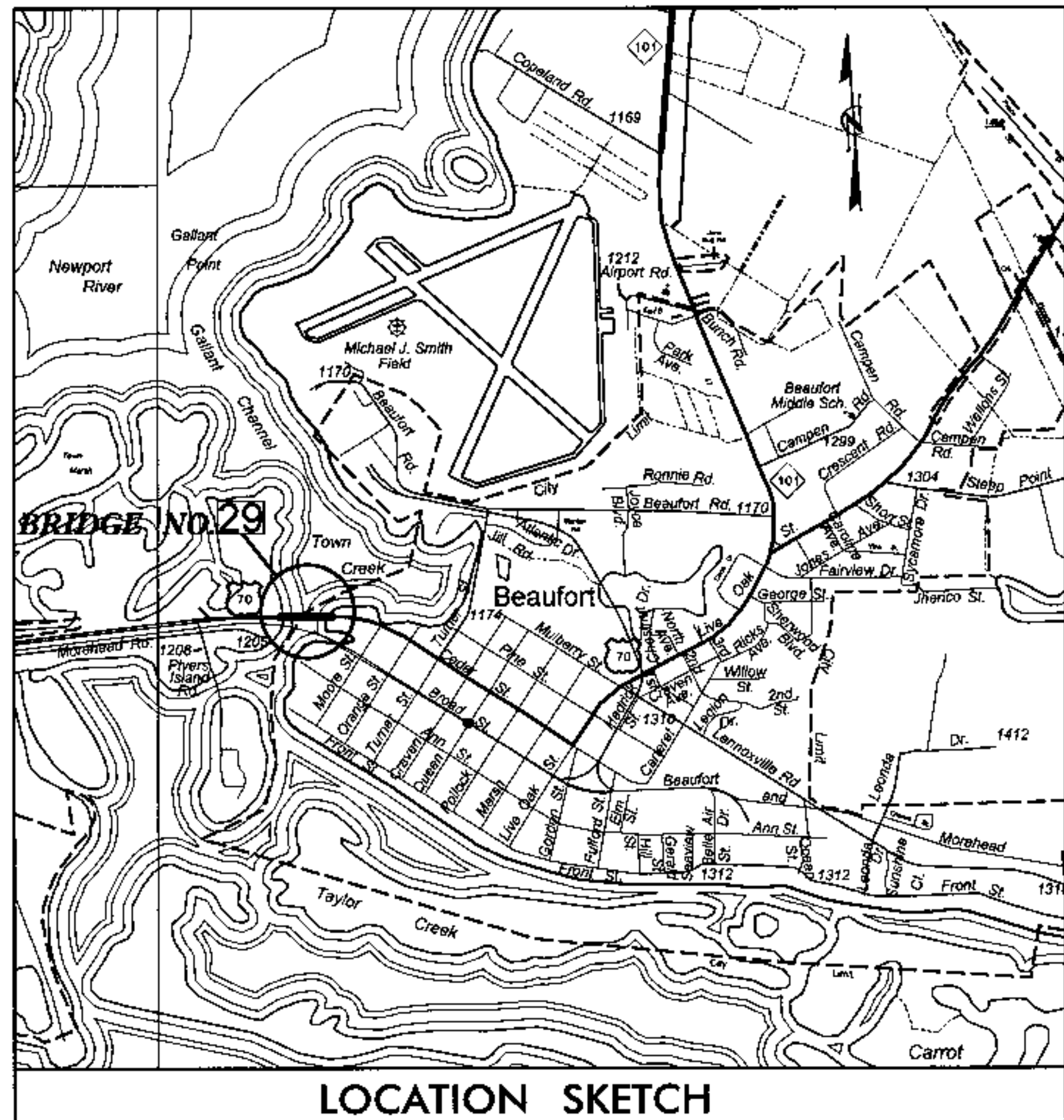


**WBS: 34528.3.2 TIP PROJECT: R-3307A**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**CARTERET COUNTY**

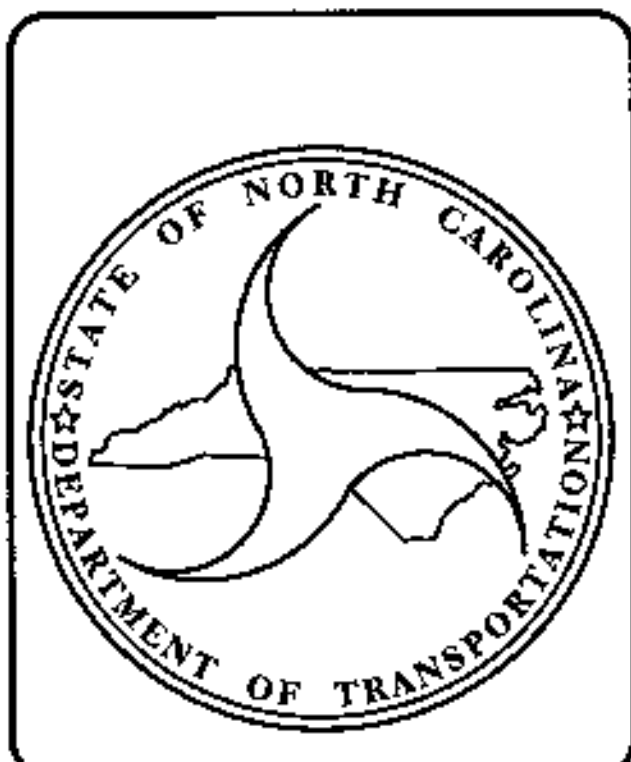
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**PROJECT:** BEAUFORT DRAW BRIDGE  
**TYPE OF WORK:** REPLACEMENT OF STEEL GRID FLOOR  
 STRUCTURAL STEEL REPAIRS CLEANING  
 & PAINTING OF STRUCTURE

- SHEET #1 TITLE SHEET**
- SHEET #2 GENERAL FRAMING LAYOUT - WEST SPAN**
- SHEET #3 GENERAL FRAMING LAYOUT - EAST SPAN**
- SHEET #4 TYPICAL CROSS SECTION**
- SHEET #5 GENERAL LAYOUT - SIDEWALK REPAIR**
- SHEET #6 RIVETS REPLACEMENT FLOOR BEAMS  
& SIDEWALK DETAILS**
- SHEET #7 MACHINE HOUSE COVER REPAIR**

- SHEET #8 MAIN GIRDERS REPAIR**
- SHEET #9 CENTER LOCK REPLACEMENT**
- SHEET #10 FLOOR BEAM CRACK REPAIR**
- SHEET #11 GENERAL LAYOUT - EXISTING FLOOR**
- SHEET #12 GRID FLOOR - EXISTING**
- SHEET #13 PROPOSED GRID FLOOR LAYOUT**
- SHEET #14 PROPOSED GRID FLOOR**
- SHEET #15 ACCESS RAMP DETAIL**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3307A	1	15
STATE PROJECT NO.	P.A. PROJ. NO.	DESCRIPTION	
34528.1.1	STPNHS-0070(43)	PE	
34528.3.2	STPNHS-0070(133)	CONST.	

10/21/2009 1:26:59 PM P:\2009\Beaufort Draw Bridge\Structures\00\sheet1.dgn



**DESIGN DATA**

**PROJECT LENGTH**

Prepared for the North Carolina Department of Transportation in the Office of:  
**WETHERILL ENGINEERING**  
 559 JONES FERRISLIN ROAD  
 SUITE 104  
 Raleigh, N.C. 27609  
 Tel: 919 851 8677  
 Fax: 919 851 8607  
 License No. E-0377

---

2006 STANDARD SPECIFICATIONS

**LETTING DATE:**  
DECEMBER 17, 2009

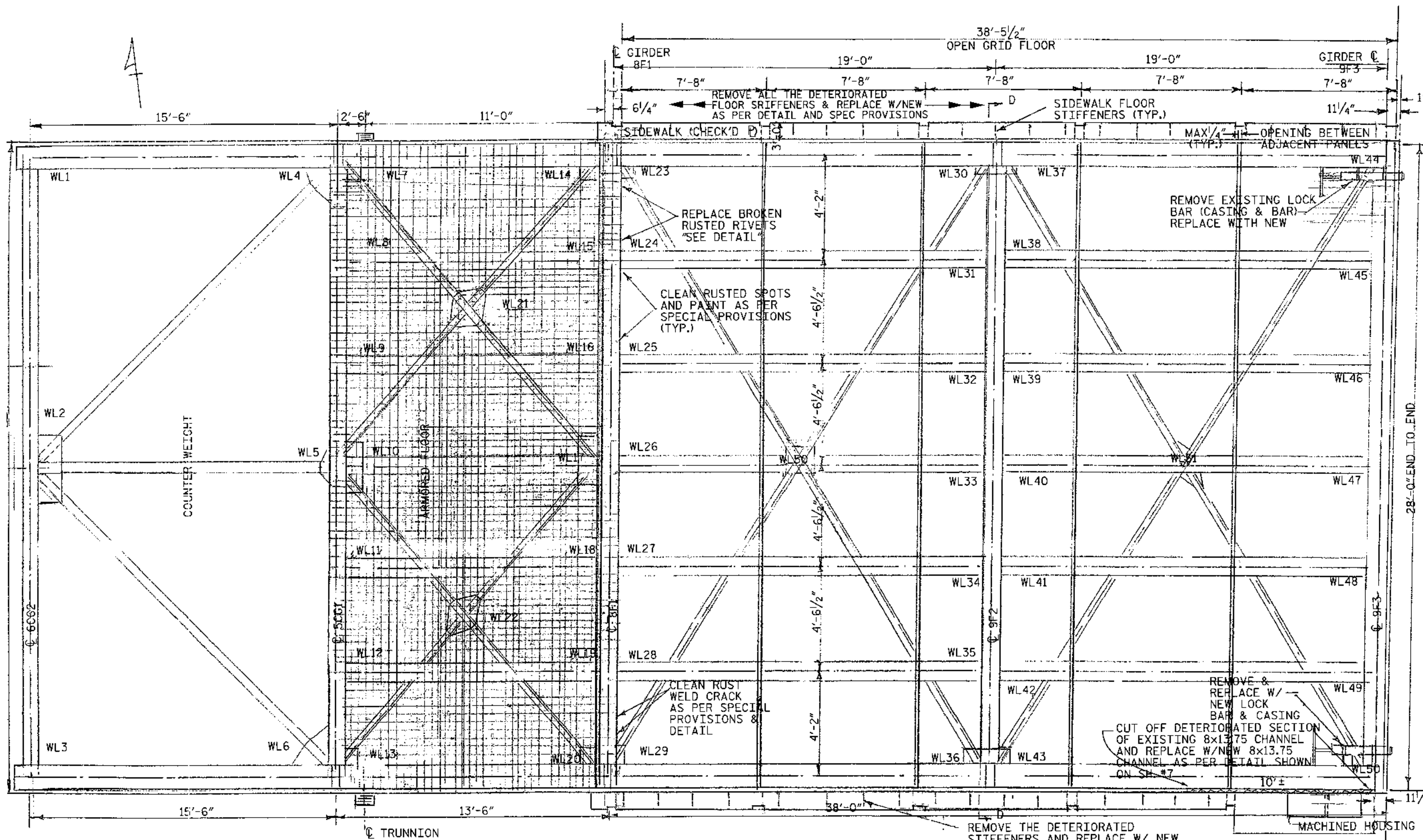
**EDWARD G. WETHERILL, PE**  
PROJECT ENGINEER

