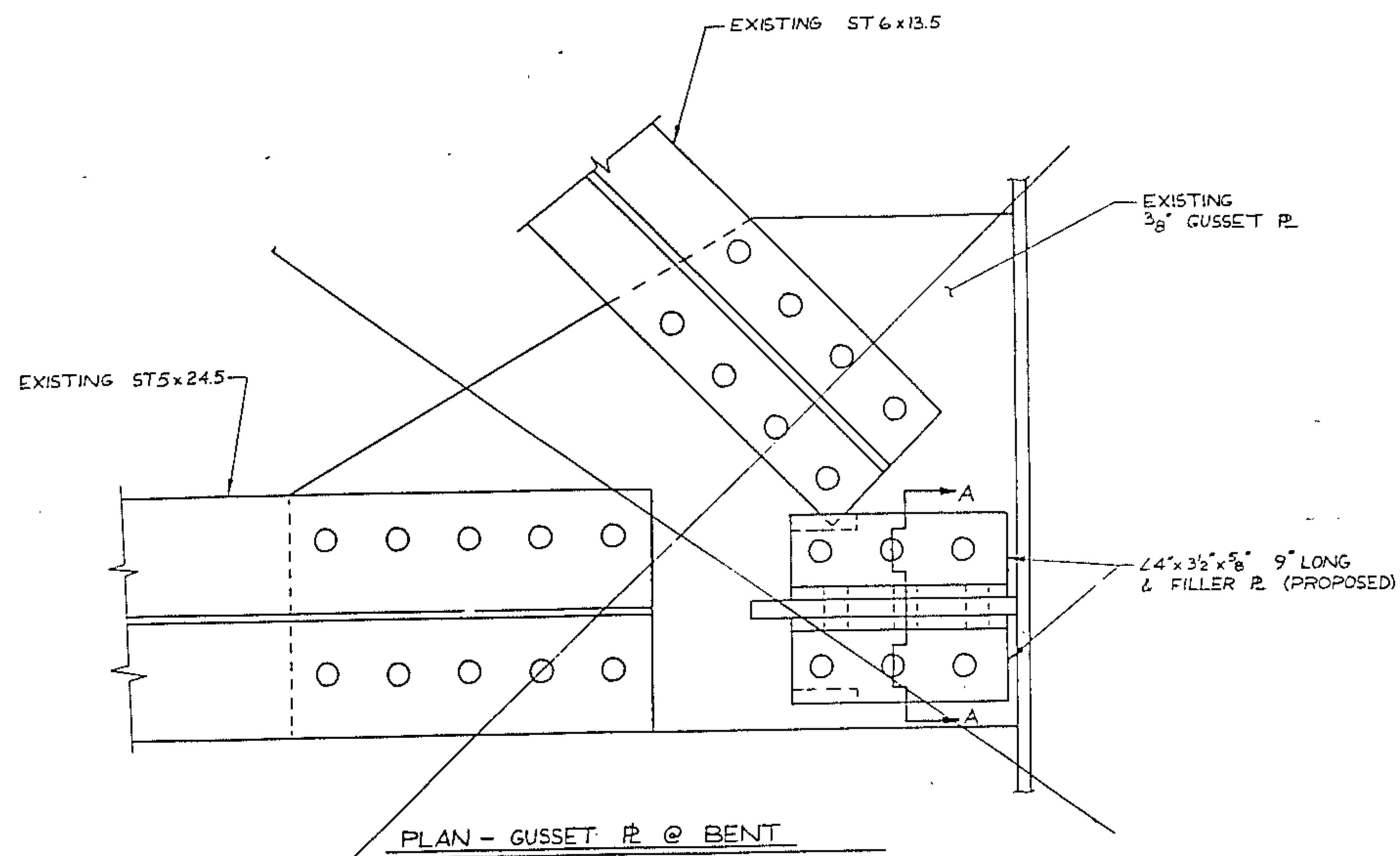
PAY ITEM (FOR ONE BRIDGE)
 LATERAL BRACING RETROFIT EA. 44

PROJECT No. 8.1950901
 HENDERSON COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 LATERAL BRACING STABILIZER

REVISIONS						SHEET NO. 5-24
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

DRAWN BY G.M. Patterson DATE 11-19-92
 CHECKED BY Walter Kam DATE 1-26-93



NOTES

ALL STRUCTURAL STEEL, BOLTS, NUTS, WASHERS, EQUIPMENT, LABOR, AND INCIDENTALS, SHALL BE PAID FOR AT THE CONTRACT UNIT BID PRICE FOR EACH LATERAL GUSSET PLATE RETROFIT.

THE ENGINEER SHALL VERIFY THAT THE 1" x 1" CLIP SHOWN IN THE "CLIP DETAIL" SHOWS NO EVIDENCE OF INTERSECTING WELDS. ANY LOCATION FOUND WITH INTERSECTING WELDS IN THE 1" x 1" CLIP, SHALL BE CORED WITH A 2" DIAMETER BIT AS SHOWN IN THE "CLIP DETAIL". THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE ITEM FOR LATERAL GUSSET PLATE RETROFIT.

ALL BOLTS SHALL BE ASTM A-325, SEE SPECIAL PROVISIONS.

ALL HOLES FOR 7/8" H.S. BOLTS SHALL BE 15/16" DIA.

QUANTITIES SHOWN ARE FOR ONE BRIDGE.

FOR LATERAL GUSSET PLATE RETROFIT, SEE SPECIAL PROVISIONS.

BILL OF MATERIAL	
STRUCTURAL STEEL	3745 LBS.

PAY ITEM (FOR ONE BRIDGE)	
LATERAL GUSSET PLATE RETROFIT	EA. 94

PROJECT No. B.1950901

HENDERSON COUNTY

STATION: I-26 GREEN RIVER

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

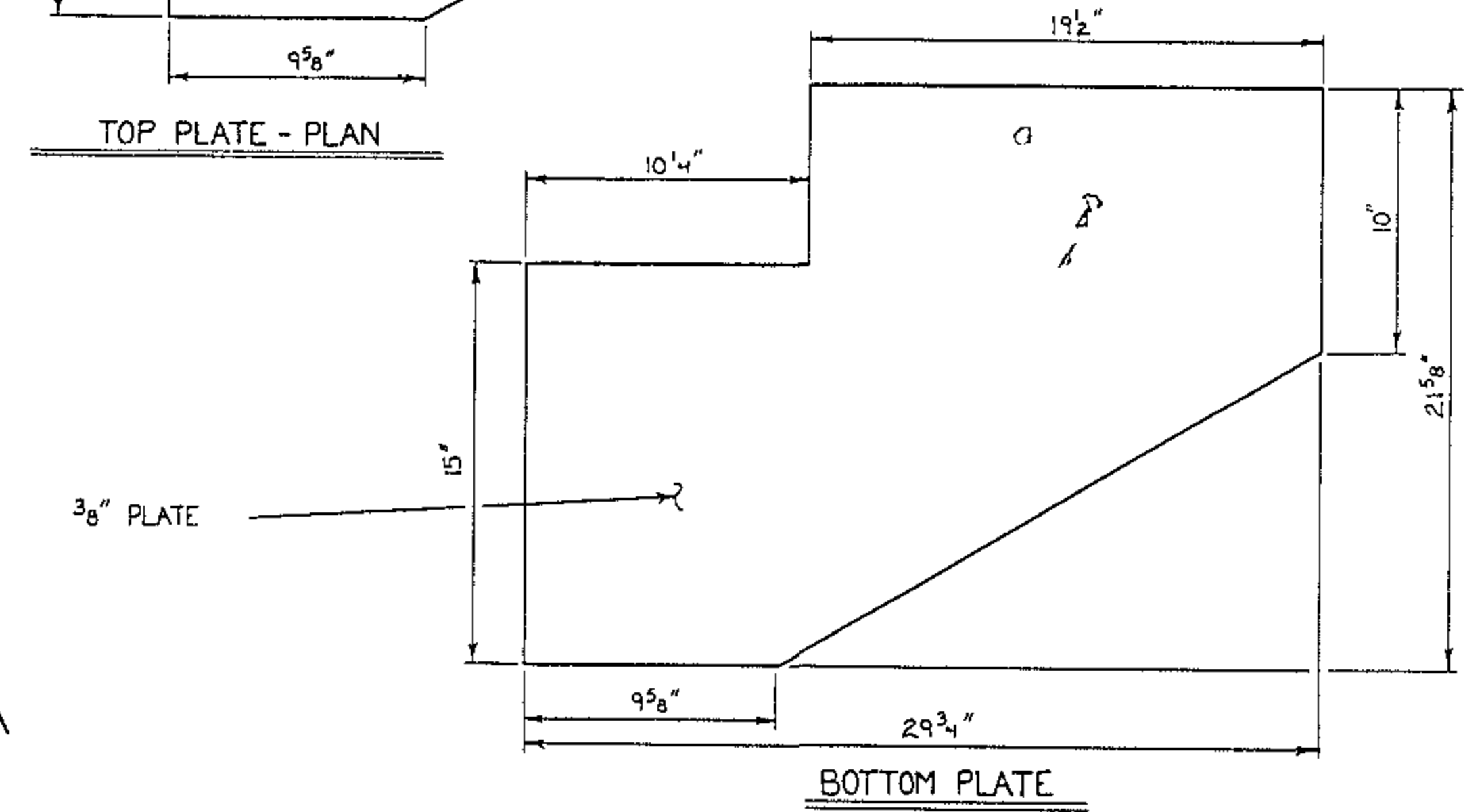
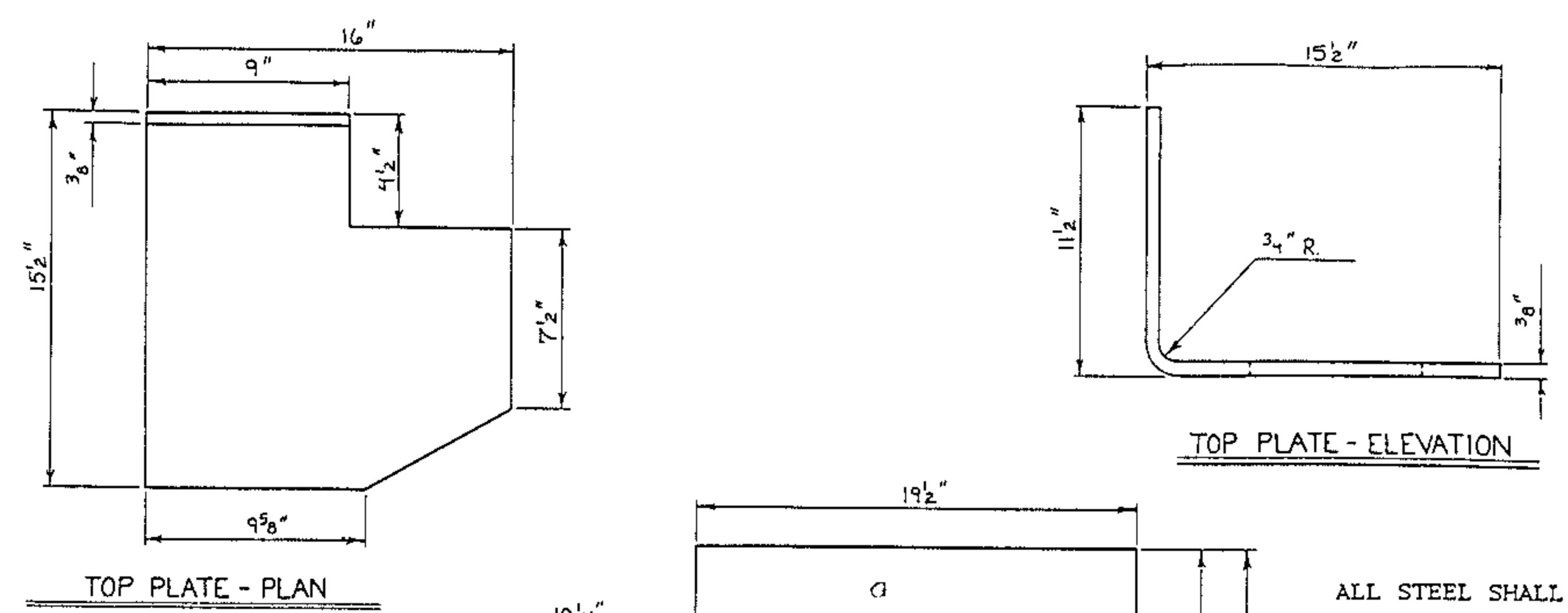
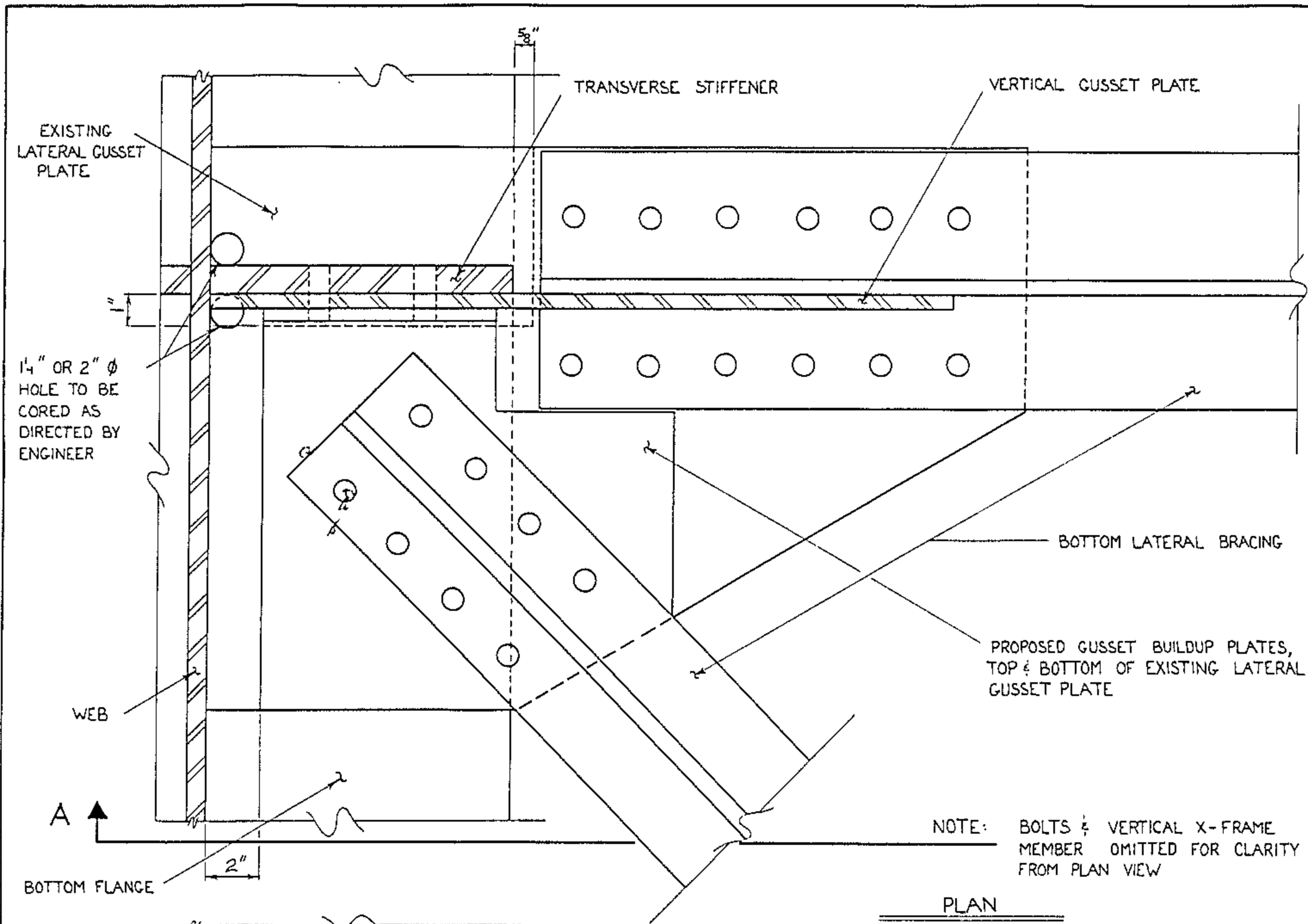
LATERAL GUSSET PLATE RETROFIT

Δ REV. DETAIL FOR LATERAL GUSSET PLATE RETROFIT @ BENT DELETED. SEE SHEET S-25A FOR NEW DETAIL.
RDR 7/20/93 BY: BRK 7/10/93

REVISIONS						NO. TOTAL SHEETS
NO.	BY	DATE	NO.	BY	DATE	
1	RDR	7/20/93	3			31
2			4			

DRAWN BY B.E. KELLY DATE 11/19/93
CHECKED BY S.D. ROCKWELL DATE 1/27/93

PLAN - INTERMEDIATE GUSSET PL.



NOTES

ALL STEEL SHALL BE ASTM A-588.

ALL BOLTS SHALL BE 7/8" O A325, H.S., TYPE 3.