**MIKE SUMMERS**  
BRIDGE MANAGEMENT  
PROJECT MANAGER

**NCDOT CONTACT:**

**NORTH CAROLINA PROFESSIONAL SEAL**  
 1019  
 1978

**FRED MEHFAR, PE**  
PROJECT DESIGN ENGINEER



WEST LEAF  
PROPOSED PANELS SPACING

**BEAUFORT N.C., CARTERET CO.**  
**BRIDGE NO. 29 OVER BEAUFORT CHANNEL**  
**GENERAL FRAMING LAYOUT - WEST SPAN**



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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

**REVISIONS**

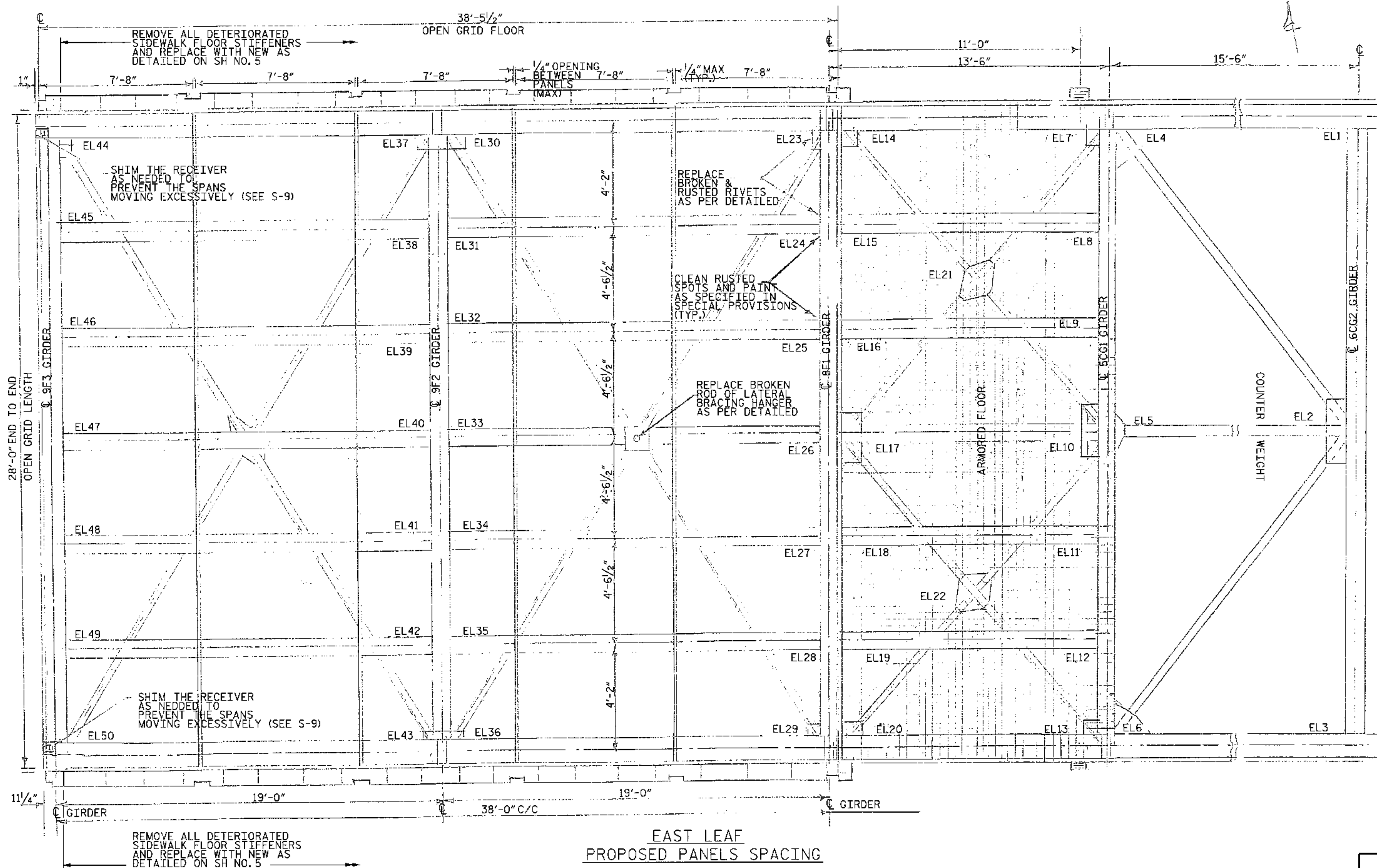
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CHECKED: JAD  
PROJ. NO.: 0910202  
SHEET: S-2



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EAST LEAF  
PROPOSED PANELS SPACING

**BEAUFORT N.C., CARTERET CO.**  
**BRIDGE NO. 29 OVER BEAUFORT CHANNEL**  
**GENERAL FRAMING LAYOUT - EAST SPAN**

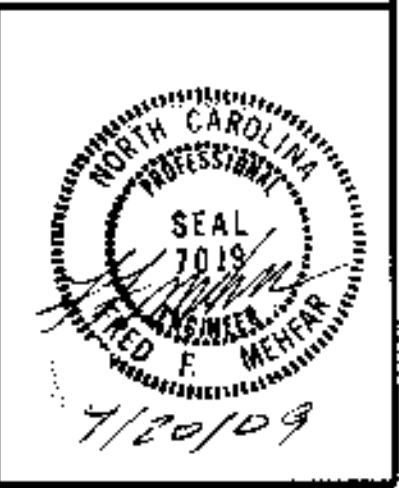


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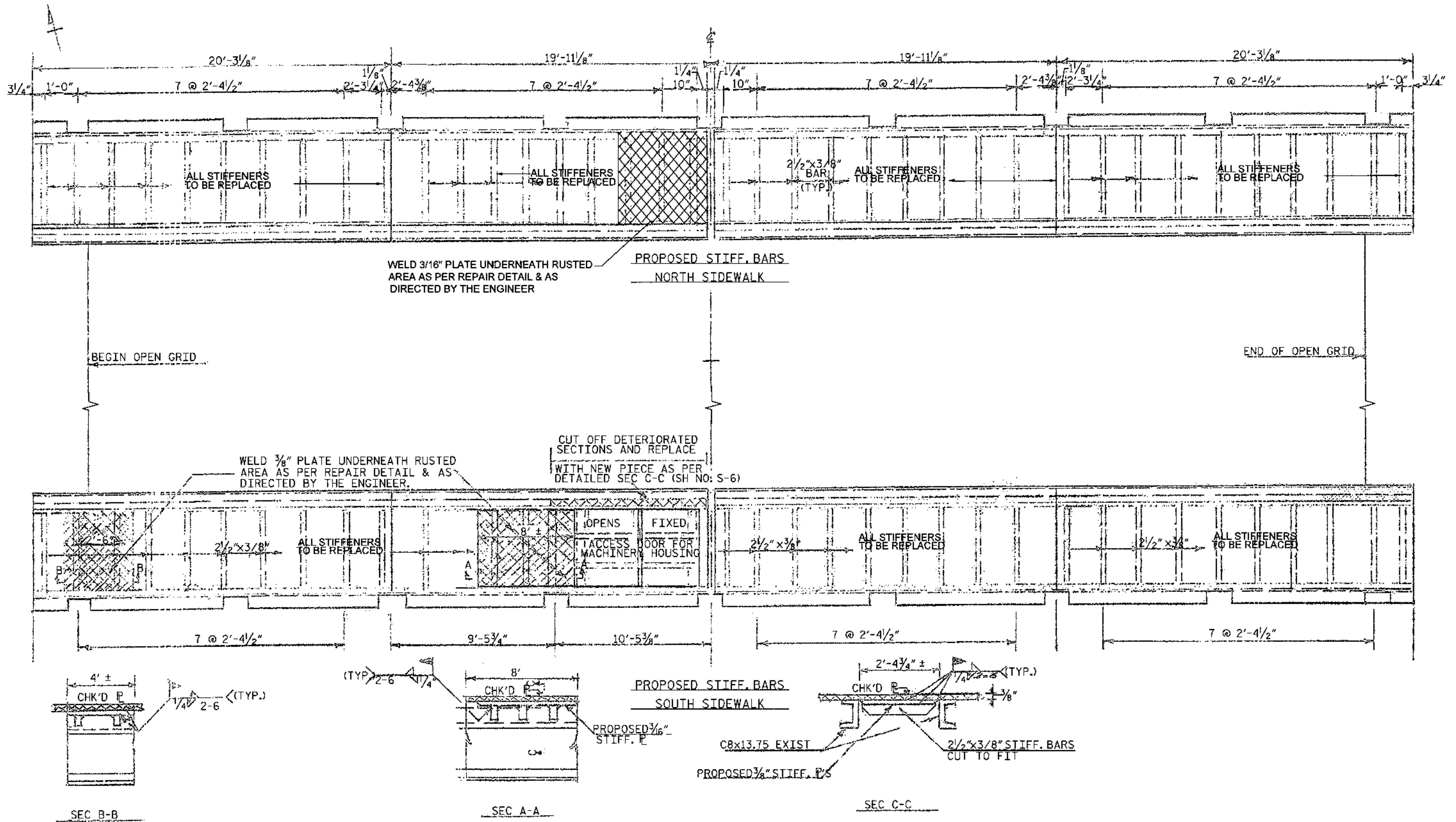
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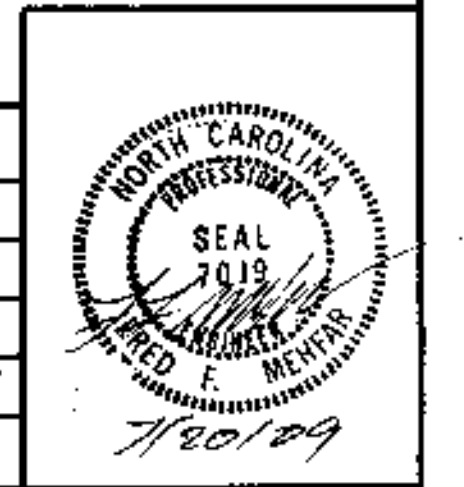
**BEAUFORT N.C., CARTERET CO.**  
**BRIDGE NO. 29 OVER BEAUFORT CHANNEL**  
**GENERAL LAYOUT - SIDEWALK REPAIR**

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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

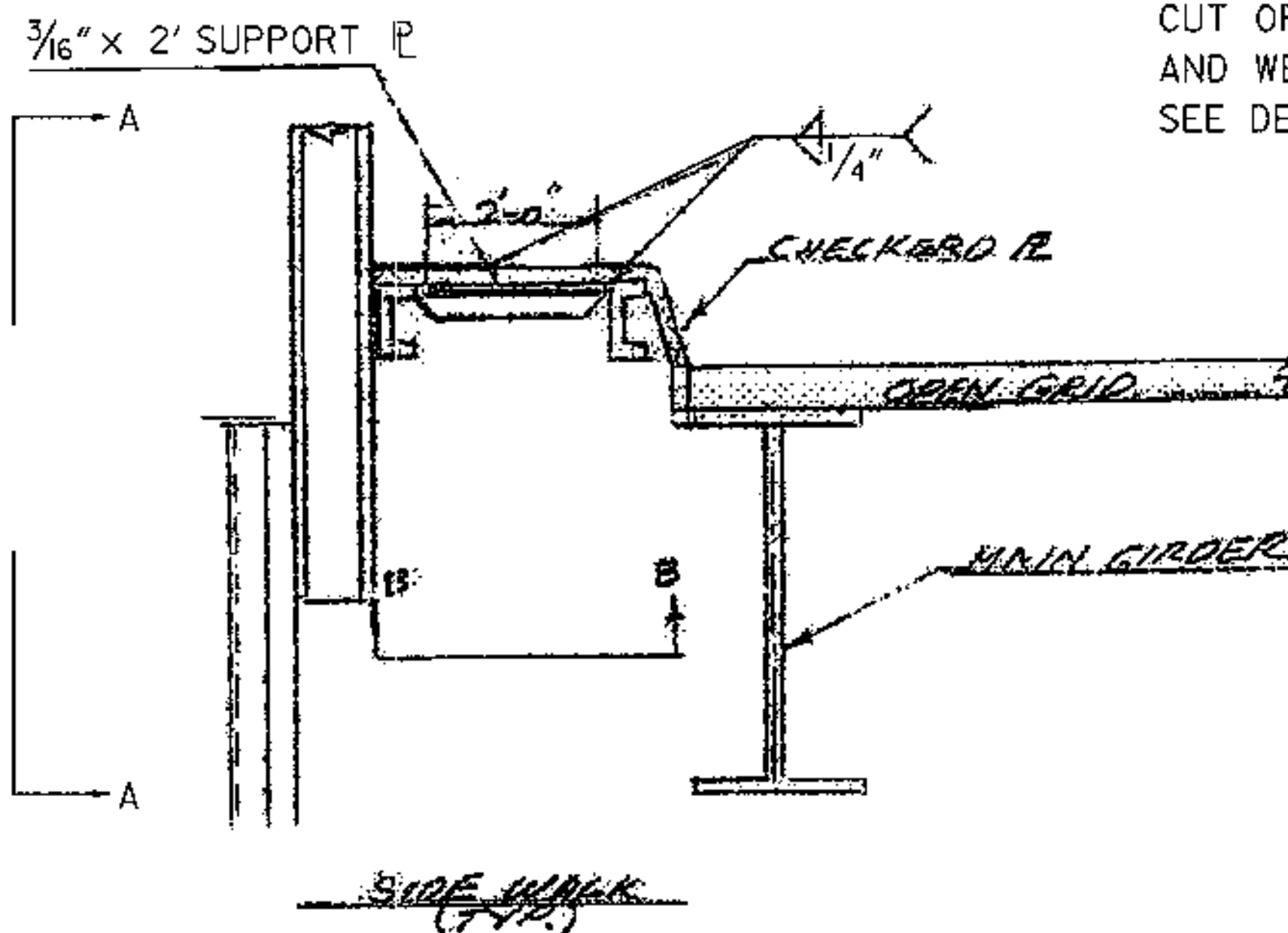
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NO.	DATE	DESCRIPTION	BY