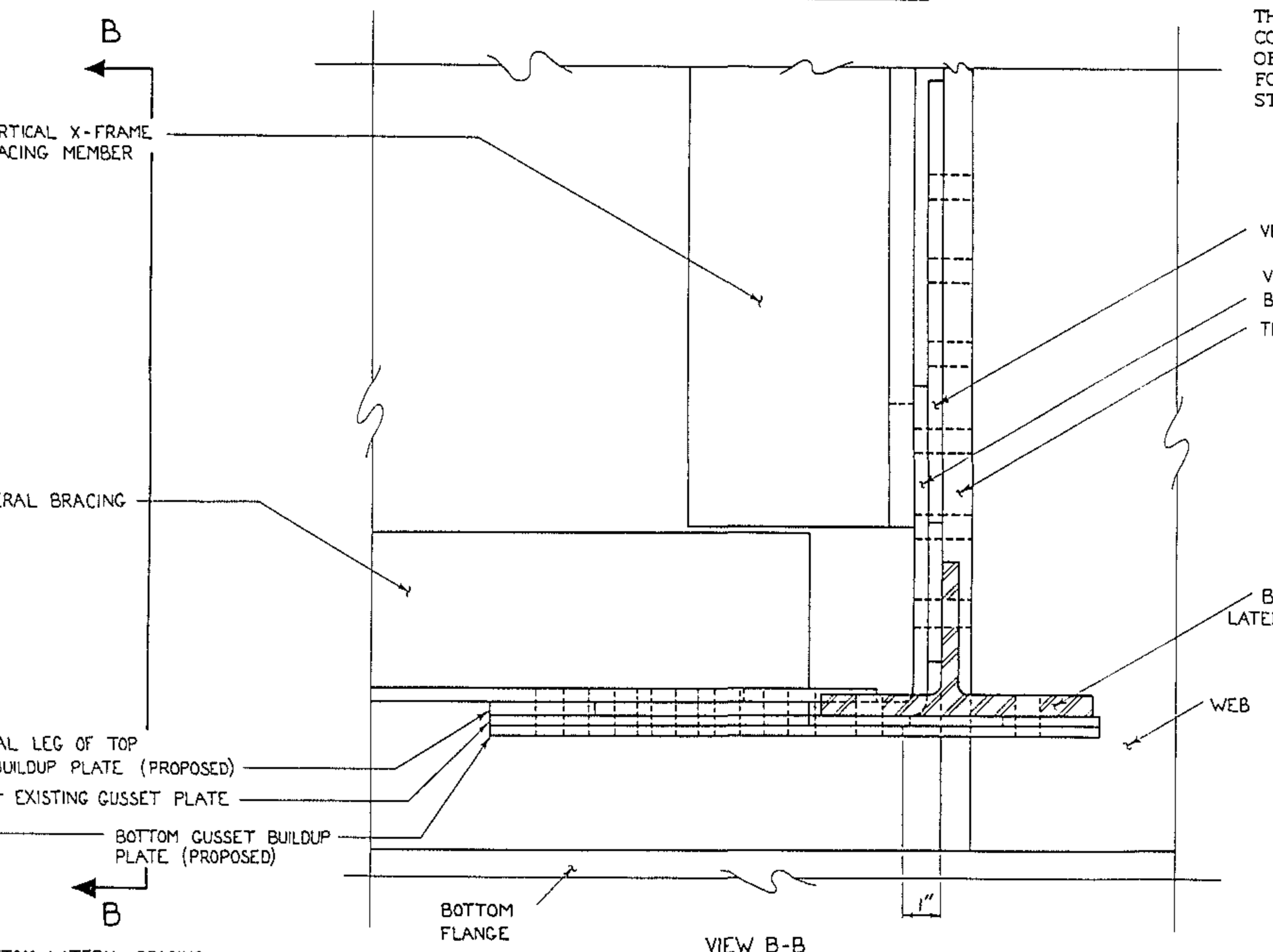
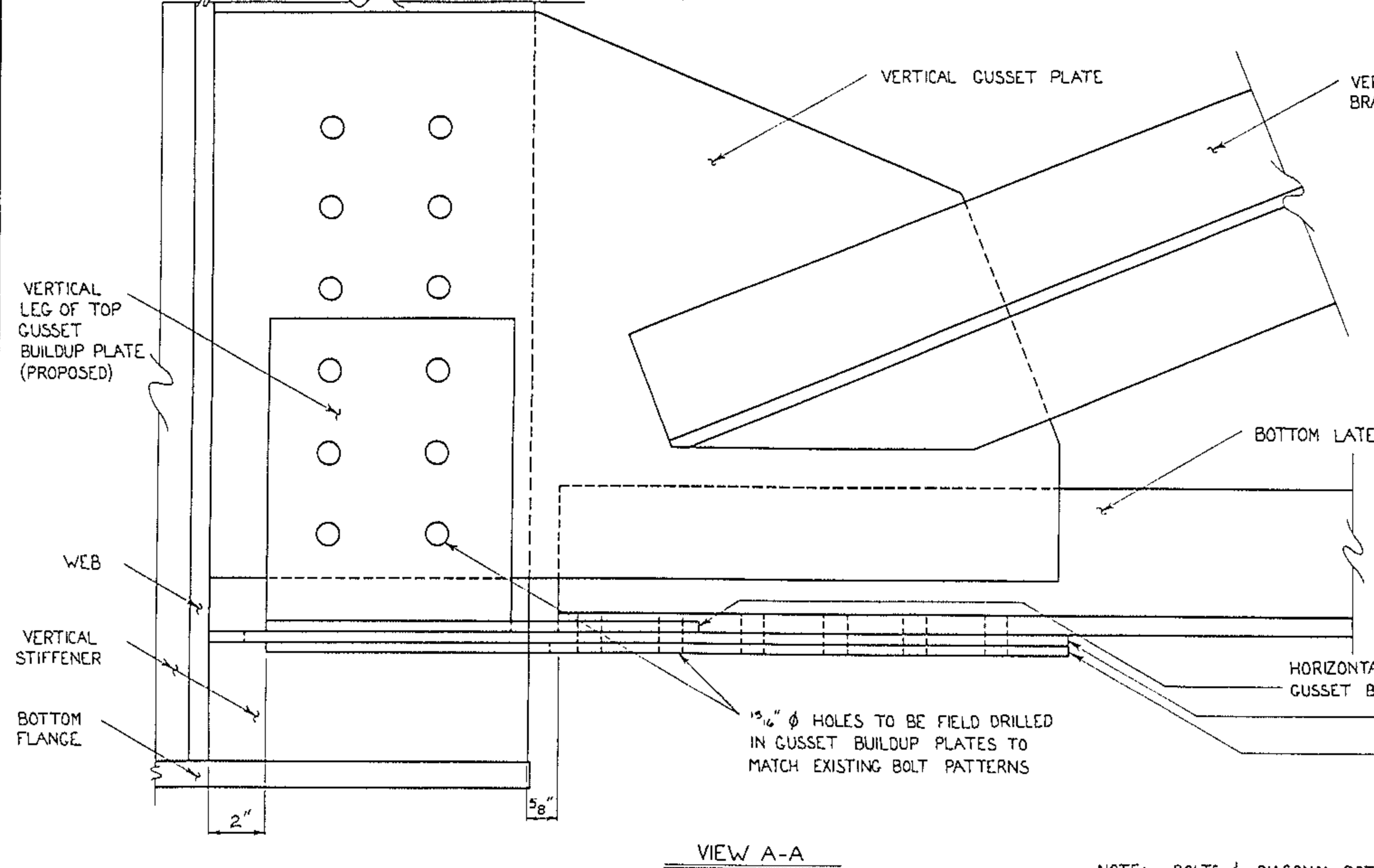
THIS DETAIL SHALL BE USED IN LIEU OF THAT PROVIDED ON SHEET S-25 AS DIRECTED BY ENGINEER. THE DETAIL ON SHEET S-25 SHALL BE USED AT ALL OTHER END BENT LOCATIONS.

ALL HOLES SHALL BE FIELD-DRILLED TO MATCH EXISTING BOLT PATTERNS THROUGH THE TRANSVERSE STIFFENER AND BOTTOM LATERAL BRACING MEMBERS.

SILICONE SEALANT SHALL BE USED TO FILL ALL VOIDS BETWEEN EXISTING GUSSET PLATE AND PROPOSED BUILDUP PLATES. FOR SILICONE SEALANT, SEE SPECIAL PROVISIONS FOR "POST TENSIONING OPERATION."

THIS GUSSET PLATE RETROFIT SHALL BE COMPLETED PRIOR TO PAINTING THE END OF THE GIRDER AS PER SPECIAL PROVISION FOR "PAINTING EXISTING STRUCTURAL STEEL."

STRUCTURAL STEEL 109 LBS.



NOTE: BOLTS & DIAGONAL BOTTOM LATERAL BRACING MEMBER ARE OMITTED FOR CLARITY FROM VIEW A-A

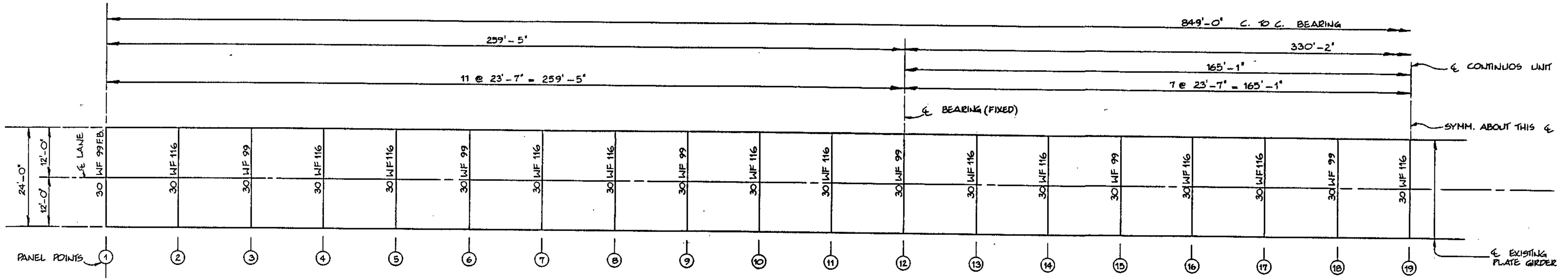
PROJECT No. 8.1950901
 HENDERSON COUNTY
 STATION:

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 ALTERNATE LATERAL GUSSET PLATE RETROFIT @ END BENT

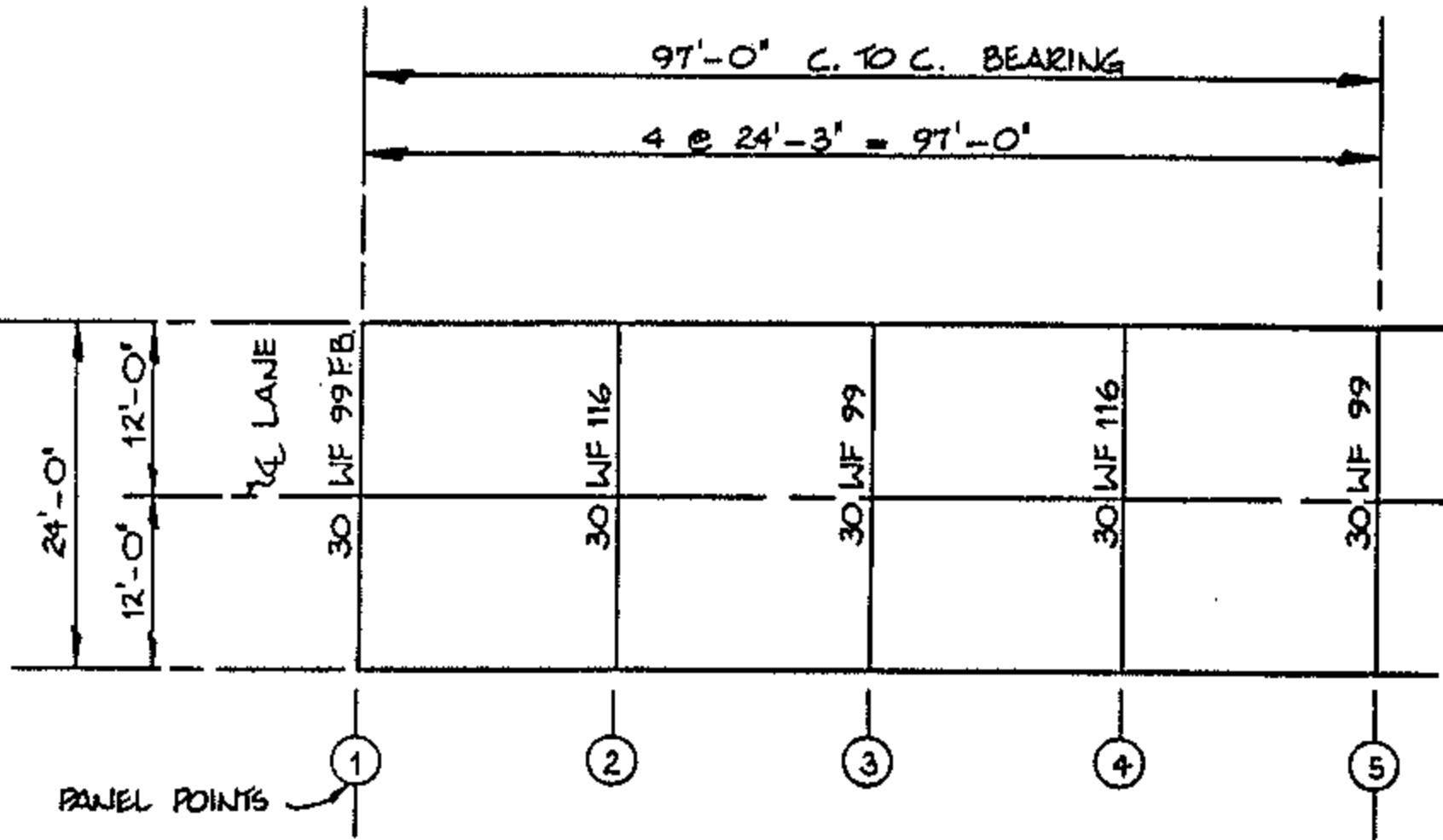
DRAWN BY R.D. McNEIL
 CHECKED BY R.D. McNEIL
 DATE 8/29/93
 DATE 9/7/93

REV. SHEET ADDED TO SHOW GUSSET PLATE RETROFIT @ END BENT WHEN GUSSET PLATE IS SEVERELY DETERIORATED
 52K 9/7/93

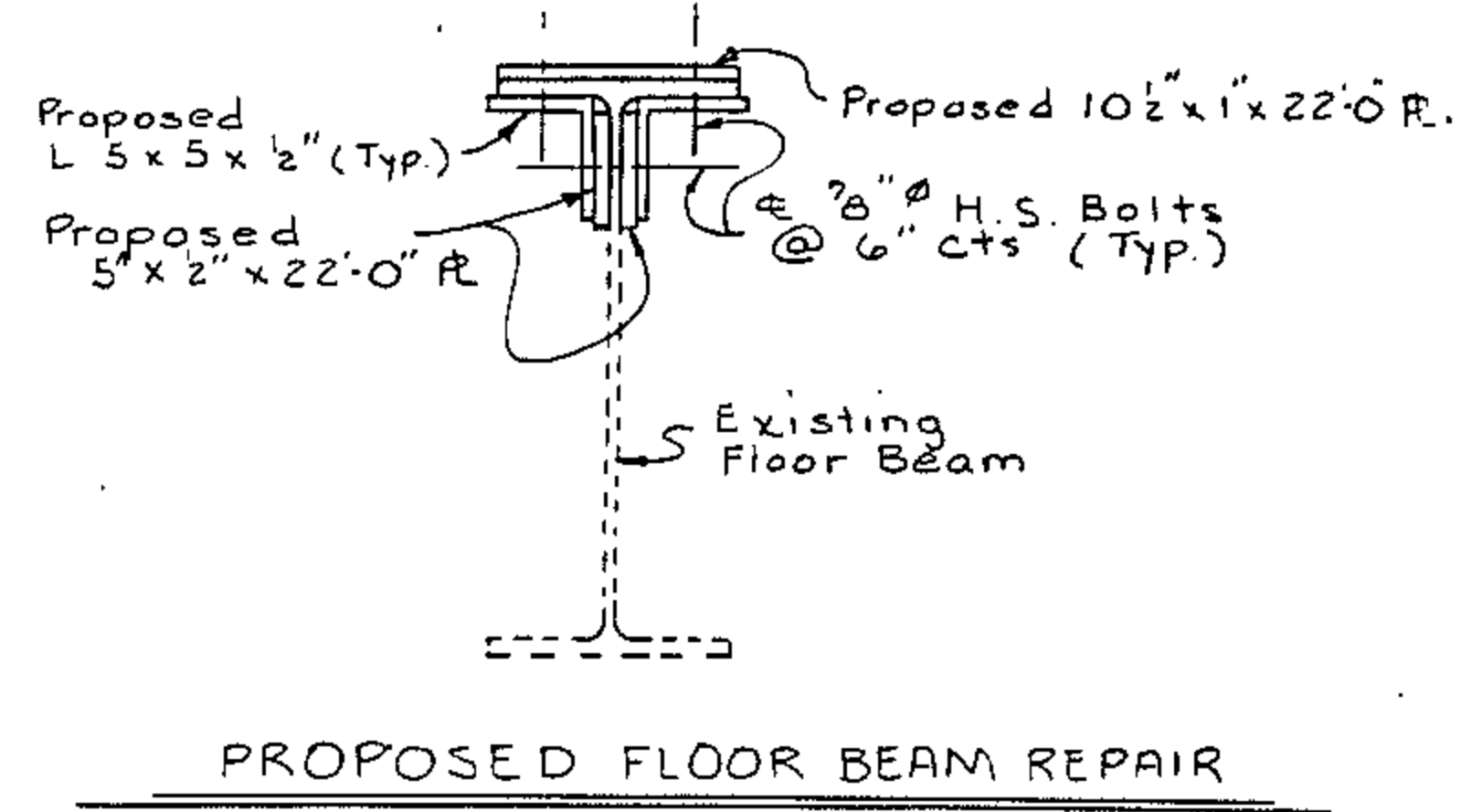
REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	TOTAL SHEETS	
1	RDR	8/27/93	3			S-25B	
2			4			31	



FRAMING PLAN
SHOWING FLOOR BEAMS IN CONT. UNIT



FRAMING PLAN
SHOWING FLOOR BEAMS IN SIMPLE SPAN



PROPOSED FLOOR BEAM REPAIR

NOTES FOR FLOOR BEAM REPAIR

THE NUMBER OF FLOOR BEAMS TO BE REPAIRED WILL BE DETERMINED AFTER THE REMOVAL OF THE CONCRETE DIAPHRAGM AS DIRECTED BY THE ENGINEER.

ALL STRUCTURAL STEEL FOR FLOOR BEAM REPAIR SHALL BE ASTM A-588.

THE EXISTING 7/8" Ø BOLTS AT THE FLOOR BEAM CONNECTIONS SHALL BE REPLACED IF 25% HEAD LOSS HAS OCCURRED AS DIRECTED BY THE ENGINEER. THESE BOLTS SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR "REPLACE STRUCTURAL BOLTS".