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 SHEET: S-5

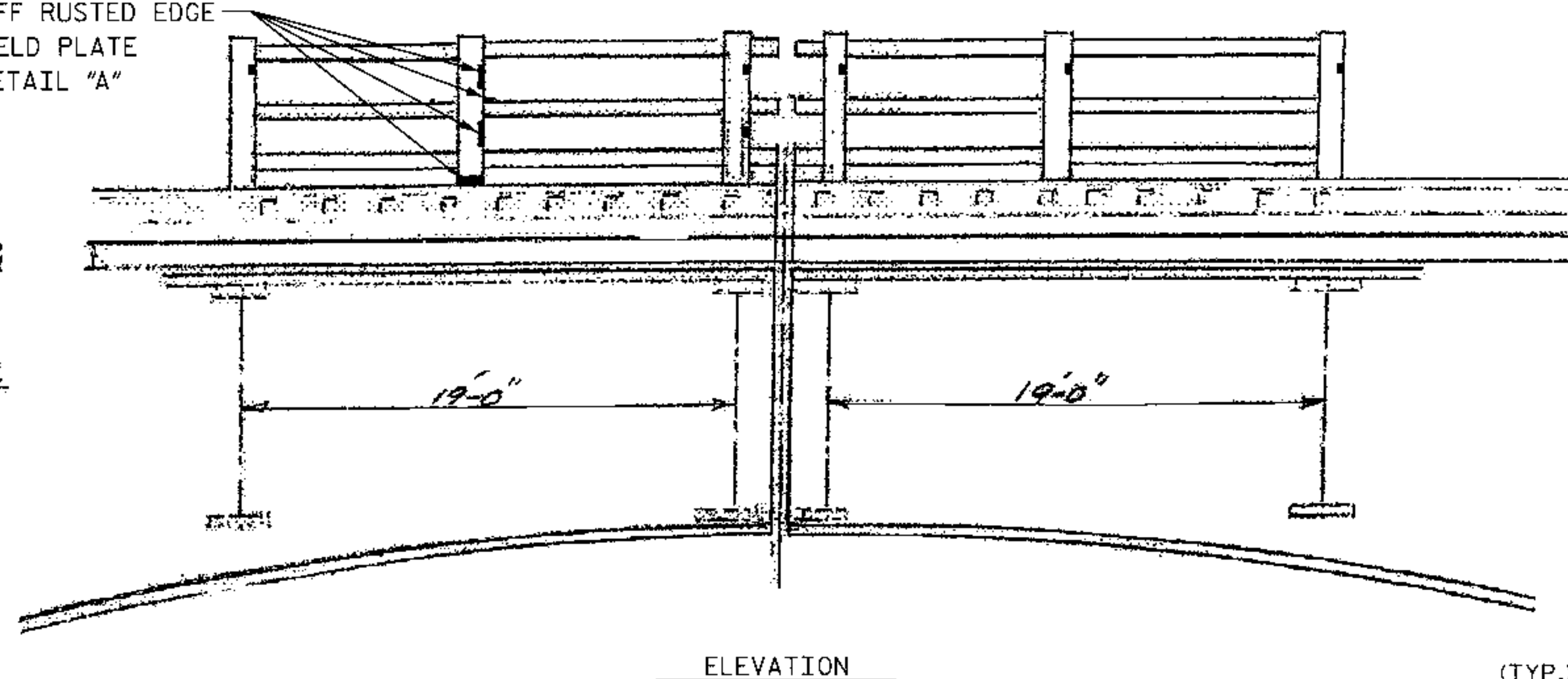


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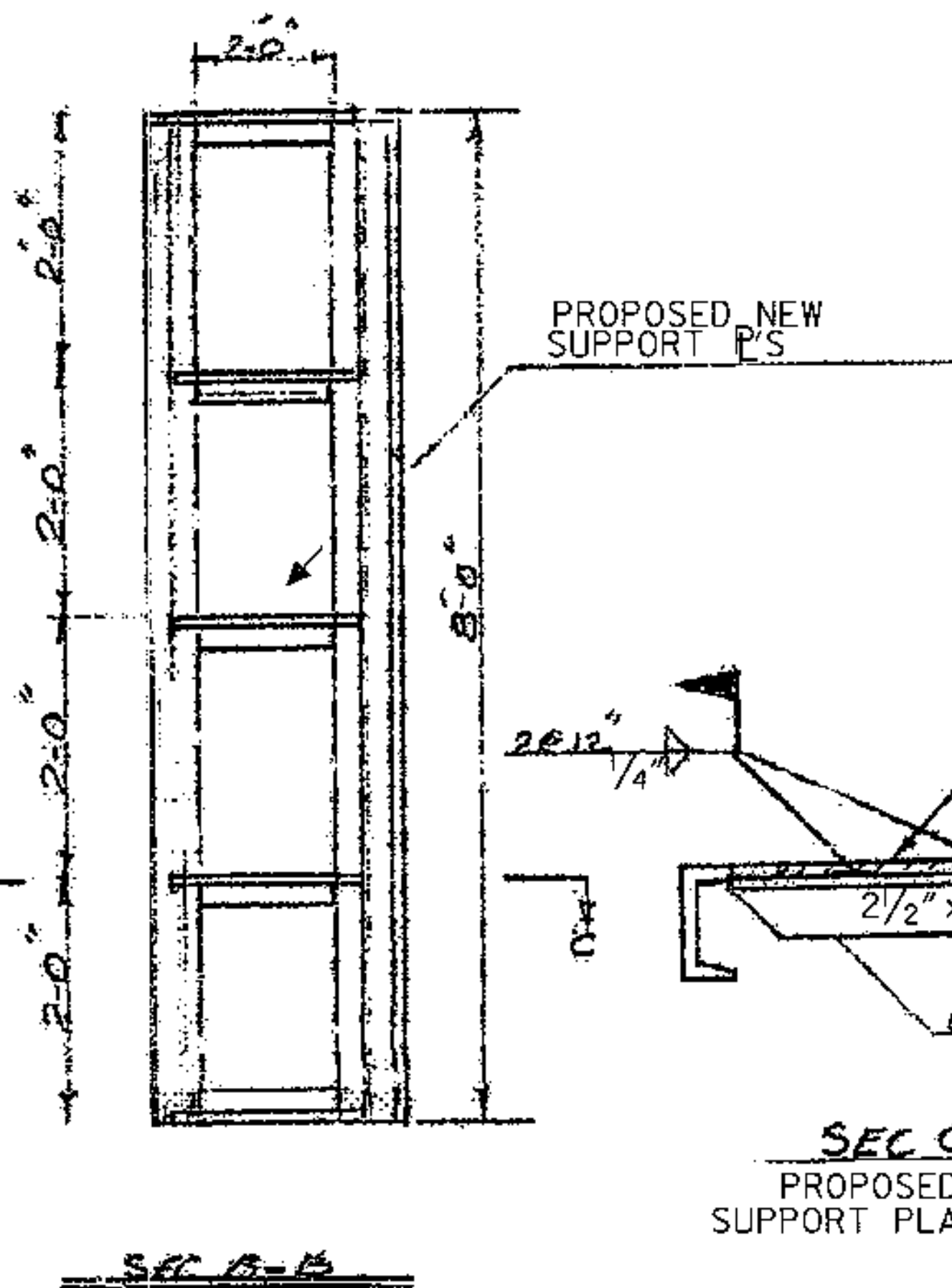




CUT OFF RUSTED EDGE  
AND WELD PLATE  
SEE DETAIL "A"

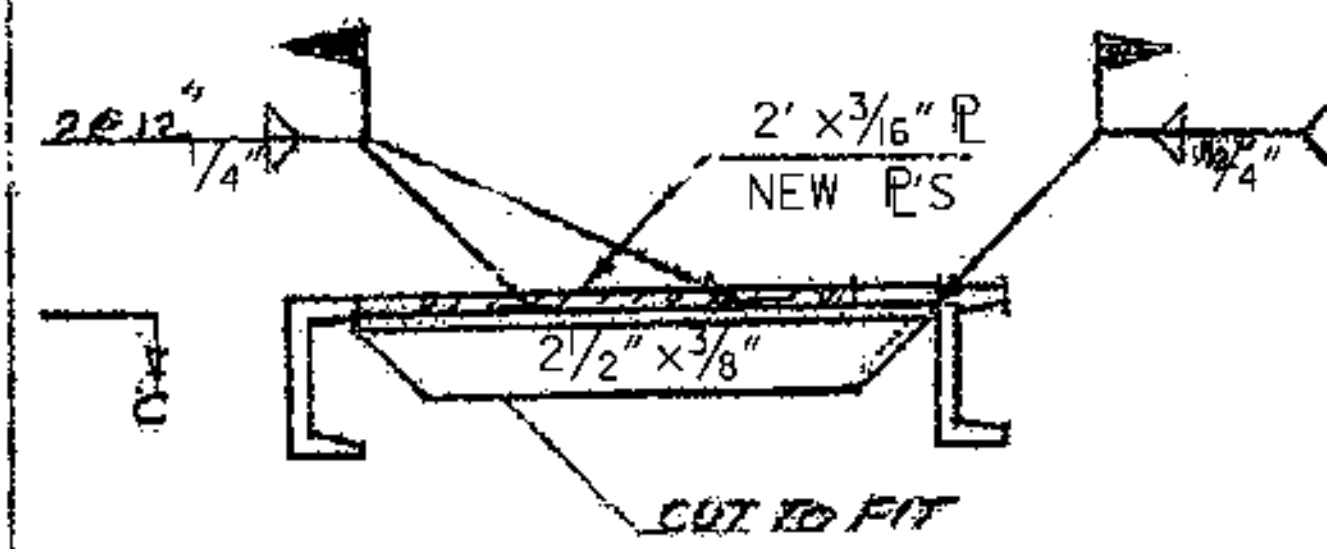


ELEVATION

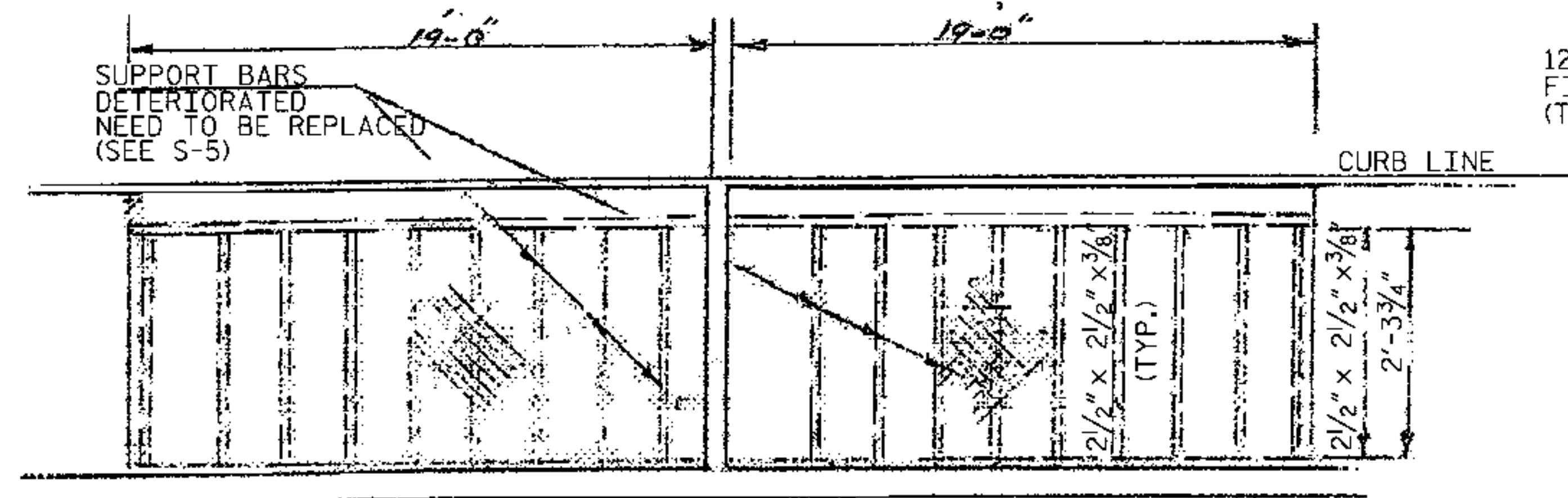


PROPOSED NEW  
SUPPORT P'S

SEC B-B



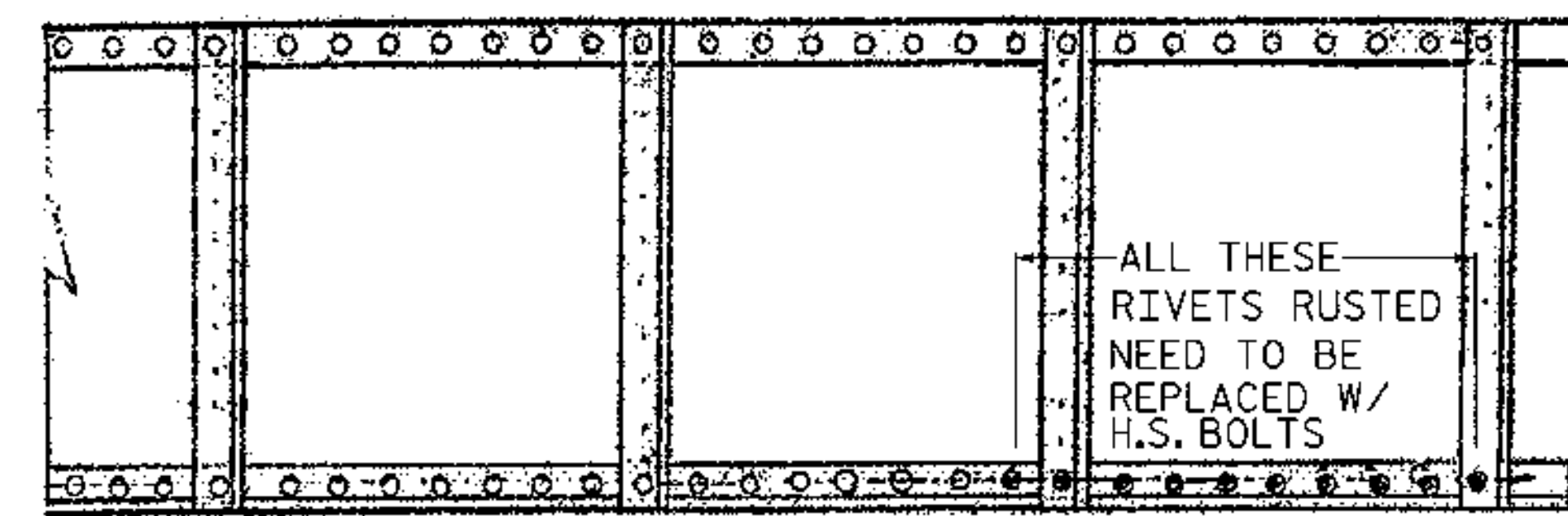
SEC C-C  
PROPOSED SIDEWALK  
SUPPORT PLATES W/ ANGLES



SUPPORT BARS  
DETERIORATED  
NEED TO BE REPLACED  
(SEE S-5)

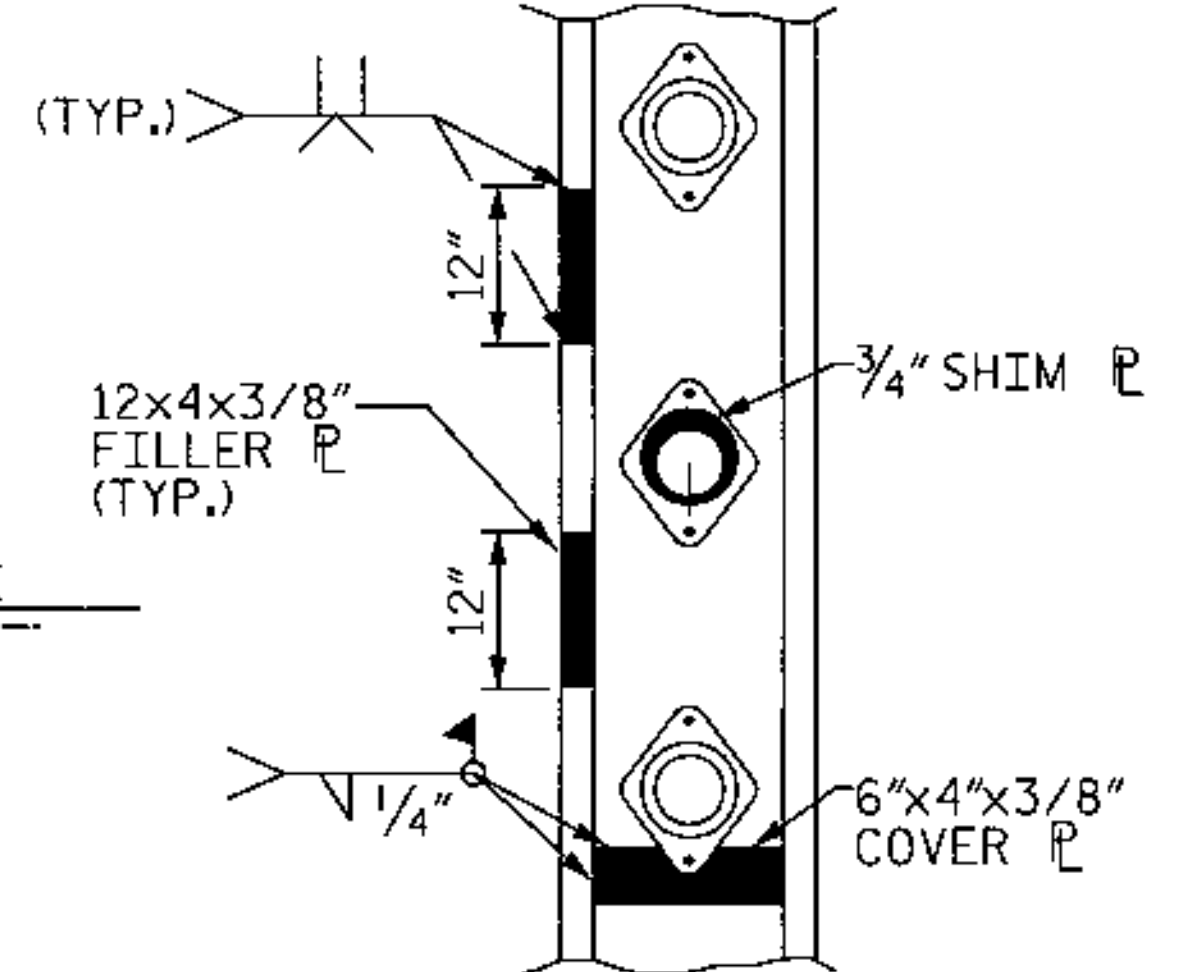
CURB LINE

SIDE WALK  
REAR VIEW  
(TYP.)



REAR COUNTER WEIGHT GIRDER  
WEST LEAF 8F1

ALL THESE  
RIVETS RUSTED  
NEED TO BE  
REPLACED W/  
H.S. BOLTS



DETAIL "A"  
TYPICAL REPAIR DETAILS FOR  
THE OTHER DAMAGED POSTS

\* NOTE: SIZE OF H.S. BOLTS  
TO BE DETERMINED  
IN THE FIELD.

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BEAUFORT N.C., CARTERET CO.  
BRIDGE NO. 29 OVER BEAUFORT CHANNEL

RIVETS REPLACEMENT FLOOR BEAMS & SIDEWALK DETAILS

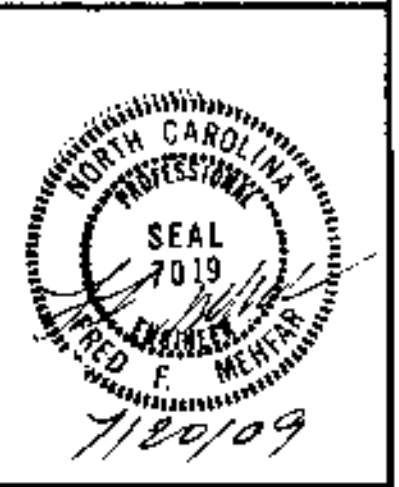


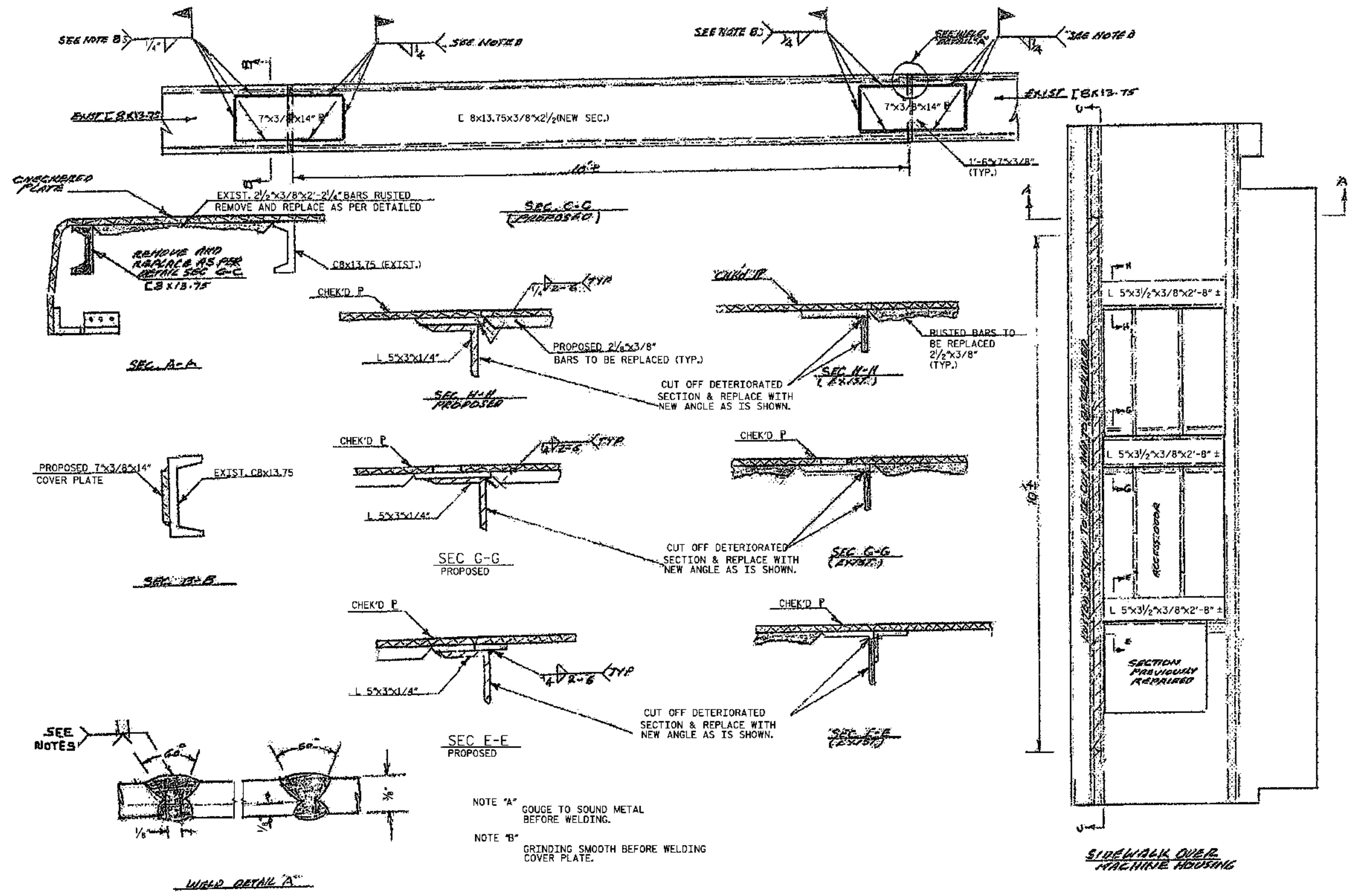
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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