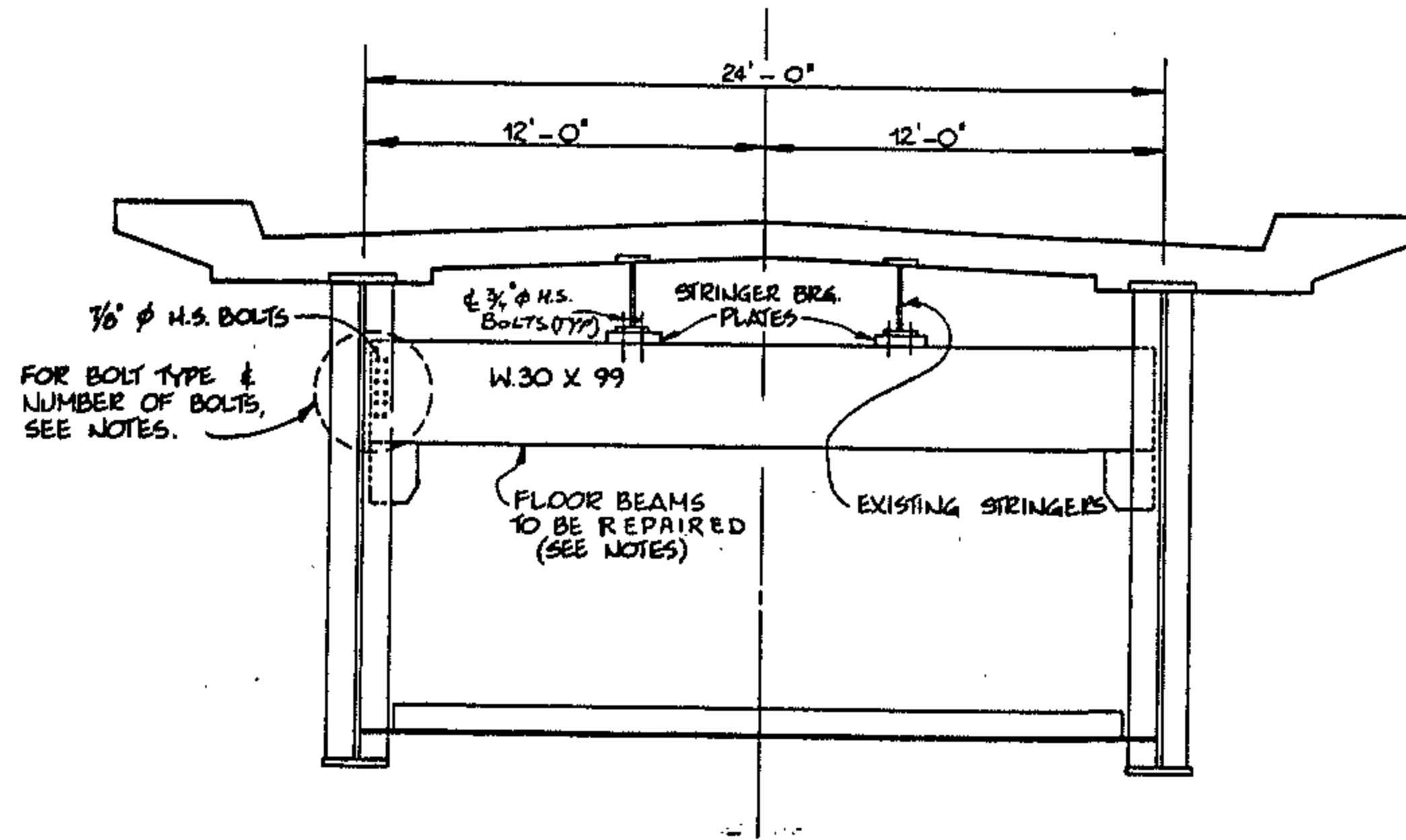
THE EXISTING 3/4" Ø BOLTS AT THE STRINGER TO FLOOR BEAM CONNECTIONS SHALL BE REPLACED IF 25% HEAD LOSS HAS OCCURRED AS DIRECTED BY THE ENGINEER. THESE BOLTS SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR "REPLACE STRUCTURAL BOLTS".

ALL STRUCTURAL STEEL, NUTS, BOLTS, WASHERS, EQUIPMENT, LABOR, AND INCIDENTALS SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR FLOOR BEAMS. ANY BOLTS REQUIRED FOR THE ERECTION OF STRUCTURAL MEMBERS SHALL NOT BE INCLUDED IN THE BID ITEM "REPLACE STRUCTURAL BOLTS".

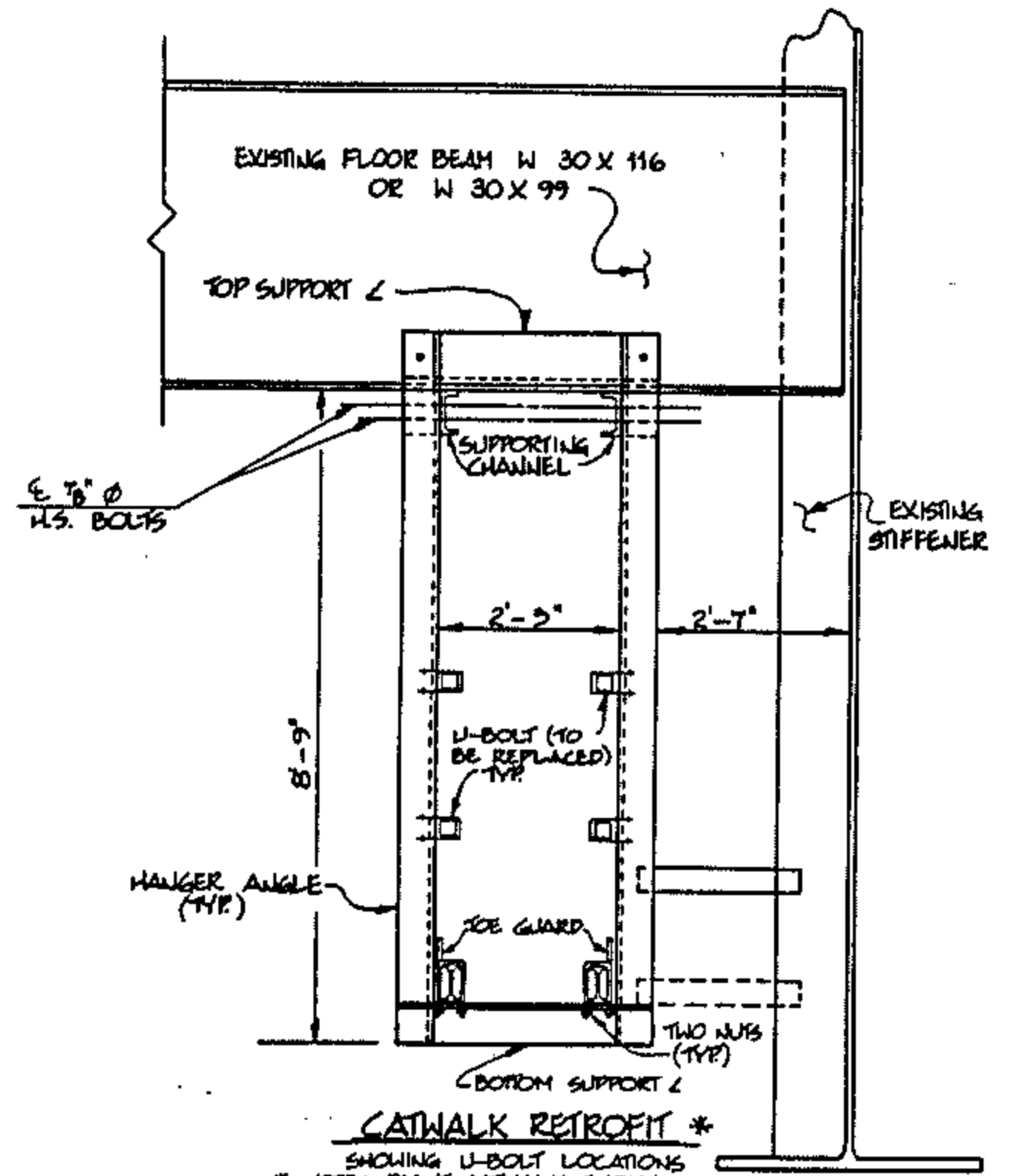
ALL BOLTS SHALL BE ASTM A-325; SEE SPECIAL PROVISIONS.

THE NUMBER OF STRINGER PLATES TO BE REPLACED WILL BE DETERMINED AFTER THE REMOVAL OF THE CONCRETE DIAPHRAGMS AS DIRECTED BY THE ENGINEER.

THE CONNECTION OF THE FLOOR BEAM TO THE STIFFENER SHALL PROVIDE AN EQUIVALENT NUMBER OF BOLTS AS WAS ORIGINALLY PROVIDED.



TYPICAL SECTION
VERTICAL CROSSFRAMES OMITTED FOR CLARITY



CATWALK RETROFIT
SHOWING U-BOLT LOCATIONS
* NOTE: RIGHT CATWALK SHOWN; LEFT CATWALK SIMILAR BY ROTATION.

NOTES FOR CATWALK RETROFIT

ALL LOOSE HANDRAIL U-BOLTS SHALL BE RETIGHTENED AND ALL MISSING U-BOLTS SHALL BE REPLACED IN THE CATWALK HANDRAIL WITH A 2" x 4" x 5/16" Ø ALUMINUM U-BOLT AS DIRECTED BY THE ENGINEER.

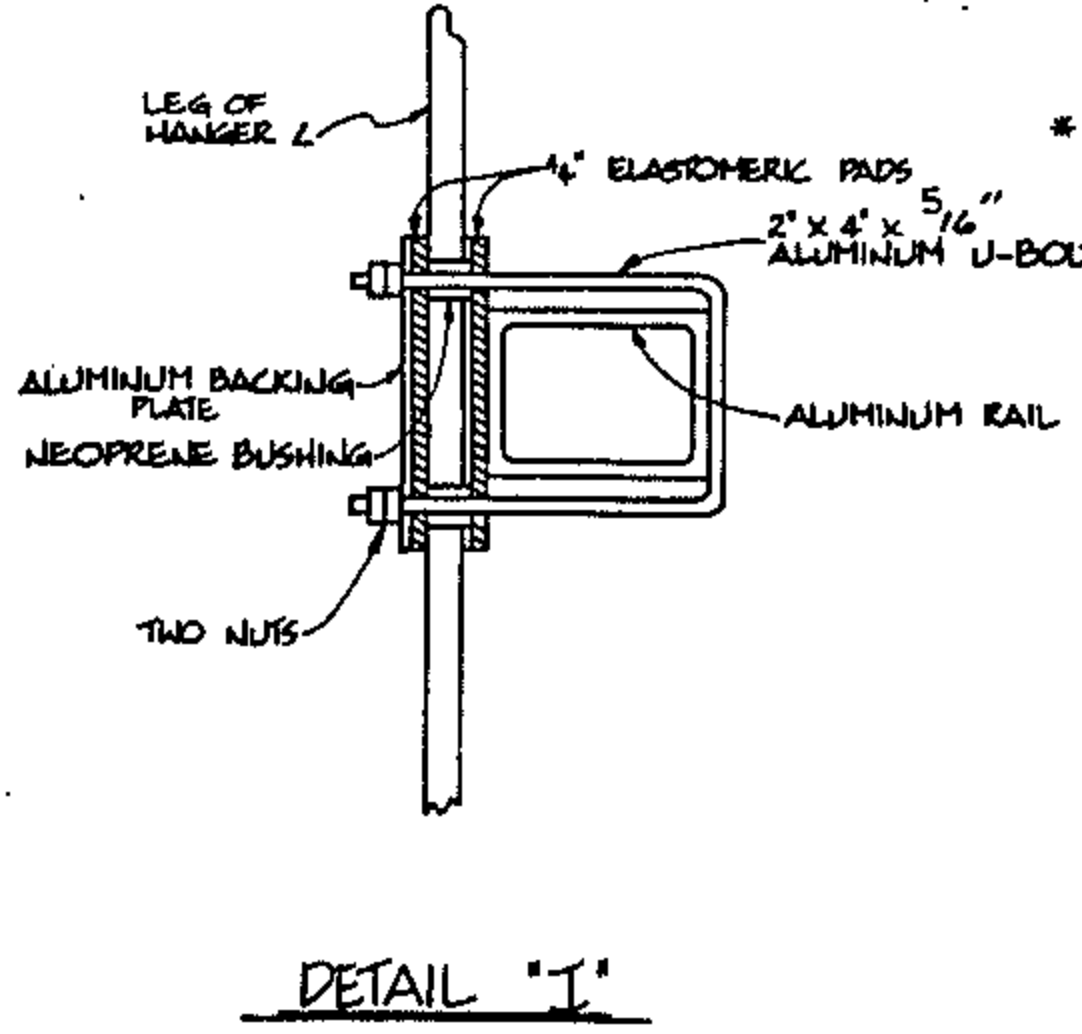
AT THE INTERSECTION BETWEEN CATWALK HANDRAIL AND HANGER ANGLE, ISOLATION BETWEEN ALUMINUM U-BOLT AND STEEL HANGER WILL BE REQUIRED AS SHOWN IN DETAIL "I".

FOR REPLACEMENT OF U-BOLTS, SEE SPECIAL PROVISIONS.

THE EXISTING 7/8" Ø BOLTS AT THE HANGER ANGLE TO SUPPORTING CHANNEL CONNECTION SHALL BE REPLACED IF 25% HEAD LOSS HAS OCCURRED AS DIRECTED BY THE ENGINEER. THESE BOLTS SHALL BE PAID FOR AT THE CONTRACT BID PRICE FOR "REPLACE STRUCTURAL BOLTS".

BILL OF MATERIAL
(FOR ONE BRIDGE)

NO.	ITEMS	EA.
1	FLOOR BEAMS	1
2	REPLACE U-BOLTS	50



DETAIL "I"

PROJECT NO. 8.1950901
HENDERSON COUNTY
STATION: _____

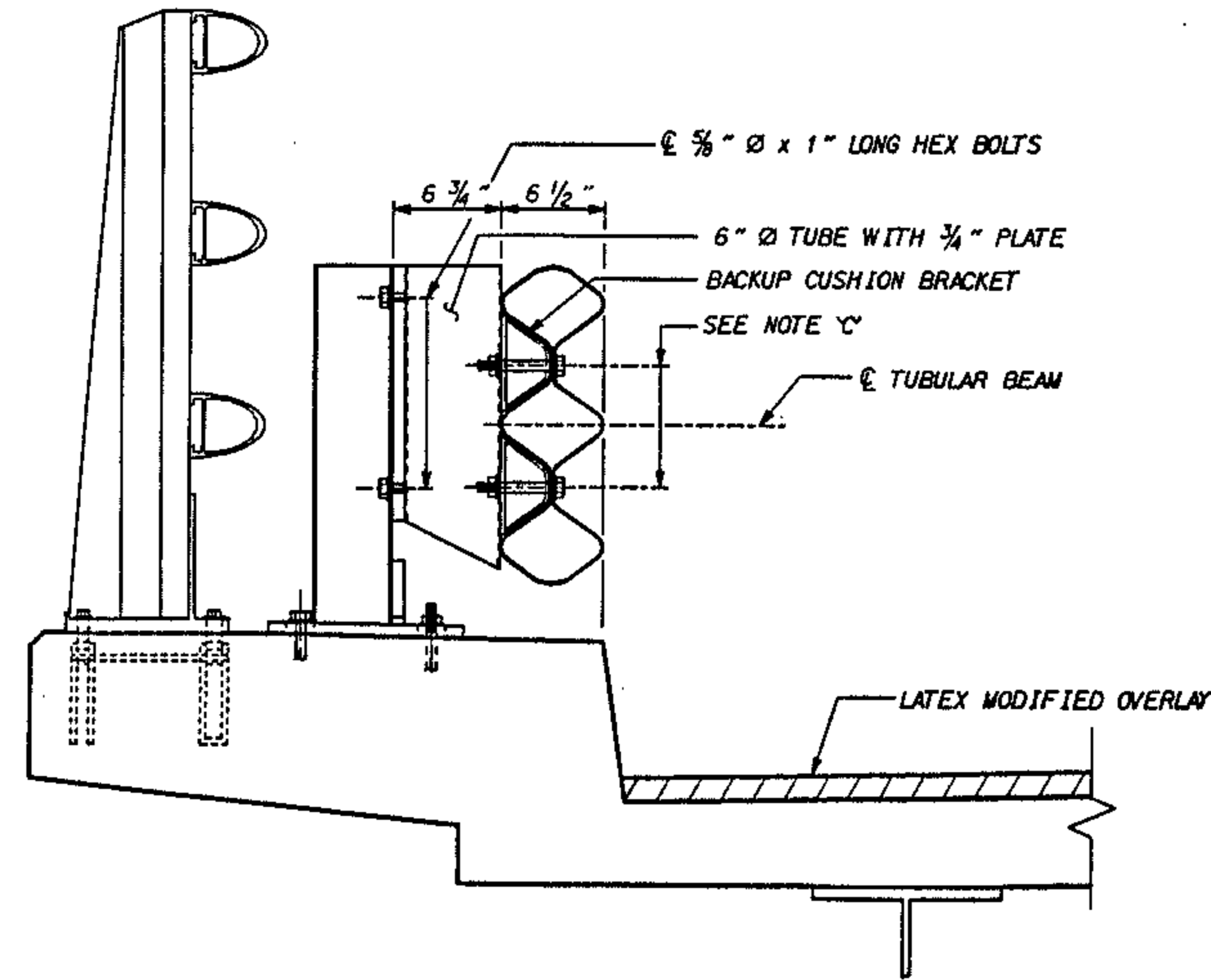
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
FLOOR BEAM RETROFIT
AND
CATWALK RETROFIT

REVISIONS						SHEET NO. S-26
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