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NO.	DATE	DESCRIPTION	BY

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PROJ. NO.: 09102.02  
SHEET: S-6





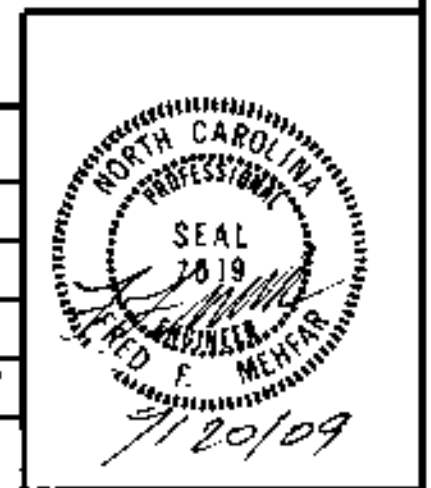
**BEAUFORT N.C., CARTERET CO.**  
**BRIDGE NO. 29 OVER BEAUFORT CHANNEL**  
**MACHINE HOUSE COVER REPAIR**

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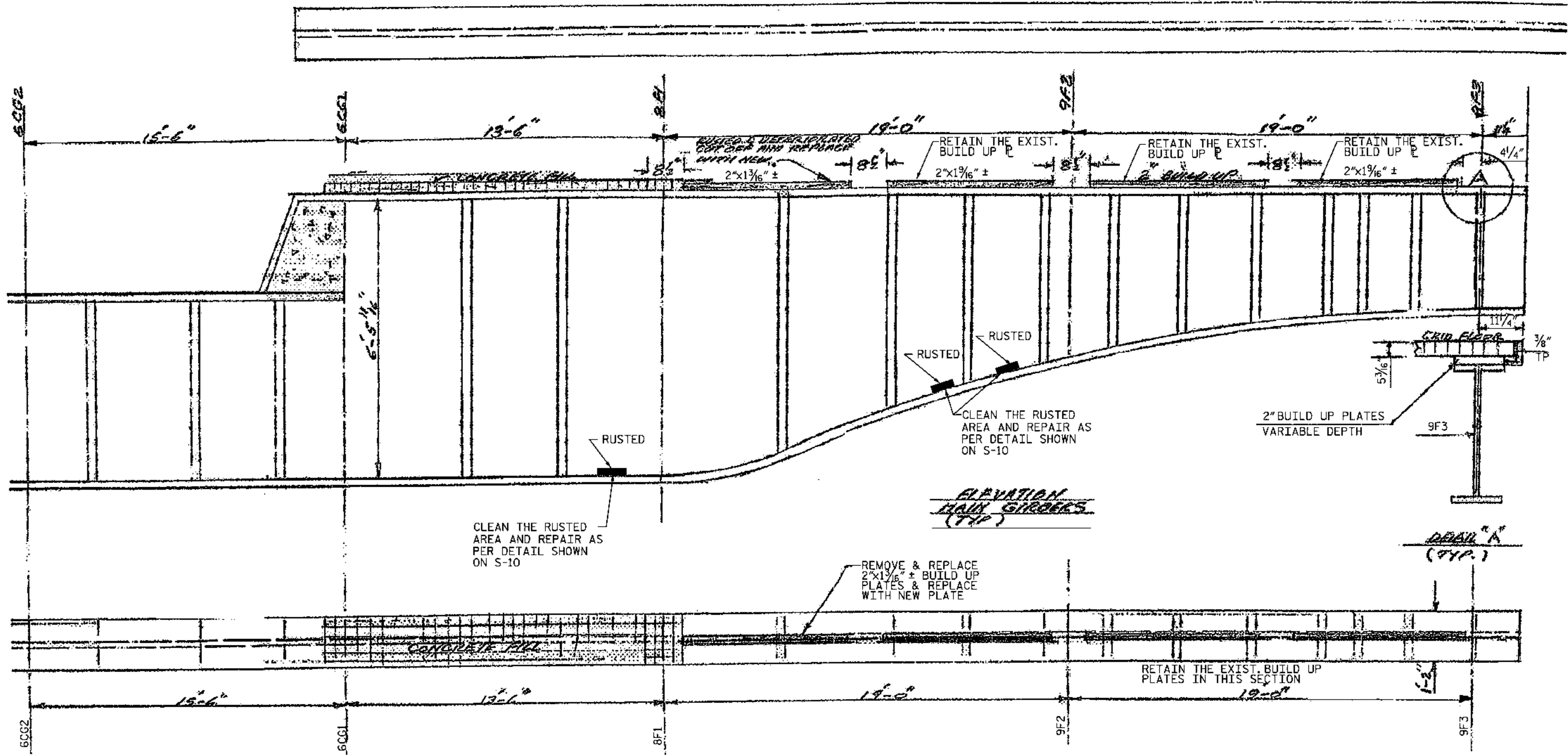
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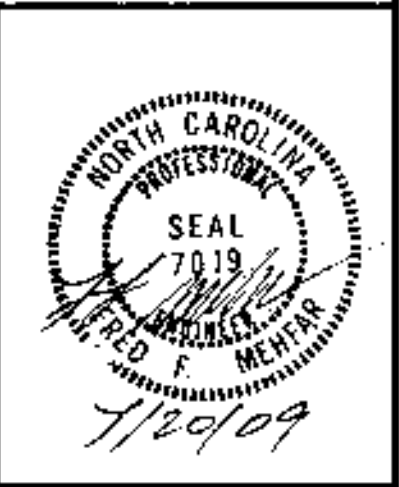
**BEAUFORT N.C., CARTERET CO.**  
**BRIDGE NO. 29 OVER BEAUFORT CHANNEL**  
**MAIN GIRDERS REPAIR**


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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

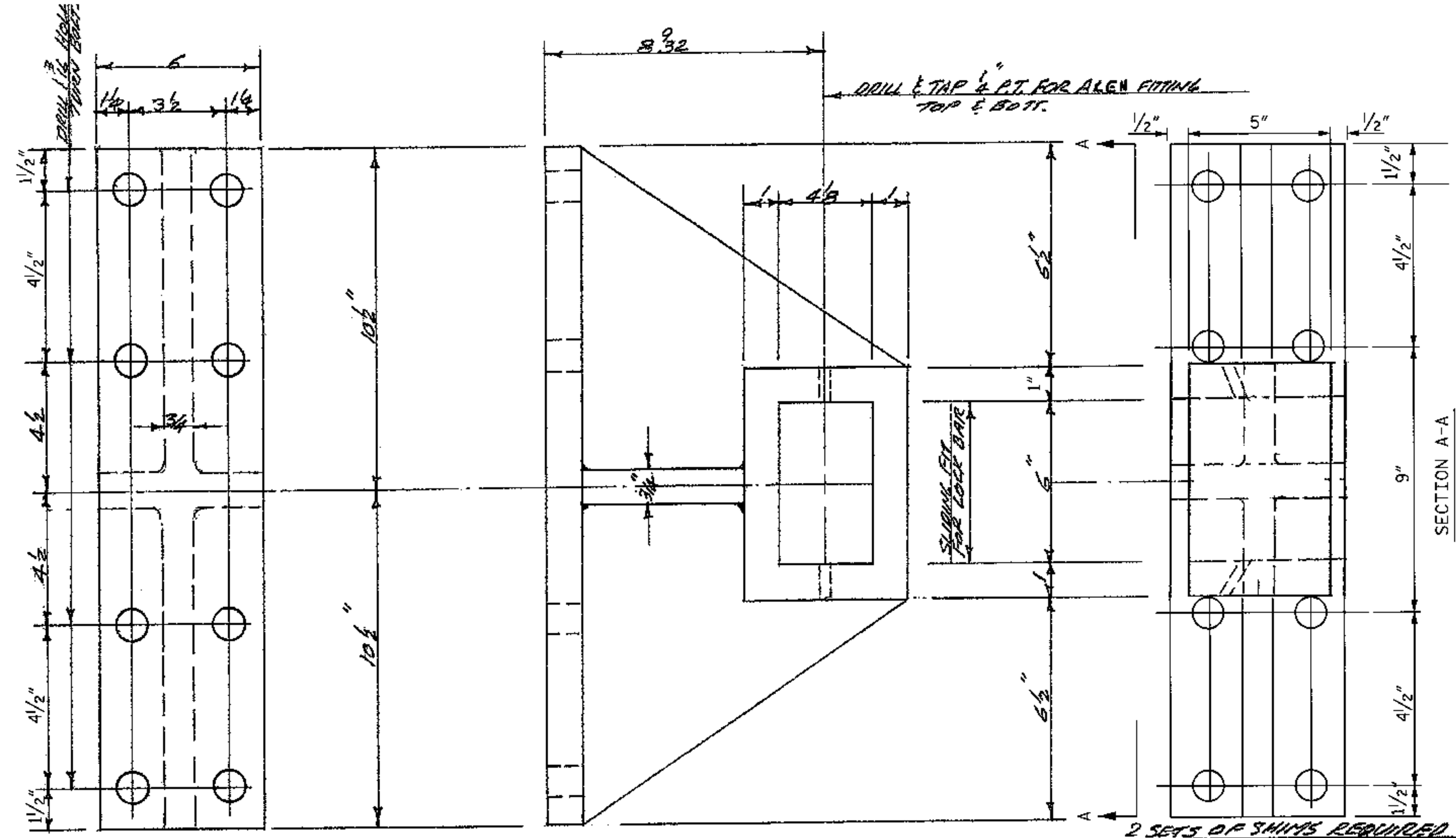
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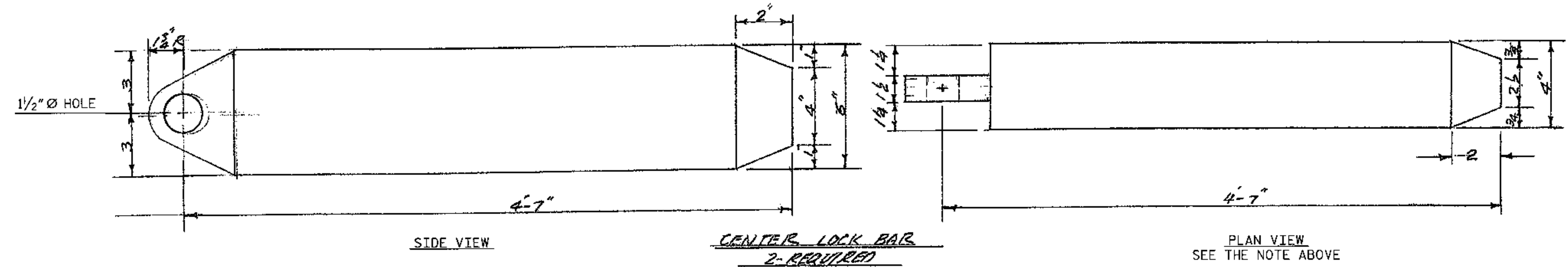