10-NOV-1992
ZHO1205027JB21006R.DGN
BOWEN

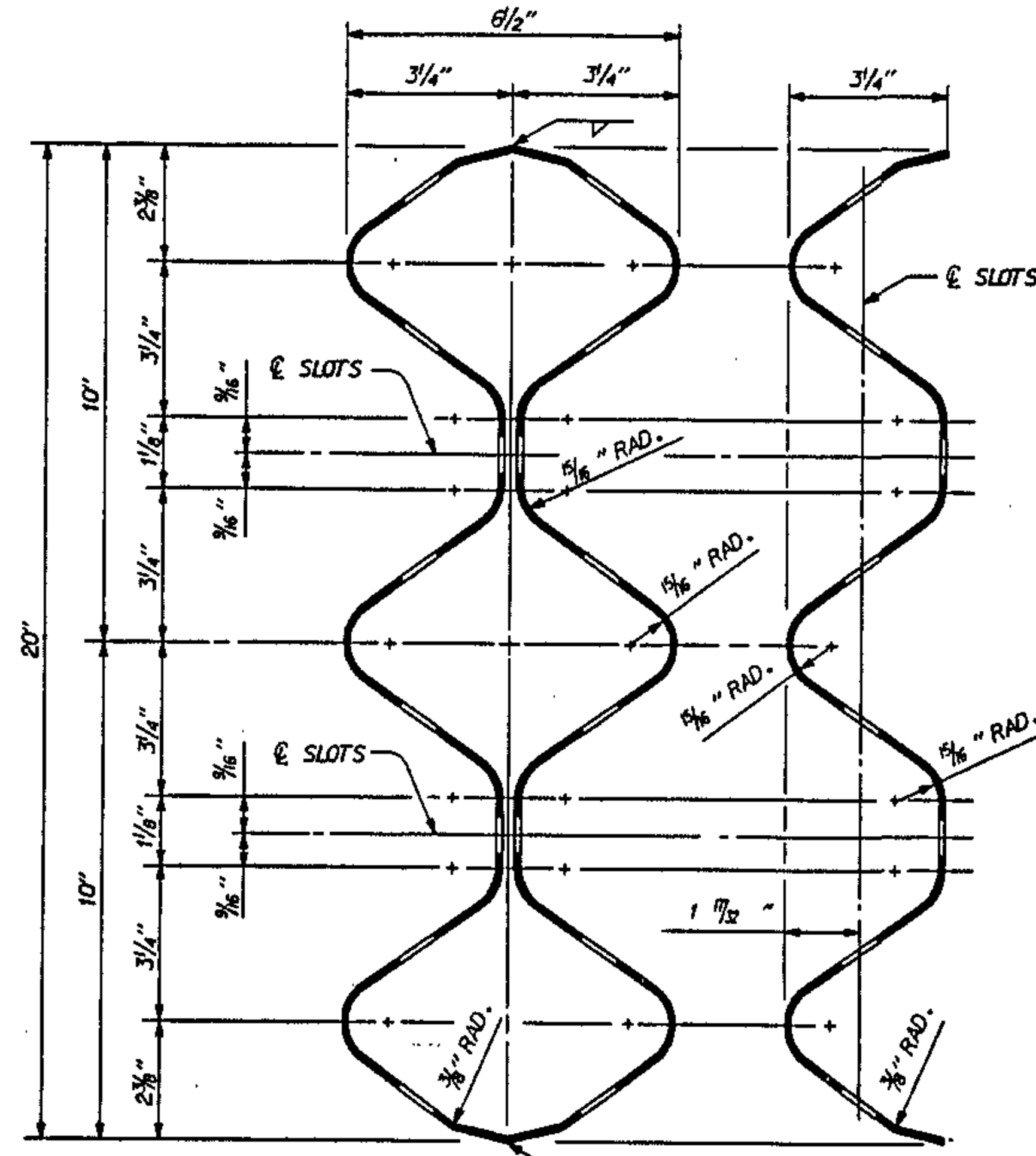
NOTE: "C"

5/8" Ø x 5" LONG HEX, OR HEAVY HEX HEAD BOLTS WITH ONE GALVANIZED FLAT PLATE WASHER (TYPE 1) AND ONE GALVANIZED STANDARD ROUND WASHER EACH OR ROUND HEAD, OVAL NECK CARRIAGE BOLT WITH ONE GALVANIZED STANDARD ROUND WASHER AND ONE GALVANIZED FLAT PLATE WASHER (TYP 6).



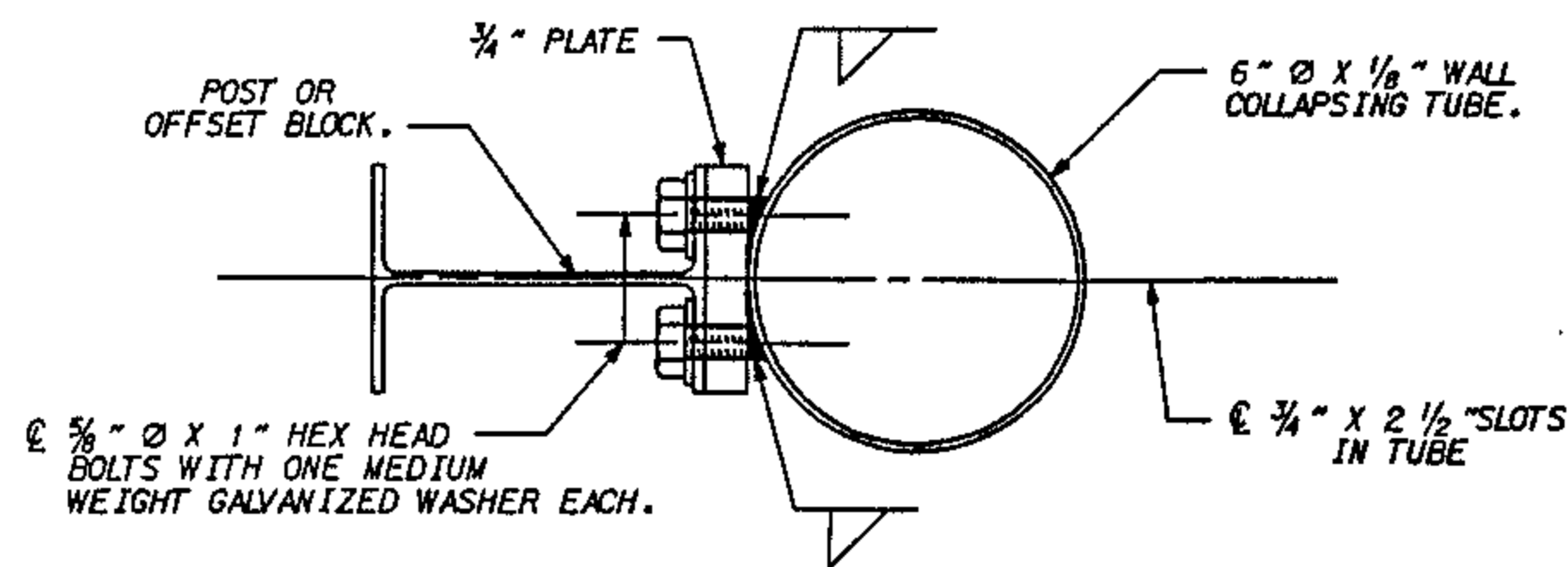
REPAIR OF EXISTING RETROFITED RAIL

(REPLACE ALL DAMAGED COMPONENTS OF RAIL, AS DIRECTED BY THE ENGINEER.)

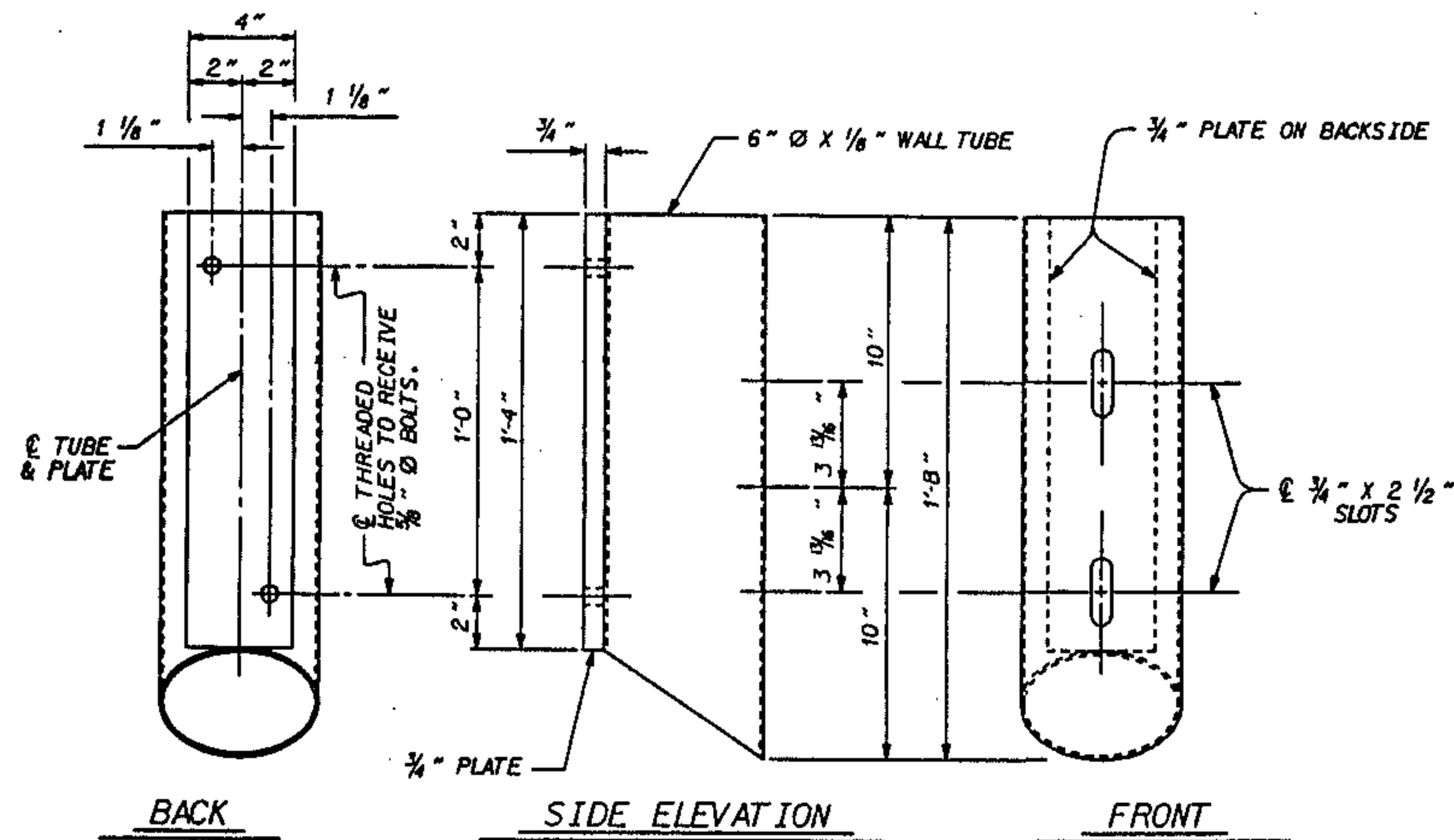


- NOTES
1. THE 20" TRIPLE TUBULAR CORRUGATED BEAM RAIL SECTION SHALL BE FABRICATED BY WELDING TWO (2) 20" TRIPLE CORRUGATED BEAM RAIL ELEMENTS AS SHOWN AND THE GUARDRAIL SHALL CONFORM TO THE NCDOT SHANDARD SPECIFICATIONS EXCEPT AS NOTED ON THE PLANS.
 2. 20" TRIPLE CORRUGATED BEAM RAIL SHALL BE 10 GAGE.
 3. 3/4" PLATES AND 6" TUBES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-36.
 4. 3/4" PLATES AND 6" TUBES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123.
 5. EXISTING POST SPACINGS AND EXISTING BOLT PATTERNS AT THE CONNECTIONS SHALL BE CHECKED BEFORE HOLES ARE DRILLED IN THE 20" TRIPLE TUBULAR CORRUGATED BEAM RAIL AND THE TUBULAR BEAM.
 6. VERTICAL SLOTS IN THE 6" TUBE ALLOW FOR SOME VERTICAL ADJUSTMENT OF RAIL HEIGHT IN ORDER TO OBTAIN THE CENTERLINE OF RAIL HEIGHT ABOVE RIDING SURFACE SAME AS THE EXISTING RAILS. STANDARD SLOTS WILL BE ALLOWED. FIELD PUNCHING OF THE HOLES WILL NOT BE PERMITTED.
 7. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES." ELECTROSLAG WELDING WILL NOT BE PERMITTED.
 8. LAP BEAM RAIL JOINTS IN DIRECTON OF TRAFFIC.
 9. THE ENGINEER SHALL DETERMINE THE ACTUAL NUMBER OF SECTIONS AND COLLAPSING TUBES TO BE REPLACED.
 10. FOR 6" COLLAPSING TUBE WITH 3/4" PLATE, SEE SPECIAL PROVISIONS.
 11. FOR 20" TUBULAR TRIPLE CORRUGATED STEEL BEAM GUARDRAIL, SEE SPECIAL PROVISIONS.

BILL OF MATERIAL (FOR 1 BRIDGE)	
PAY ITEMS:	
50-	6" COLLAPSING TUBE WITH 3/4" PLATE
625	LIN. FT. 20" TUBULAR TRIPLE CORRUGATED STEEL BEAM GUARDRAIL.



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



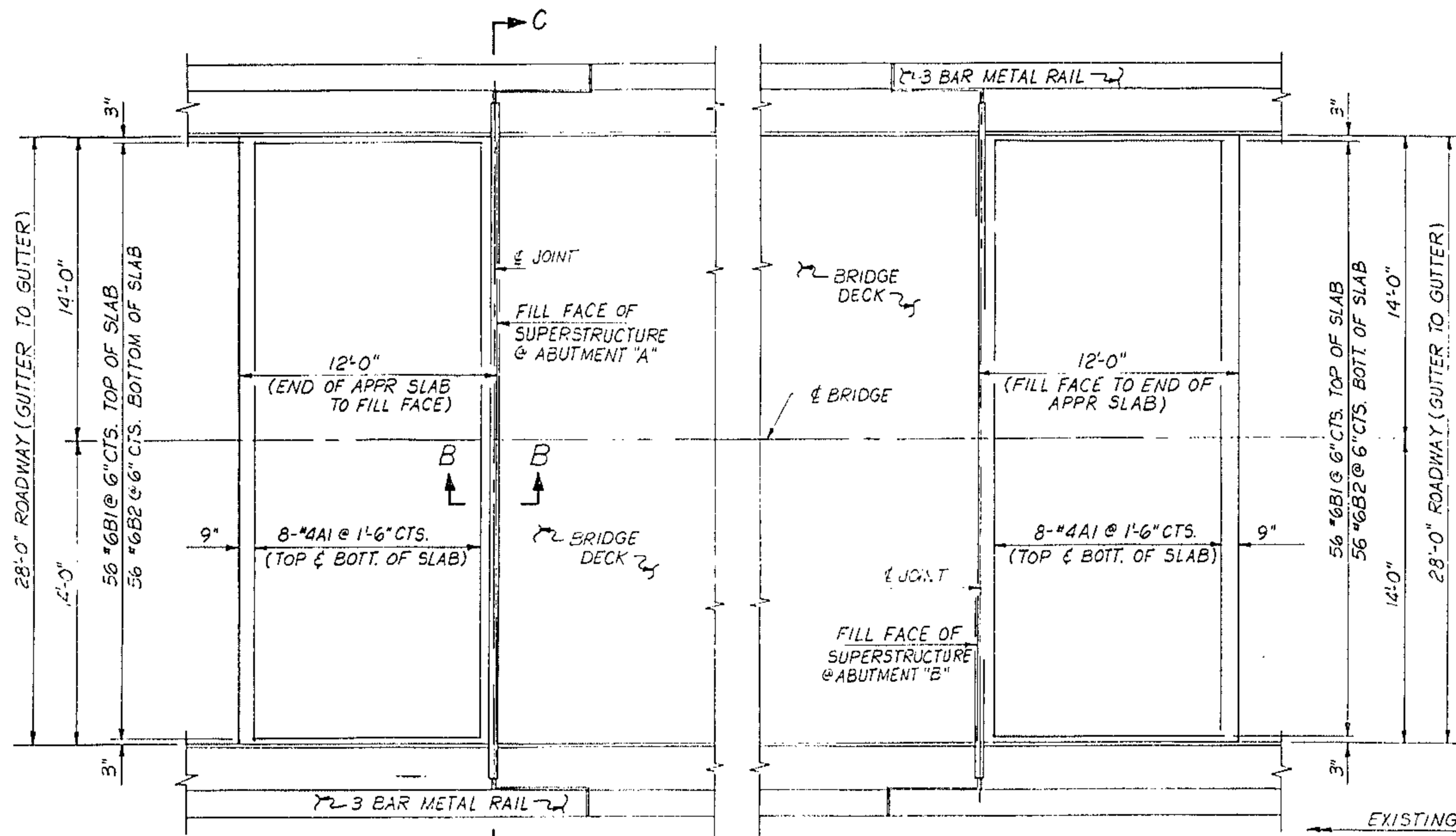
6" Ø TUBE DETAILS

PROJECT NO. 8.1950901
HENDERSON COUNTY
 STATION: _____

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
DETAILS FOR REPAIR OF EXISTING BRIDGE RAIL WITH TUBULAR BEAM GUARDRAIL					
DEC. 1982					
REVISIONS					SHEET NO.
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
TOTAL SHEETS					31

ADDED TO CADD 5/88 BY: MWR CHECKED BY: SBW

ASSEMBLED BY: <u>D.K. BOWEN</u> DATE: <u>11/10/92</u>	SPECIAL
CHECKED BY: <u>F.A. Williams</u> DATE: <u>11-10-92</u>	
DRAWN BY: <u>N.M. RUFFIN</u> DATE: <u>5/88</u>	STANDARD
CHECKED BY: <u>S.B. WILLIAMS</u> DATE: <u>5/92</u>	



PLAN - APPROACH SLABS

NOTES

FOR BRIDGE APPROACH SLABS, SEE SPECIAL PROVISIONS.

FOR EVAZOTE JOINT SEAL, SEE SPECIAL PROVISIONS.

PAYMENT FOR EVAZOTE JOINT SEAL SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR "EVAZOTE JOINT SEAL". SEE TOTAL BILL OF MATERIAL SHEET.

THE OPENING IS BASED ON A NOMINAL UNCOMPRESSED SEAL WIDTH OF 3 1/8".

THE QUANTITIES SHOWN FOR LATEX MODIFIED CONCRETE WILL NOT BE INCLUDED IN THE LUMP SUM BID PRICE FOR APPROACH SLABS.

THE CONTRACTOR, AT HIS OPTION, MAY USE 4" BITUMINOUS CONCRETE BASE COURSE, TYPE HB IN LIEU OF 6" A.B.C. ANY ADDITIONAL COST DUE TO THE USE OF THIS OPTION WILL BE PAID FOR BY THE CONTRACTOR.

TOP OF APPROACH SLAB SHALL BE CONSTRUCTED TO MATCH THE ELEVATION OF THE MILLED DECK SURFACE AT THE FILL FACE. THE ELEVATION OF THE BEGINNING APPROACH SLAB SHALL BE CONSTRUCTED 1/2" BELOW THE ELEVATION OF THE EXISTING PAVEMENT. A 1 1/4" LATEX MODIFIED CONCRETE OVERLAY SHALL THEN BE ADDED ON THE SURFACE OF THE APPROACH SLAB TO MATCH THE LATEX MODIFIED CONCRETE ON THE DECK SURFACE. FOR LATEX MODIFIED CONCRETE OVERLAY, SEE SPECIAL PROVISIONS.

THE 1-2 PAVEMENT SHALL OVERLAY THE EXISTING PAVEMENT TO MATCH THE APPROACH SLAB ELEVATION AFTER APPLICATION OF THE LATEX MODIFIED CONCRETE AS SHOWN ON THE PLANS. A CONSTANT DEPTH OF 3/4" OF 1-2 SHALL TRANSITION THE FINISHED GRADE ELEVATION FROM THE EXISTING PAVEMENT TO THE NEW ELEVATION OF THE APPROACH SLAB. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS WORK. THE ENTIRE COST OF ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND ANY INCIDENTALS NECESSARY TO MILL THE SURFACE AND TO FURNISH AND PLACE THE PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR APPROACH SLABS.

BILL OF MATERIAL (FOR ONE BRIDGE ONLY)

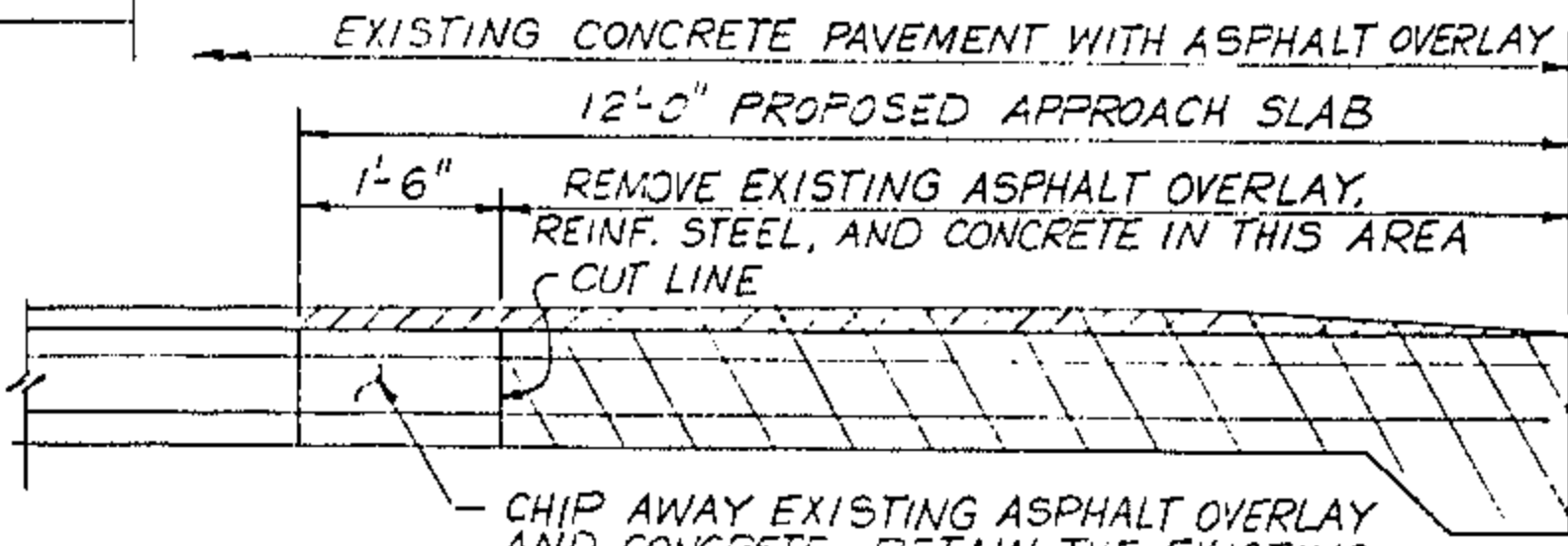
APPROACH SLAB @ ABUTMENT "A"					APPROACH SLAB @ ABUTMENT "B"				
BAR NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	16	4	STR 27-8	296	A1	16	4	STR 27-8	296
B1	56	6	STR 11-2	939	B1	56	6	STR 11-2	939
B2	56	6	STR 11-6	967	B2	56	6	STR 11-6	967
REINFORCING STEEL, LBS. = 2,202					REINFORCING STEEL, LBS. = 2,202				
CLASS AA CONCRETE, C.Y. = 10.2					CLASS AA CONCRETE, C.Y. = 10.2				

LATEX MODIFIED CONCRETE QUANTITIES		
	LATEX MODIFIED CONCRETE	PLACING AND FINISHING
	CU. YDS.	SO. YDS.
APPROACH SLABS	2.5	71

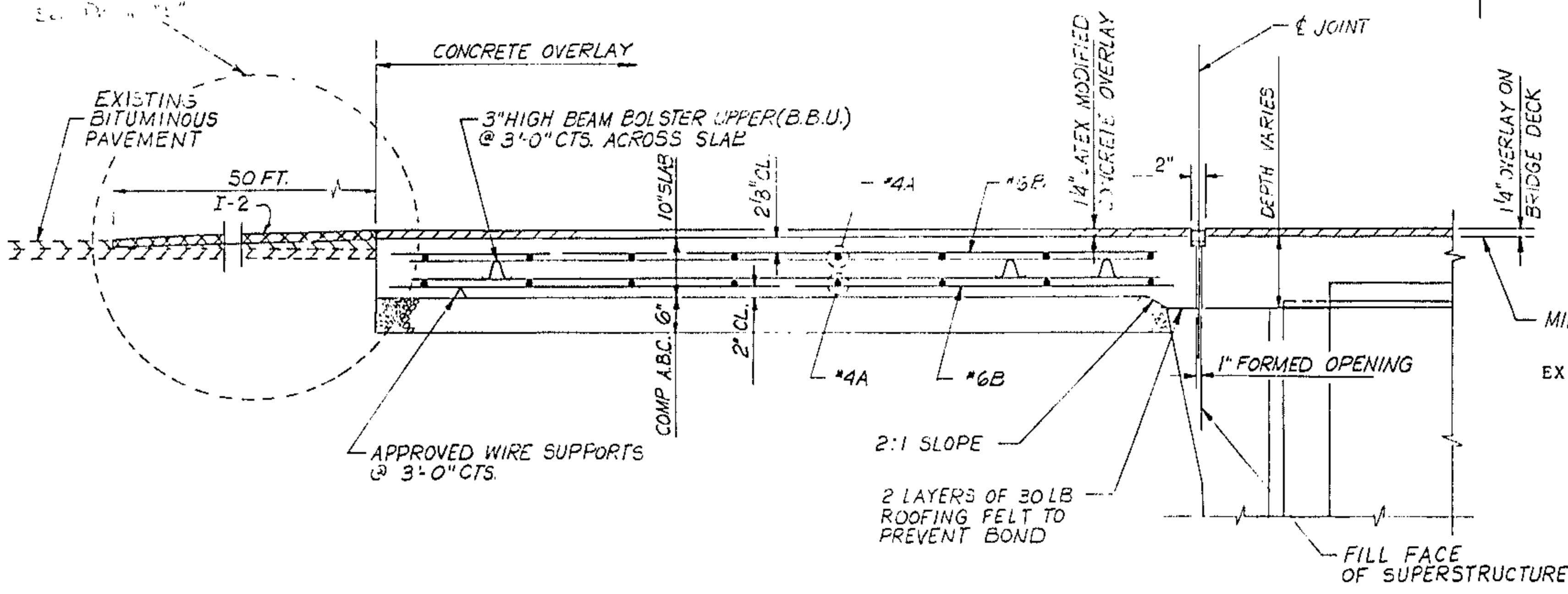
NOTE: QUANTITIES SHOWN FOR LATEX MODIFIED CONCRETE AND PLACING AND FINISHING OF LATEX MODIFIED CONCRETE ARE INCLUDED IN THE TOTAL BILL OF MATERIAL. THESE QUANTITIES ARE NOT TO BE INCLUDED IN THE L.S. BID PRICE FOR BRIDGE APPROACH SLAB.

PAY ITEMS:

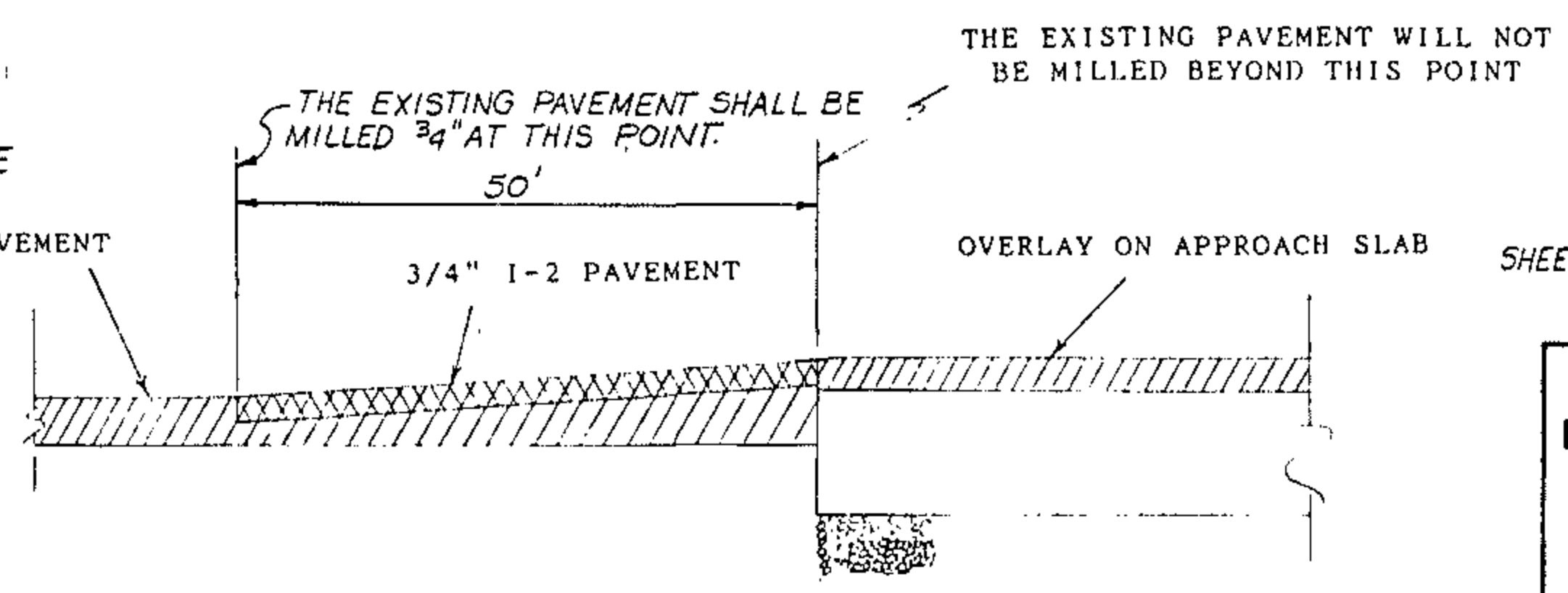
EVAZOTE JOINT SEAL	LUMP SUM
BRIDGE APPROACH SLAB	LUMP SUM



PROPOSED REMOVAL OF EXISTING CONCRETE PAVEMENT AND ASPHALT OVERLAY



SECTION THRU SLAB



DETAIL S

THE EXISTING PAVEMENT SHALL BE MILLED TO A VARIABLE DEPTH; STARTING AT A DEPTH OF 3/4" 50 FT. FROM THE APPROACH SLAB DECREASING TO A DEPTH OF 0" AT THE APPROACH SLAB.

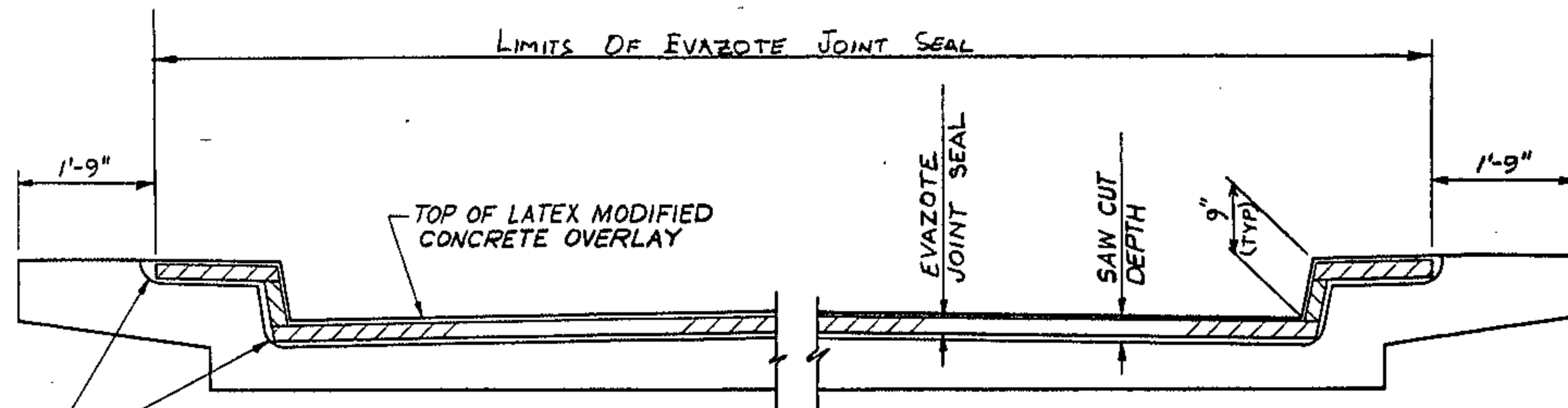
Δ REV - REVISED APPR SLABS FROM FLEXIBLE PAVEMENT. CHANGED: SECT THRU SLAB & DETAIL S. DELETED: 6" BEVEL FROM END OF SLAB. DWN: GMP 6/14/93 CHK: FPM

PROJECT No. 8.1950901
 HENDERSON COUNTY
 STATION: _____

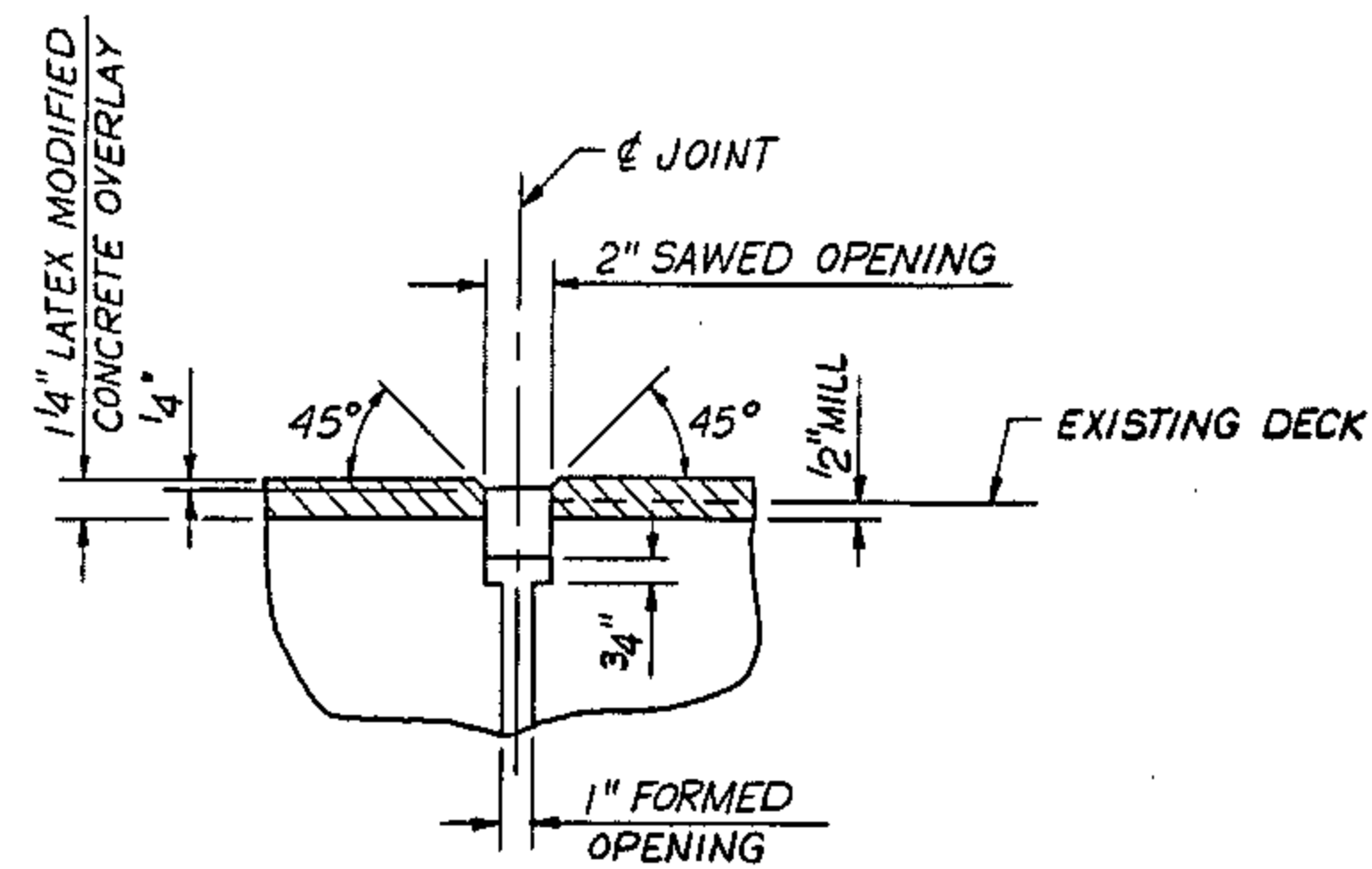
SHEET 1 OF 2

STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
BRIDGE APPROACH SLAB FOR RIGID PAVEMENT					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1	GMP	6/14/93	3		
2			4		
SHEET NO. S-28					TOTAL SHEETS 31

DRAWN BY: J. H. Patterson DATE: 11/15/92
 CHECKED BY: William Kovs DATE: 10/27/92



SECTION C-C
@ ABUTMENT "A" & "B"



SECTION B-B

NOTE: 45° BEVEL IS REQUIRED FROM GUTTER TO GUTTER.