- NOTES:
1. LOCK BARS, GUIDES, RECEIVERS & THE LINKS ARE TO BE FURNISHED BY NCDOT BRIDGE MAINTENANCE. THE CONTRACTOR IS TO INSTALL THE NEW GUIDES AND SHIM THE RECEIVERS AS THEY NEEDED TO ELIMINATE THE EXCESSIVE PLAY IN THE SPANS.
  2. AFTER REMOVING THE OLD SHIMS, IF IT IS DETERMINED BY THE ENGINEER THAT THE RECEIVERS NEED TO BE REPLACED, THE CONTRACTOR SHALL REPLACE THE RECEIVERS FURNISHED BY THE BRIDGE MAINTENANCE.



2 SETS OF SHIMS REQUIRED (RECEIVER ONLY)  
 (SEE NOTES ABOVE)  
 2-4x8x6  
 2-4x6x6  
 2-4x1/2x6  
 2-4x1/4x6

GUIDES FOR CENTER LOCK



SIDE VIEW

CENTER LOCK BAR  
 2-REQUIRED

PLAN VIEW  
 SEE THE NOTE ABOVE

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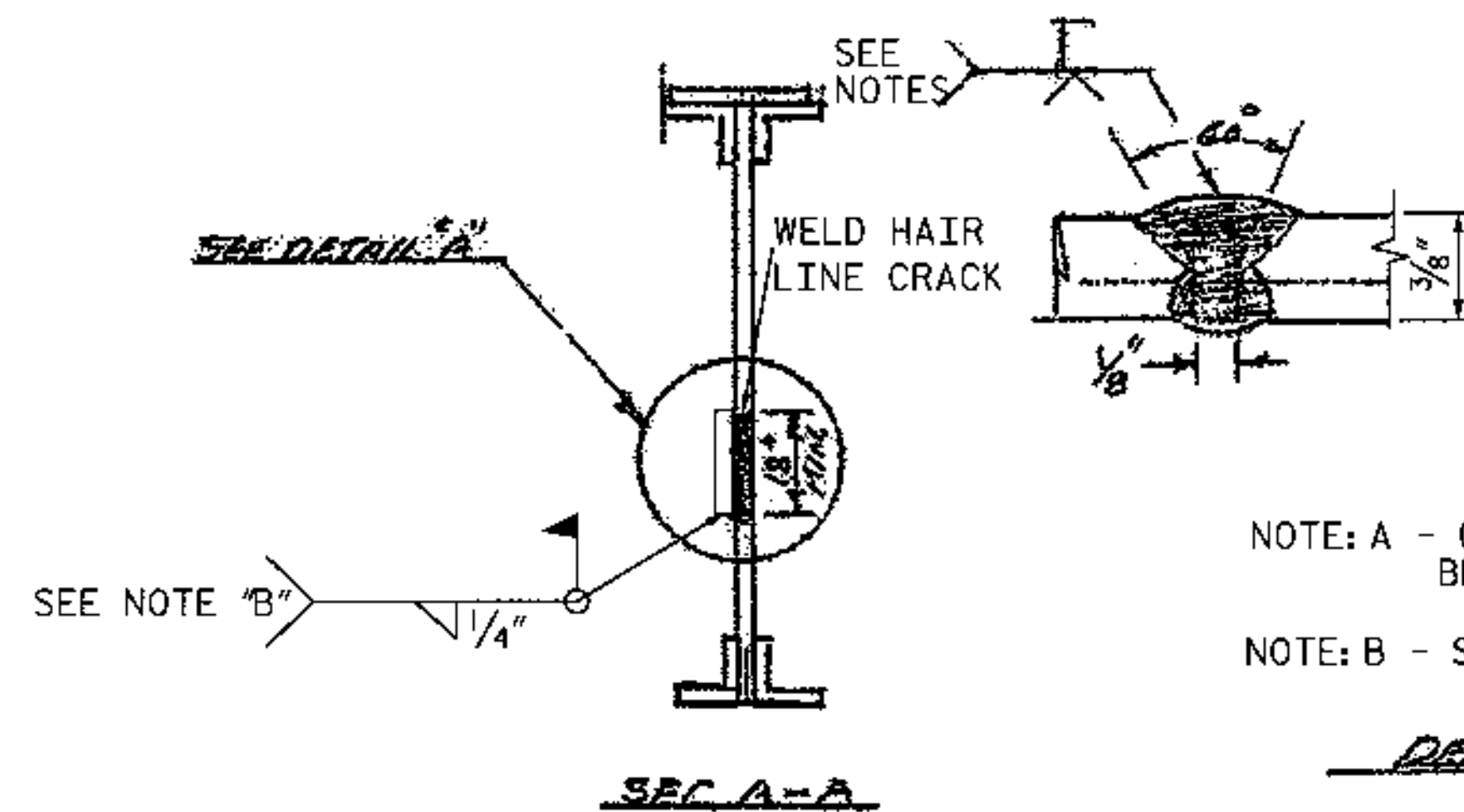
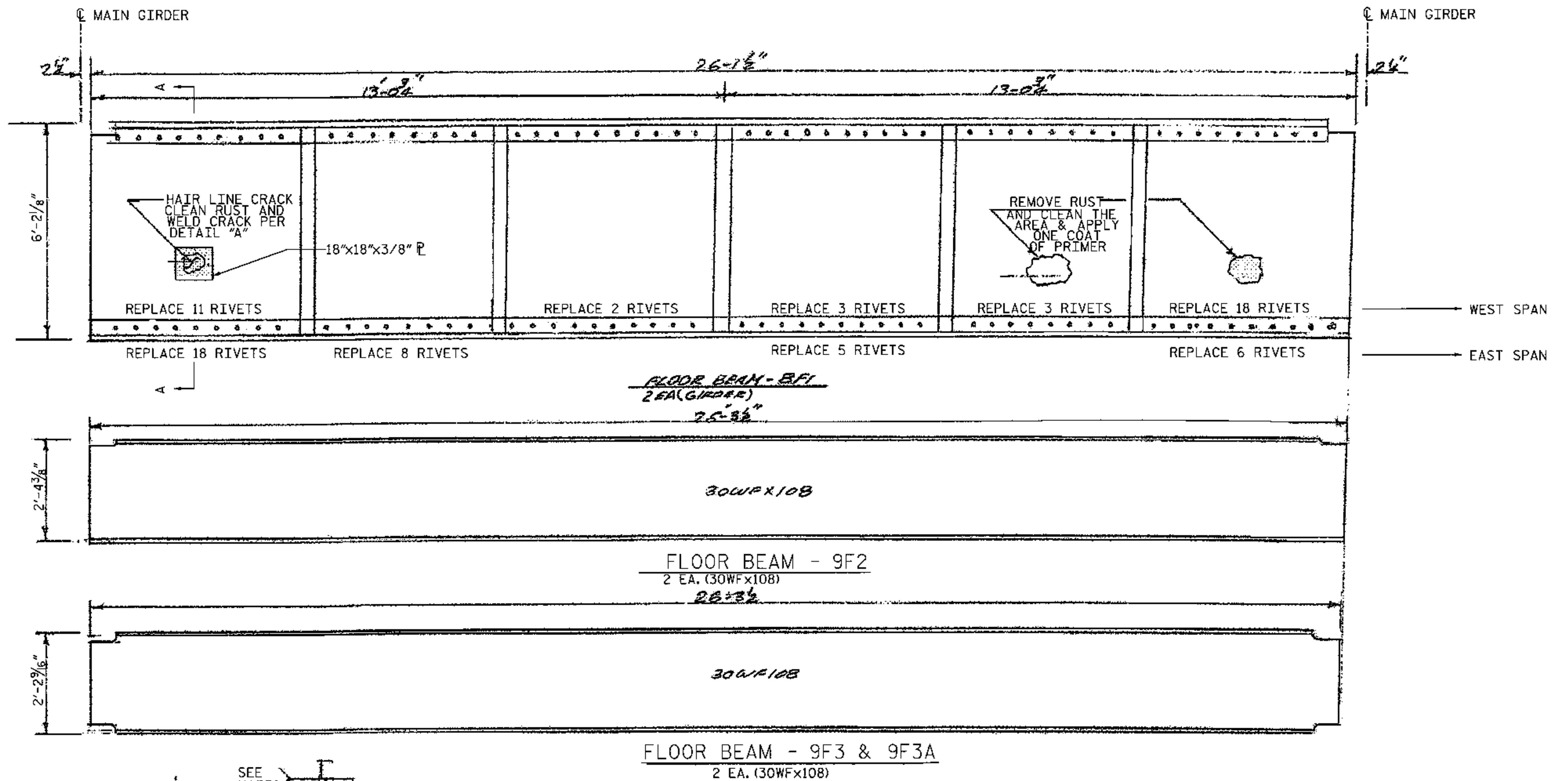
**BEAUFORT N.C., CARTERET CO.**  
**BRIDGE NO. 29 OVER BEAUFORT CHANNEL**  
**CENTER LOCK REPLACEMENT**