PROJECT No. 8.1950901

HENDERSON COUNTY

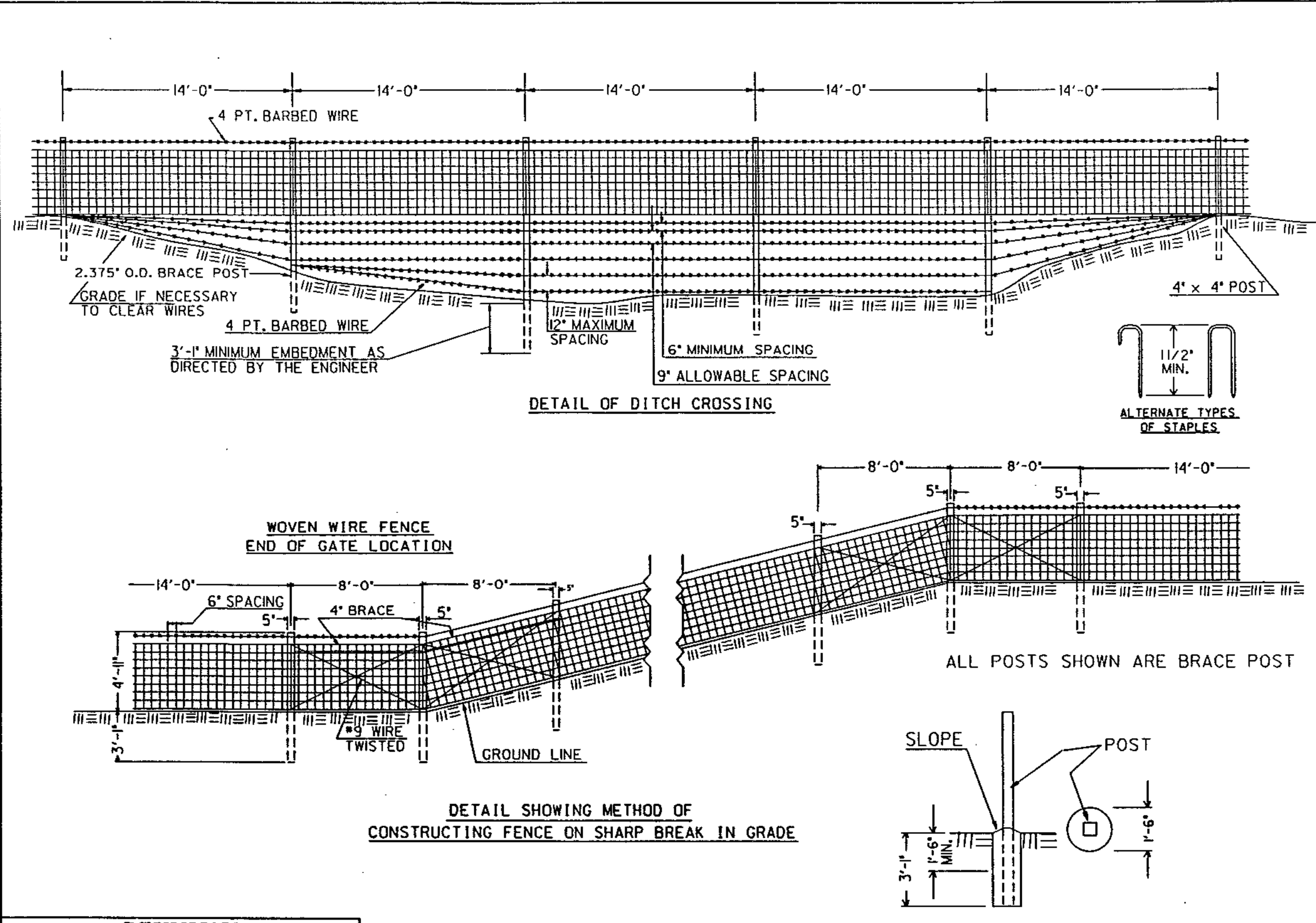
STATION: _____

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE APPROACH SLABS

DRAWN BY G.M. Patterson DATE 10/13/92
CHECKED BY W. K. Kamm DATE 11/2/92

REVISIONS						SHEET NO. S-29
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 31
2			4			

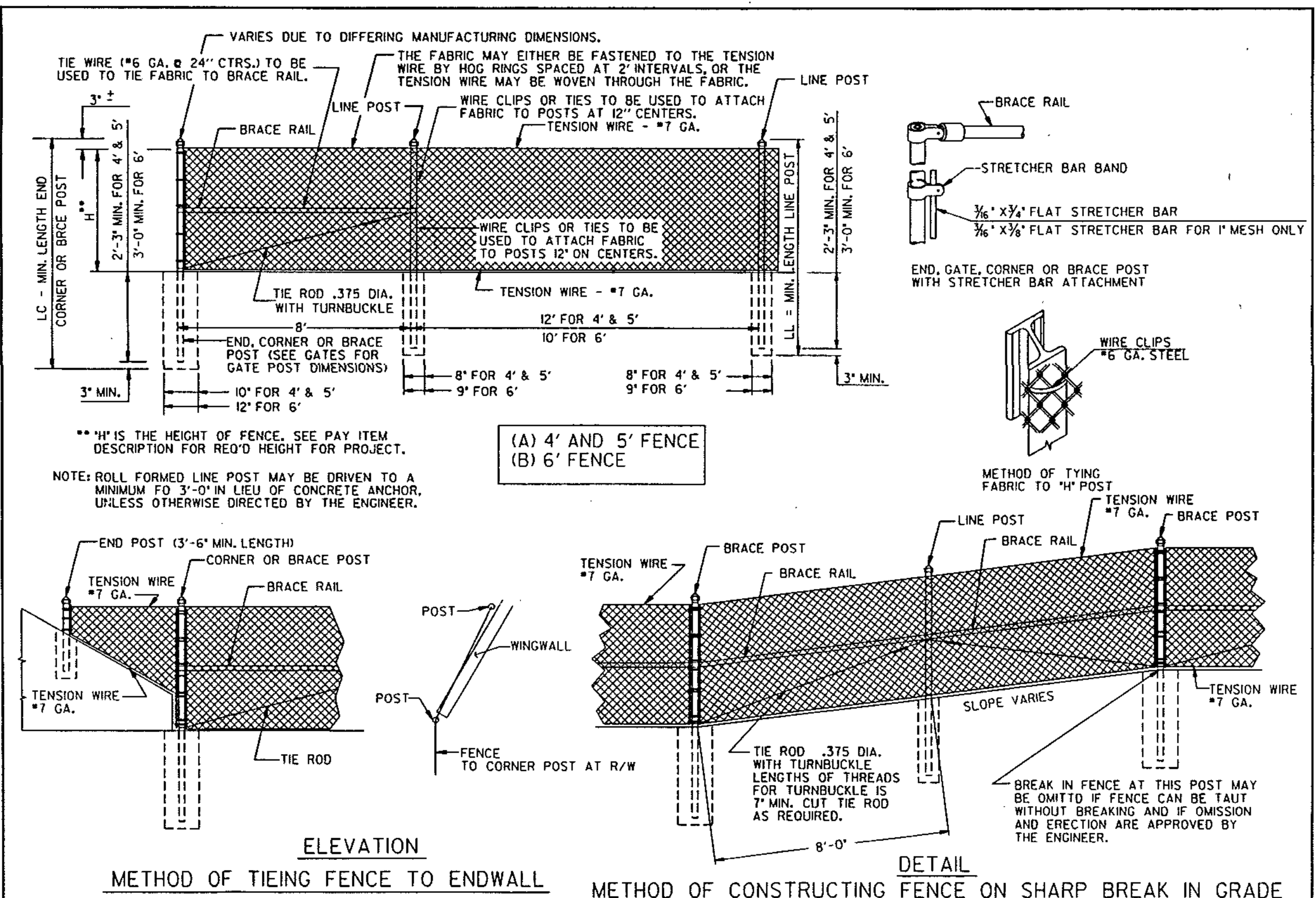


REVISIONS	
NO.	DATE

**STANDARD WOVEN WIRE FENCE
WITH WOOD POST
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
RALEIGH, N.C.**

STD. NO.	REV.
866.02	D

SHEET 2 OF 3



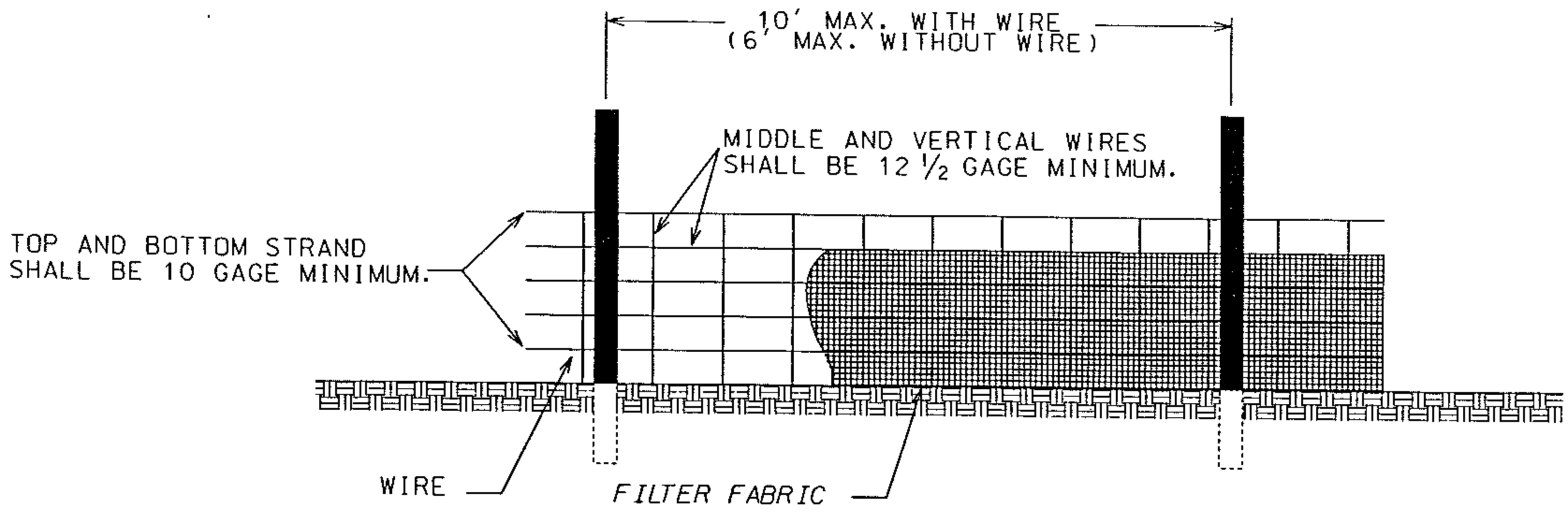
REVISIONS	
NO.	DATE
D	01-20-87

**STANDARD CHAIN LINK FENCE
4', 5' AND 6' HIGH FENCE
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
RALEIGH, N.C.**

STD. NO.	REV.
866.01	D

SHEET 1 OF 3

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
8-150901	5-30	31
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

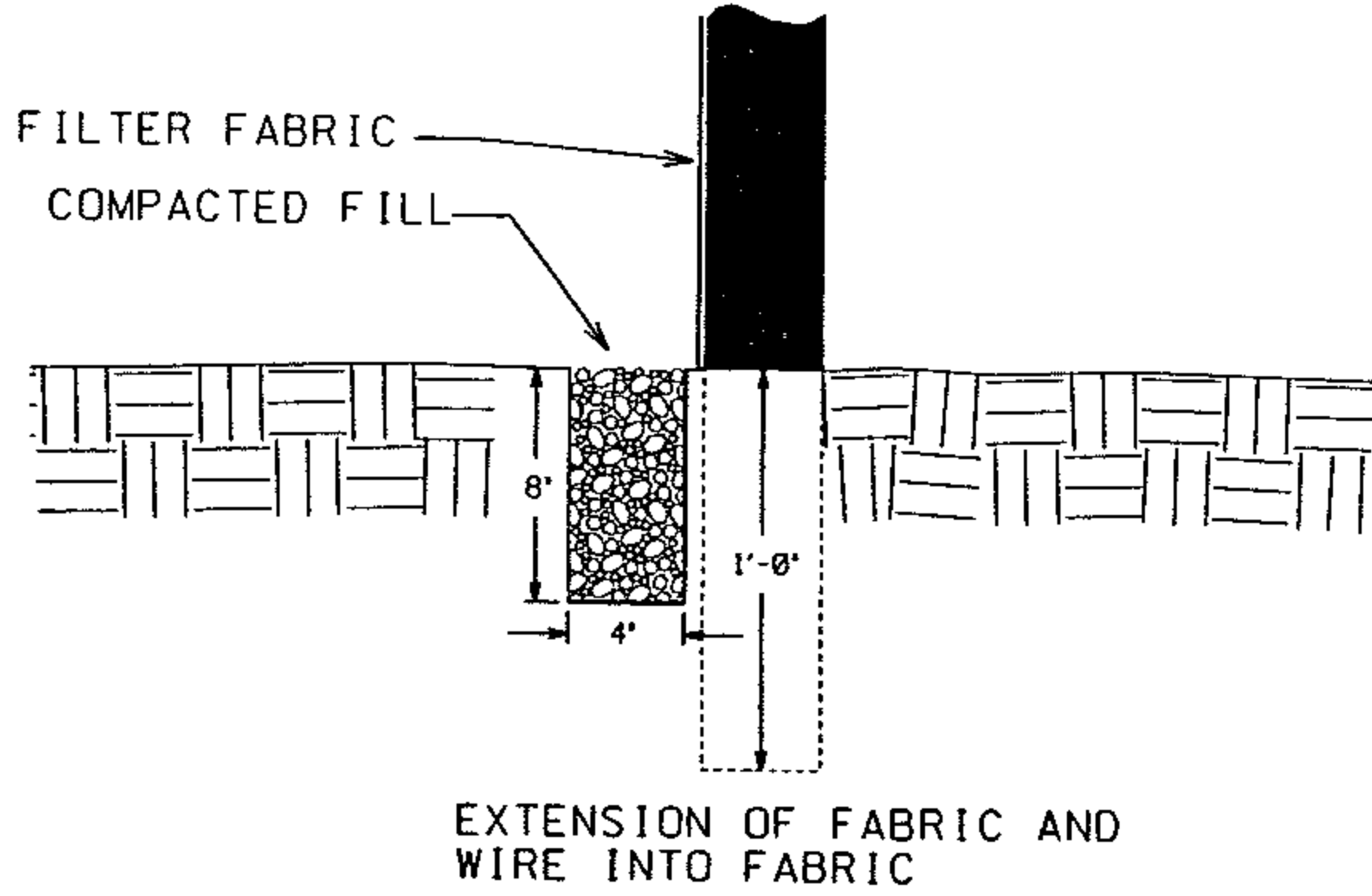


NOTES

WIRE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.

FILTER FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH AND SHALL BE FASTENED ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.

STEEL POST SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.



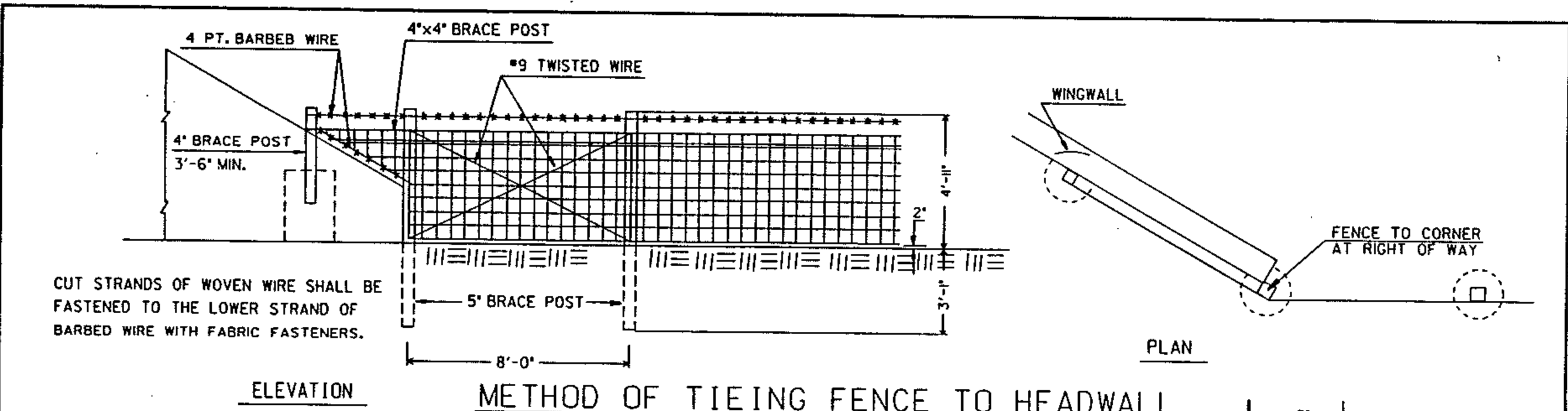
REVISIONS		
NO.	DATE	DESCRIPTION
A	11-19-91	REVISED AND REDRAWN

SHEET 1 OF 1

STANDARD TEMPORARY SILT FENCE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
RALEIGH, N.C.

STD. NO.	REV.
893.01	A

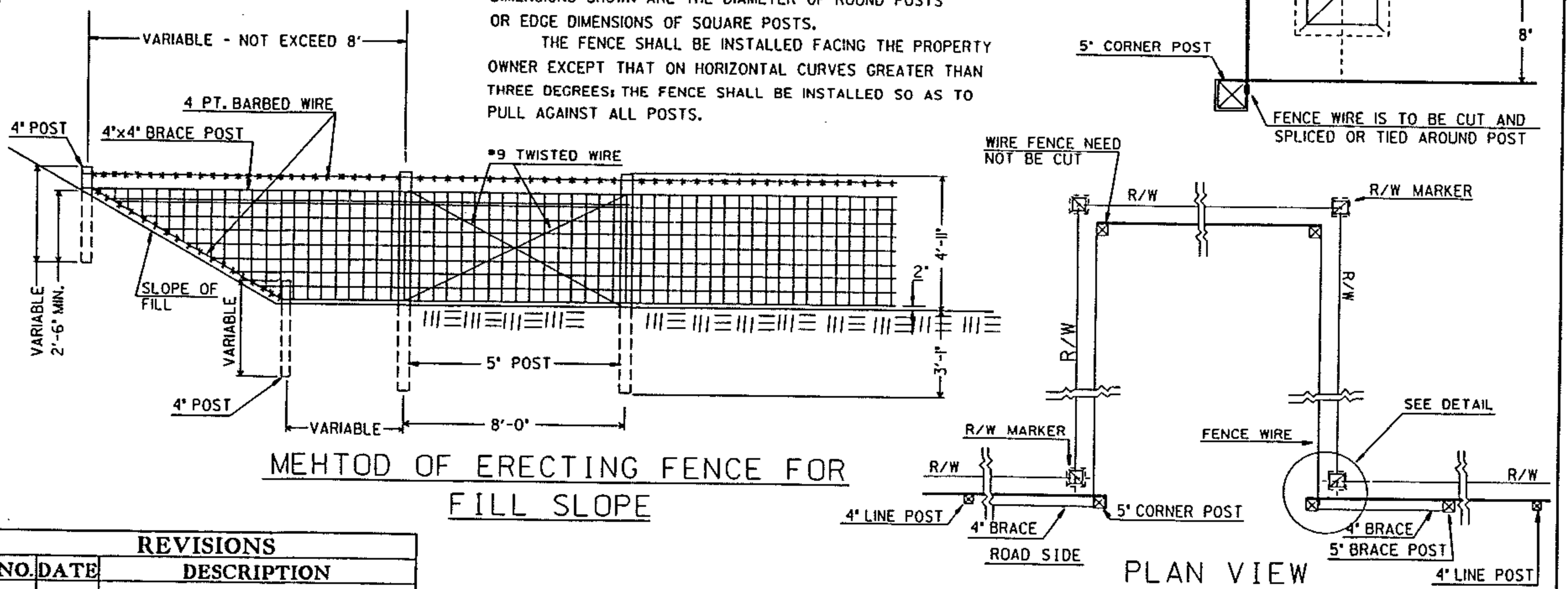


METHOD OF TIEING FENCE TO HEADWALL

GENERAL NOTES:

ALL POSTS AND BRACES MAY BE EITHER ROUND OR SQUARE AT THE OPTION OF THE CONTRACTOR, PROVIDED THE SAME TYPE IS USED THROUGHOUT THE PROJECT FOR POST AND BRACE. DIMENSIONS SHOWN ARE THE DIAMETER OF ROUND POSTS OR EDGE DIMENSIONS OF SQUARE POSTS.

THE FENCE SHALL BE INSTALLED FACING THE PROPERTY OWNER EXCEPT THAT ON HORIZONTAL CURVES GREATER THAN THREE DEGREES, THE FENCE SHALL BE INSTALLED SO AS TO PULL AGAINST ALL POSTS.



METHOD OF ERECTING FENCE FOR FILL SLOPE

REVISIONS		
NO.	DATE	DESCRIPTION

SHEET 3 OF 3

STANDARD WOVEN WIRE FENCE

WITH WOOD POST
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
RALEIGH, N.C.

STD. NO.	REV.
866.02	D

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
8-1950M01	5-31	31
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	8.1950901	TCP-1A	
F. A. PROJ. NO.			
PROJ. ID. NO.			B-2700

PHASE I

- STEP 1: STATE FORCES WILL INSTALL ALL ADVANCE CONSTRUCTION WARNING SIGNS USING DETAIL 4, RDWY. STD. DWG. NO. 150.04A (SEE NOTES 4 AND 13).
- STEP 2: STATE FORCES WILL CONSTRUCT ANY NECESSARY TEMPORARY DRAINAGE NEEDED IN THE MEDIAN WHERE CROSSOVERS ARE TO BE INSTALLED, AND CONSTRUCT TEMPORARY CROSSOVERS IN THE MEDIAN AS SHOWN ON THE ROADWAY CONSTRUCTION PLANS FROM STA. 810+40+ -L- TO STA. 823+61+ -L- AND FROM STA. 902+60+ -L- TO STA. 913+60+ -L- (SEE NOTES 2, 7, 14, AND 19).

PHASE II

- STEP 1: USING THE IOWA WEAVE DETAIL ON SHEET TCP-2, STATE FORCES WILL SHIFT I-26 WB TRAFFIC TO I-26 WB OUTSIDE LANE, AND PLACE TEMPORARY PRECAST CONCRETE BARRIER (TPCB) (AS SHOWN ON RDWY. STD. NO. 150.07A, DETAIL 2) AND DELINEATORS FROM STA. 810+00+ -L- TO STA. 913+00+ -L- (SEE RDWY. STD. DWG. NO. 150.07A, AND NOTES 2, 10, 11, 12, 17 AND 19).
- NOTE: STEPS 2 AND 3 SHALL BE COMPLETED IN A CONTINUOUS OPERATION
- STEP 2: USING THE IOWA WEAVE DETAIL ON SHEET TCP-3, STATE FORCES WILL SHIFT I-26 EB TRAFFIC TO THE OUTSIDE LANE, AND PLACE PAVEMENT MARKING LINES (PAINT) FROM STA. 810+00+ -L- TO STA. 823+61+ -L- AND FROM STA. 902+60+ -L- TO STA. 913+60+ -L- (AS SHOWN ON DETAIL 2, RDWY. STD. DWG. NO. 150.07A) IN PREPARATION OF CROSSING I-26 EB TRAFFIC TO THE I-26 WB TRAVELWAY (SEE NOTES 1, 2, 6, 8 AND 18).
- STEP 3: STATE FORCES WILL PLACE ALL REMAINING DEVICES AND SIGNING AS SHOWN ON DETAIL 2, RDWY. STD. DWG. NO. 150.07A, AND SHALL SHIFT THE I-26 EB TRAFFIC ONTO THE I-26 WB TRAVELWAY INSIDE LANE USING CROSSOVER FROM STA. 902+60+ -L- TO STA. 913+60+ -L-, AND BACK ONTO THE EXISTING EB TRAVELWAY USING THE CROSSOVER FROM STA. 810+40+ -L- TO STA. 823+61+ -L- (SEE NOTES 3 AND 5).

PHASE III

- STEP 1: THE CONTRACTOR SHALL REPLACE, PREVIOUSLY INSTALLED BY STATE FORCES, ALL ADVANCE CONSTRUCTION WARNING SIGNS INCLUDING VARIABLE MESSAGE MATRIX BOARDS (DETAIL 4, RDWY. STD. DWG. NO. 150.04A) AND ALL OTHER SIGNING AND DEVICES USED FOR IOWA WEAVE (TCP-3) AND CROSSOVER (RDWY. STD. NO. 150.07A), EXCLUDING TPCB, TO CONTRACTOR FURNISHED (SEE NOTES 4, 13 AND 20).
- STEP 2: THE CONTRACTOR SHALL PERFORM THE WORK NEEDED TO REHABILITATE THE EB I-26 BRIDGE OVER THE GREEN RIVER AND REPLACE PAVEMENT MARKING LINES (PAINT) (SEE NOTES 6, 7, AND 9).
- STEP 3: THE CONTRACTOR SHALL REMOVE CONFLICTING PAVEMENT MARKING, REPLACE PAVEMENT MARKING LINES, SHIFT TRAFFIC BACK ONTO THE OUTSIDE EASTBOUND LANE, REMOVE ANY REMAINING CONFLICTING PAVEMENT MARKINGS ON THE INSIDE EASTBOUND LANE, REPLACE PAVEMENT MARKING LINES, REMOVE TPCB, AND REOPEN EB AND WB LANES OF I-26 TO TWO-LANE, ONE-WAY TRAFFIC (SEE NOTES 6, 11, 12, 14, 17 AND 18).

PHASE IV

- STEP 1: USING THE IOWA WEAVE DETAIL ON SHEET TCP-2, THE CONTRACTOR SHALL SHIFT EB I-26 TRAFFIC TO THE EB OUTSIDE LANE AND PLACE TPCB (ACCORDING TO RDWY. STD. NO. 150.07A, DETAIL 2) AND DELINEATORS FROM STA. 812+75+ -L- TO STA. 912+60+ -L- (SEE RDWY. STD. DWG. NO. 150.07A, AND NOTES 2, 10, 11, 12, 17 AND 19).

NOTE: STEPS 2 AND 3 SHALL BE COMPLETED IN A CONTINUOUS OPERATION

- STEP 2: USING THE IOWA WEAVE DETAIL ON SHEET TCP-3, THE CONTRACTOR SHALL SHIFT WB TRAFFIC TO THE OUTSIDE LANE AND PLACE PAVEMENT MARKING LINES (PAINT) FROM STA. 812+75+ -L- TO STA. 822+70+ -L- AND FROM STA. 902+60+ -L- TO STA. 912+60+ -L- (AS SHOWN ON DETAIL 2, RDWY. STD. DWG. NO. 150.07A) IN PREPARATION OF CROSSING I-26 WB TRAFFIC TO THE I-26 EB TRAVELWAY (SEE NOTES 1, 2, 6, 8, 12, AND 18).

- STEP 3: THE CONTRACTOR SHALL PLACE ALL REMAINING DEVICES AND SIGNING AS SHOWN ON DETAIL 2, RDWY. STD. DWG. NO. 150.07A AND SHALL SHIFT I-26 WB TRAFFIC ONTO THE I-26 EB TRAVELWAY INSIDE LANE USING CROSSOVER FROM STA. 812+75+ -L- TO STA. 822+70+ -L-, AND BACK ONTO THE EXISTING WB TRAVELWAY USING THE CROSSOVER FROM STA. 902+60+ -L- TO STA. 912+60+ -L- (SEE NOTES 3, 4, AND 5).

- STEP 4: THE CONTRACTOR SHALL PERFORM THE WORK NECESSARY TO REHABILITATE THE WB I-26 BRIDGE OVER THE GREEN RIVER AND REPLACE PAVEMENT MARKING LINES (PAINT) (SEE NOTES 6, 7, AND 9).

- STEP 5: THE CONTRACTOR SHALL REMOVE CONFLICTING PAVEMENT MARKING, REPLACE PAVEMENT MARKING LINES, SHIFT TRAFFIC BACK ONTO THE OUTSIDE WESTBOUND LANE, REMOVE ANY REMAINING CONFLICTING PAVEMENT MARKINGS ON THE INSIDE WESTBOUND LANE, REPLACE PAVEMENT MARKING LINES, REMOVE TPCB, AND REOPEN WB AND EB LANES OF I-26 TO TWO-LANE, ONE-WAY TRAFFIC (SEE NOTES 6, 11, 12, 14, 16, 17 AND 18).

- STEP 6: THE CONTRACTOR SHALL OBLITERATE THE TEMPORARY CROSSOVER ON THE EASTERN END OF THE PROJECT UPON COMPLETION OF THE REHABILITATION OF THE BRIDGES OVER THE GREEN RIVER, AND REPLACE ANY PAVEMENT MARKING LINES (SEE NOTES 6, 7, 14, AND 16).

SUMMARY OF TCP ITEMS

2073	920	4,657	LP	PAVEMENT MARKING LINES (4" PAINT, WHITE)
2076	920	3,550	LP	PAVEMENT MARKING LINES (4" PAINT, YELLOW)
2100	922	2,300	LP	REMOVAL OF PAVEMENT MARKING LINES, 4" WIDE
1693	944	95	EA	CONSTRUCTION ZONE BARRIER DELINEATORS, TOP MOUNTED (YELLOW)
2061	856	9,985	LP	REMOVE & RESET TEMPORARY CONCRETE BARRIER
2037	953	654	SP	STATIONARY CONSTRUCTION SIGNS
2040	956	48	LP	TYPE III BARRICADES
2047	SP	32	SP	SIGNS MOUNTED ON BARRICADES
2152	958	120	EA	NON-METALLIC DRUMS
2155	960	2	EA	FLASHING ARROW PANELS, TYPE C
2146	SP	2	EA	TRAILER MOUNTED VARIABLE MESSAGE MATRIX SIGN
	SP	1	EA	STATE FURNISHED STATIONARY CONSTRUCTION ZONE CRASH CUSHION
	SP	1	EA	STATE FURNISHED STATIONARY CONSTRUCTION ZONE CRASH CUSHION, REPAIR PACKAGE
	SP	1	EA	RELOCATED STATE FURNISHED STATIONARY CONSTRUCTION ZONE CRASH CUSHION

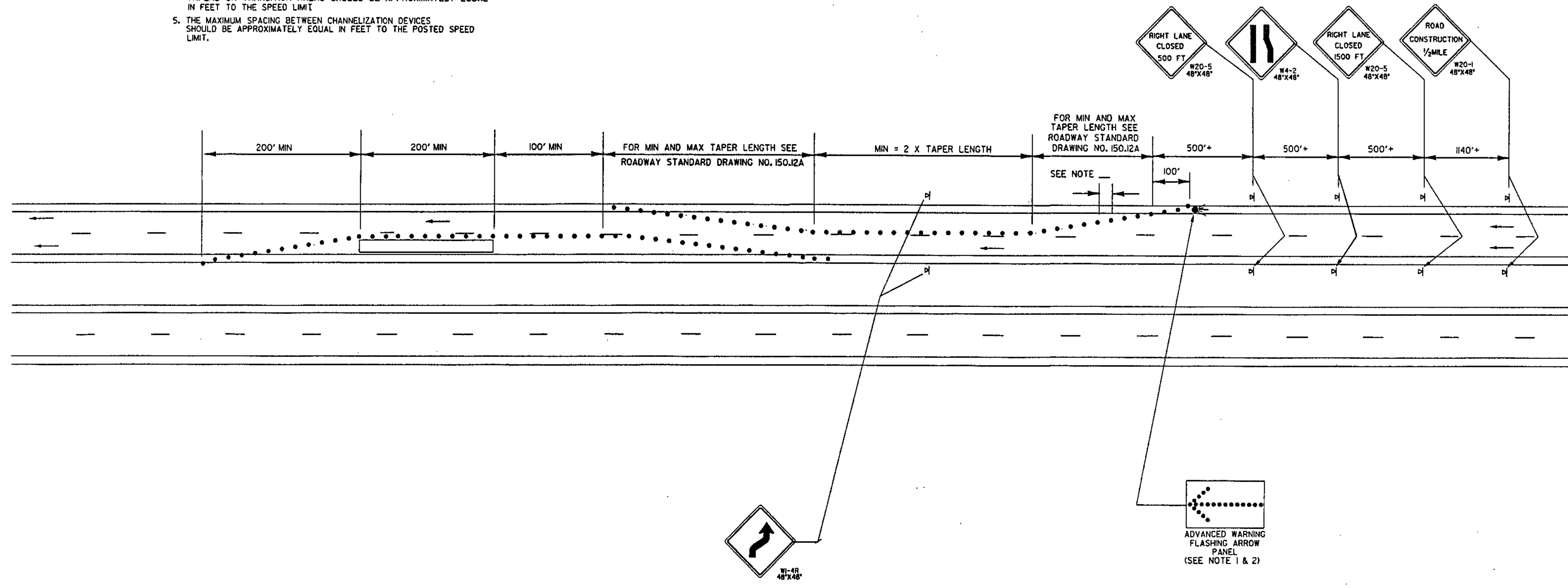
CONSTRUCTION PHASING

SCALE	NONE	N. C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH	REVISIONS
DATE	08/08/2008		
DWG. BY	EAF		
DESIGN BY	EAF		
APPROVED			CADD NO. B2700.TCP REV. NO.

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	B.1950901	TCP-2	
F. A. PROJ. NO.			
PROJ. ID. NO.			B-2700

NOTES

1. ADVANCED WARNING FLASHING ARROW PANEL TO HAVE MINIMUM CLEARANCE OF 7' ABOVE PAVEMENT. ARROW PANEL SHALL BE LOCATED ON SHOULDER (PAVED OR UNPAVED). (EXCEPT FOR TEMPORARY LEFT LANE CLOSURE FOR FOUR LANE UNDIVIDED HIGHWAY).
2. ADVANCED WARNING, FLASHING ARROW PANEL TO BE 96" x 48" TYPE "C".
3. CONTRACTOR SHOULD BE AWARE THAT WHEN CONSTRUCTION AREA IS IN OR NEAR A CREST VERTICAL OR HORIZONTAL CURVE, WORK AREA SHALL BE EXTENDED SO THAT LANE CLOSURE BEGINS IN ADVANCE OF THE CURVE, AND MINIMUM STOPPING SIGHT DISTANCE IS MET. (SEE ROADWAY STANDARD DRAWING NO. 150.12A) (SEE NOTE 12)
4. THE MAXIMUM SPACING BETWEEN CHANNELIZATION DEVICES IN TAPERS OR TRANSITION AREAS SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT
5. THE MAXIMUM SPACING BETWEEN CHANNELIZATION DEVICES SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE POSTED SPEED LIMIT.

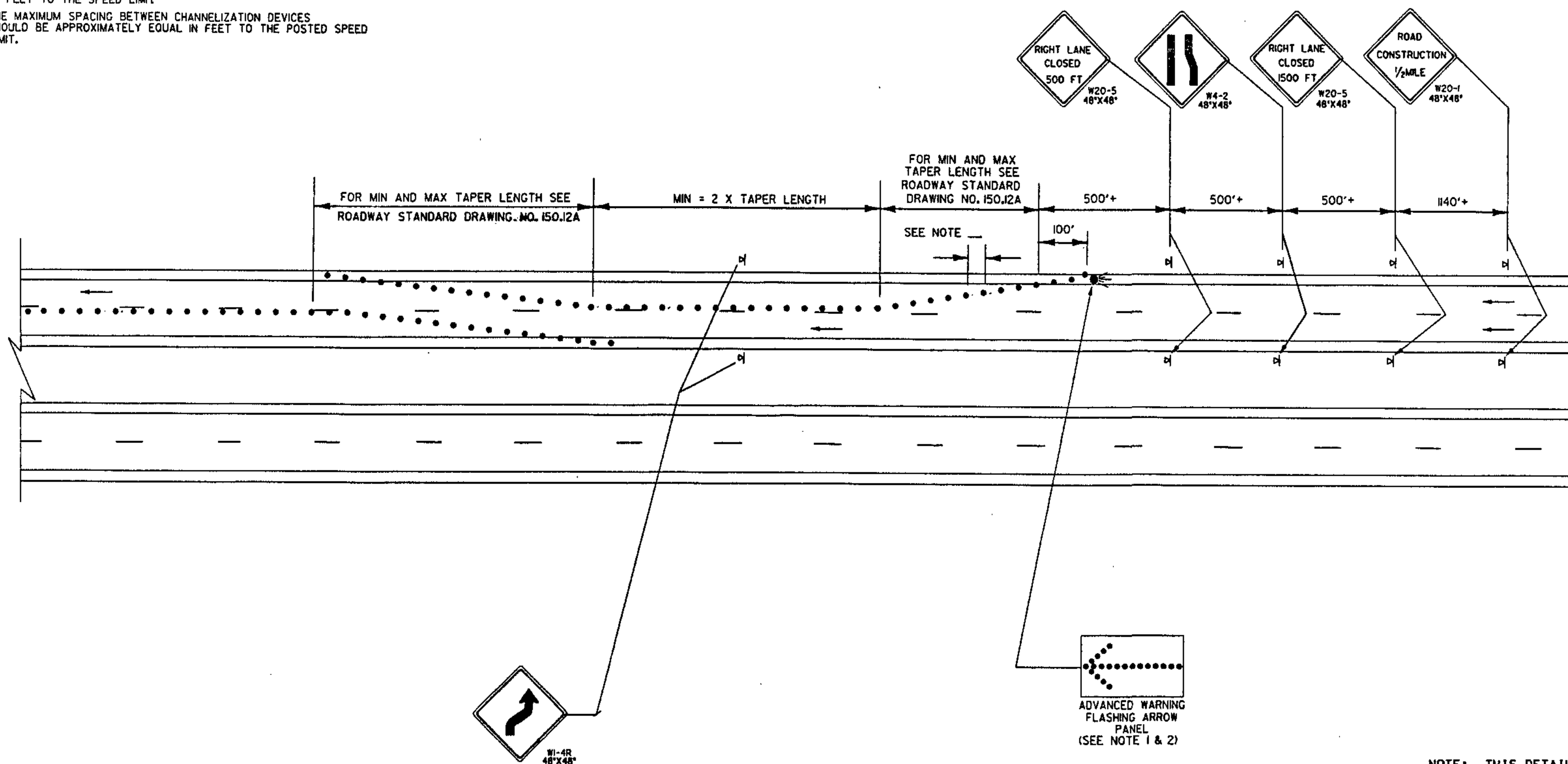


**IOWA WEAVE DETAIL
LEFT LANE WORK ZONE**

SCALE	NONE	N. C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH	REVISIONS
DATE	08/03/2011		
DESIGN BY	ITM		CADD
APPROVED			NO.

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	8.1950901	TCP-3	
F. A. PROJ. NO.			
PROJ. ID. NO.			B-2700

- NOTES**
- ADVANCED WARNING FLASHING ARROW PANEL TO HAVE MINIMUM CLEARANCE OF 7' ABOVE PAVEMENT, ARROW PANEL SHALL BE LOCATED ON SHOULDER (PAVED OR UNPAVED), (EXCEPT FOR TEMPORARY LEFT LANE CLOSURE FOR FOUR LANE UNDIVIDED HIGHWAY).
 - ADVANCED WARNING, FLASHING ARROW PANEL TO BE 96" x 48" TYPE 'C'.
 - CONTRACTOR SHOULD BE AWARE THAT WHEN CONSTRUCTION AREA IS IN OR NEAR A CREST VERTICAL OR HORIZONTAL CURVE, WORK AREA SHALL BE EXTENDED SO THAT LANE CLOSURE BEGINS IN ADVANCE OF THE CURVE, AND MINIMUM STOPPING SIGHT DISTANCE IS MET. (SEE ROADWAY STANDARD DRAWING NO. 150.J2A) (SEE NOTE 12)
 - THE MAXIMUM SPACING BETWEEN CHANNELIZATION DEVICES IN TAPERS OR TRANSITION AREAS SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT.
 - THE MAXIMUM SPACING BETWEEN CHANNELIZATION DEVICES SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE POSTED SPEED LIMIT.



NOTE: THIS DETAIL SHALL BE USED IN CONJUNCTION WITH RDWY. STD. DWG. NO. 150.07A.

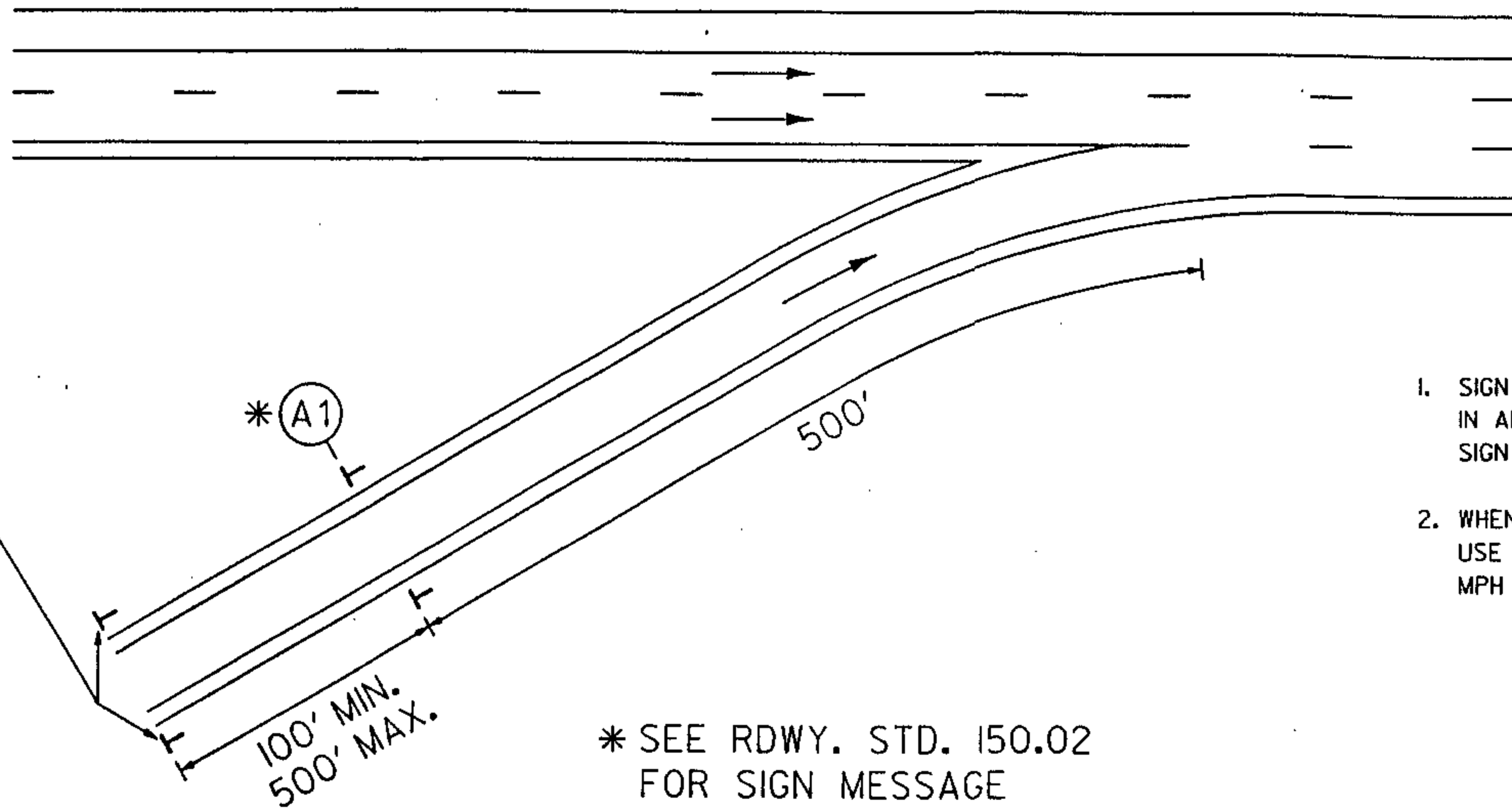
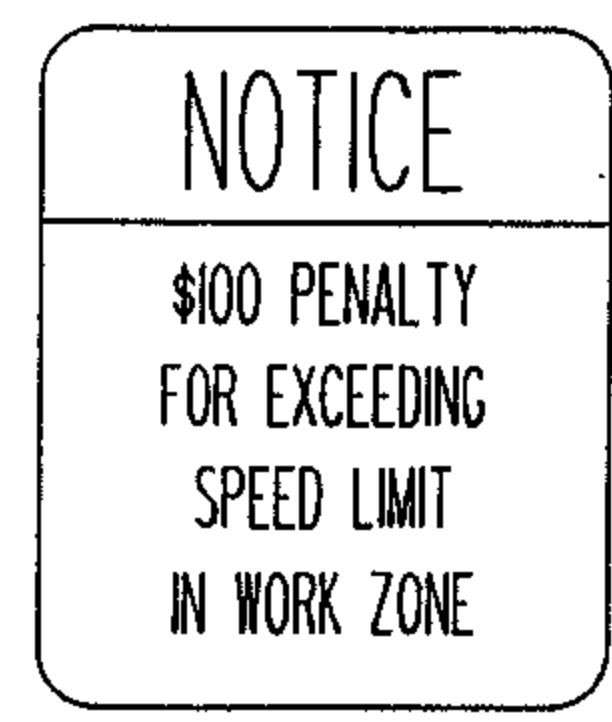
IOWA WEAVE DETAIL LEFT LANE WORK ZONE

SCALE	NONE	N. C. DEPARTMENT OF TRANSPORTATION	REVISIONS
DATE	08/03/21		
DWG. BY			
DESIGN BY	TTM		
APPROVED			
		DIVISION OF HIGHWAYS	CARD NO. IOWALEFT2.DGN
		TRAFFIC ENGINEERING BRANCH	DATE REV. NO.

08/03/21 08:00:00 AM

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	8,1950901	TCP-4	
F. A. PROJ. NO.			
PROJ. D. NO.			

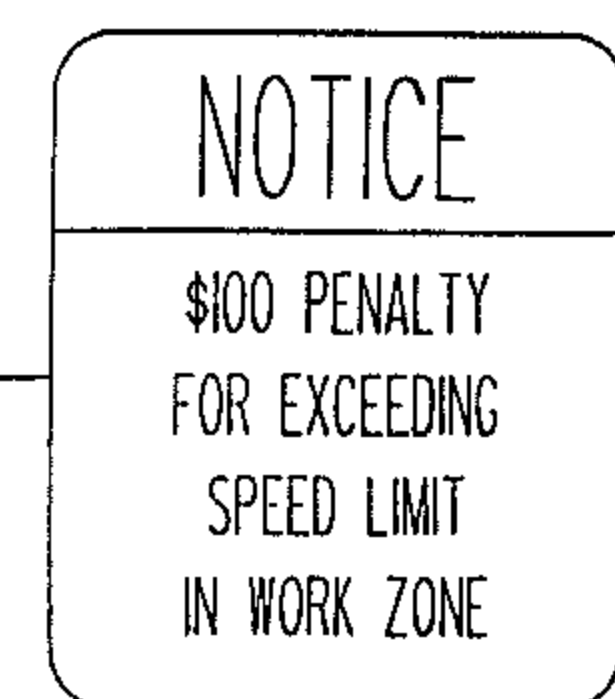
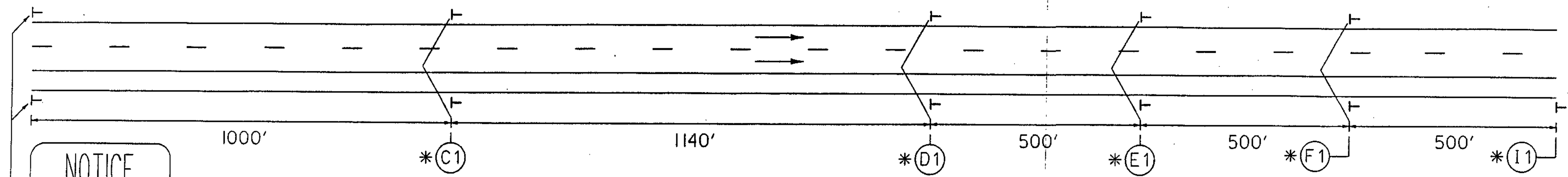
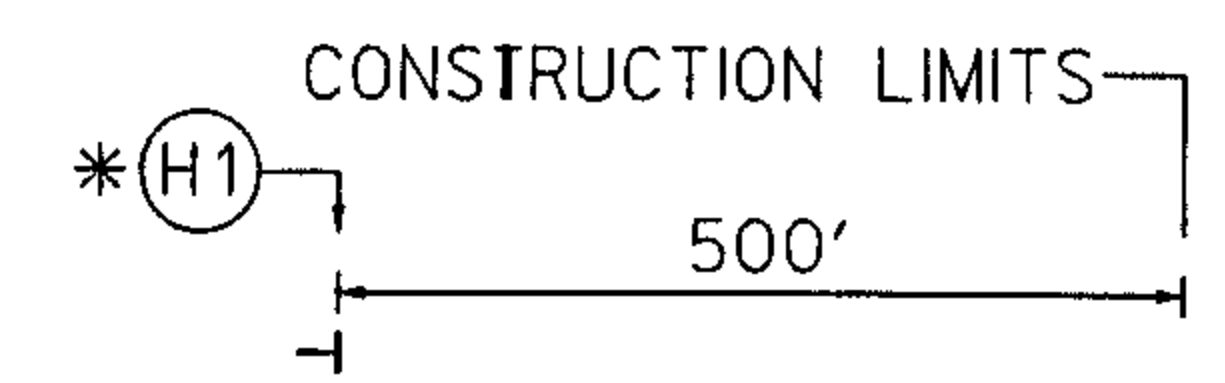
G 20-25
36" X 42"



* SEE RDWY. STD. 150.02
FOR SIGN MESSAGE

- NOTES -

1. SIGN G 20-25 SHALL ALWAYS BE ERECTED IN ADVANCE OF FIRST CONSTRUCTION WARNING SIGN SEQUENCE.
2. WHEN POSTED SPEED LIMIT IS LESS THAN 45 MPH USE 36" X 42"; WHEN POSTED SPEED LIMIT IS 45 MPH AND GREATER USE 78" X 72".



G 20-25
SEE NOTE 2

* SEE RDWY. STD. 150.02
FOR SIGN MESSAGE

DETAIL FOR PLACEMENT OF
PENALTY FOR SPEEDING
IN WORK ZONE SIGNS

SCALE	NONE	N. C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH	REVISIONS
DATE	10-92		
DRG. BY	GBF		
DESIGN BY			
APPROVED			

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS - - - - -	A. A. S. H. T. O. (CURRENT)
LIVE LOAD - - - - -	SEE PLANS
IMPACT ALLOWANCE - - - - -	SEE A. A. S. H. T. O.
STRESS IN EXTREME FIBER OF	
STRUCTURAL STEEL - A. S. T. M. A36 GRADE - -	20,000 LBS. PER SQ. IN.
- A. S. T. M. A588 - - - - -	27,000 LBS. PER SQ. IN.
- A. S. T. M. A572, GRADE 50 - -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION	
GRADE 60 - - - - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION - - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR - - - - -	SEE A. A. S. H. T. O.
STRUCTURAL TIMBER - TREATED OR	
UNTREATED - EXTREME FIBER STRESS - - - - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER - - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH - - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 1990 STANDARD SPECIFICATIONS "FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP; AND CLASS S SHALL BE USED FOR UNDERWATER FOOTING SEALS.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

FIVE SETS OF DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED WITH THE EXCEPTION OF #2 BARS WHICH MAY BE FABRICATED FROM COLD DRAWN STEEL WIRE. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE #2 Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

PLACEMENT OF BEAM OR GIRDER MEMBERS ON TRUCKS FOR HAULING SHALL BE DONE IN COMPLIANCE WITH LIMITS SHOWN ON SKETCHES PROVIDED TO THE MATERIALS AND TEST UNIT APPROVED BY THE STRUCTURE DESIGN UNIT DATED MAY 8, 1991. THESE SKETCHES PRIMARILY LIMIT THE UNSUPPORTED CANTILEVER LENGTH OF MEMBERS. WHEN THE CONTRACTOR WISHES TO PLACE MEMBERS ON TRUCKS NOT IN ACCORDANCE WITH THESE LIMITS, TO SHIP BY RAIL, TO ATTACH SHIPPING RESTRAINTS TO THE MEMBERS OR TO INVERT MEMBERS, HE SHALL SUBMIT A SKETCH FOR APPROVAL PRIOR TO SHIPPING. SEE ALSO ARTICLE 1072-11.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.