  
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DATE: 2/25/09  
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 DRAWN: F MEHFAR  
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 PROJ. NO.: 09102.02  
 SHEET: S-9





NOTE: A - GOUGE TO THE SOUND METAL BEFORE WELDING SECOND SIDE

NOTE: B - SINGLE PASS

DETAIL A

BEAUFORT N.C., CARTERET CO.  
BRIDGE NO. 29 OVER BEAUFORT CHANNEL

FLOOR BEAM CRACK REPAIR



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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

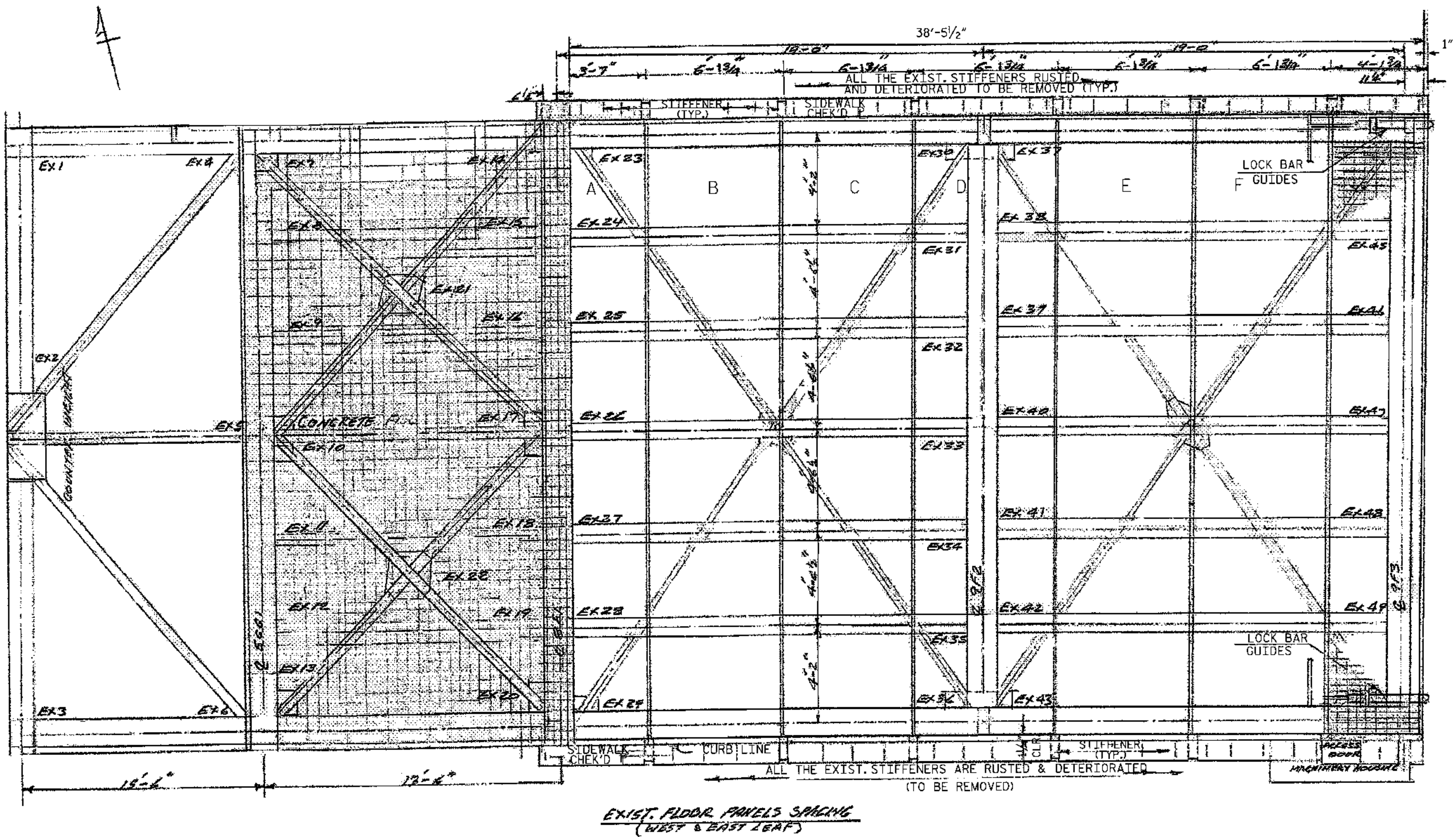
REVISIONS

NO.	DATE	DESCRIPTION	BY

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SHEET: S-10







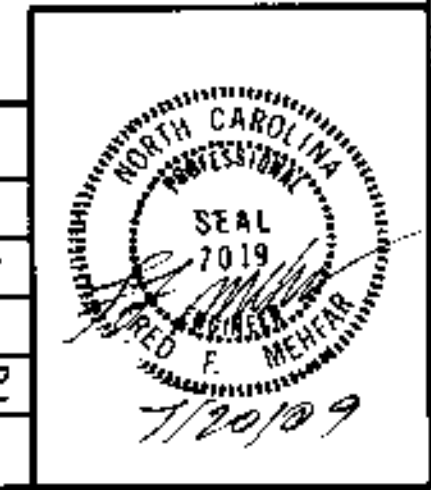
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**BEAUFORT N.C., CARTERET CO.**  
**BRIDGE NO. 29 OVER BEAUFORT CHANNEL**  
**GENERAL LAYOUT - EXISTING FLOOR**

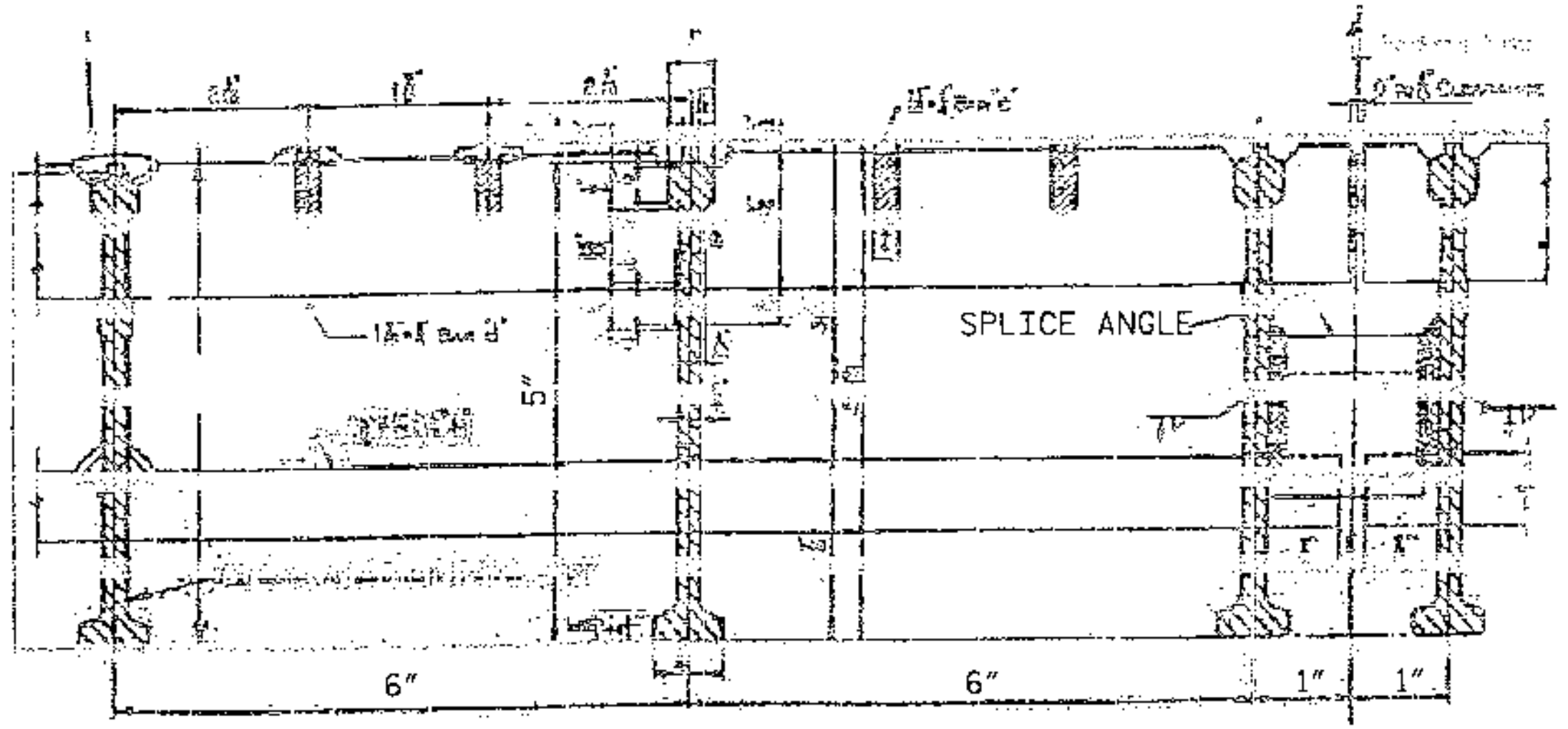
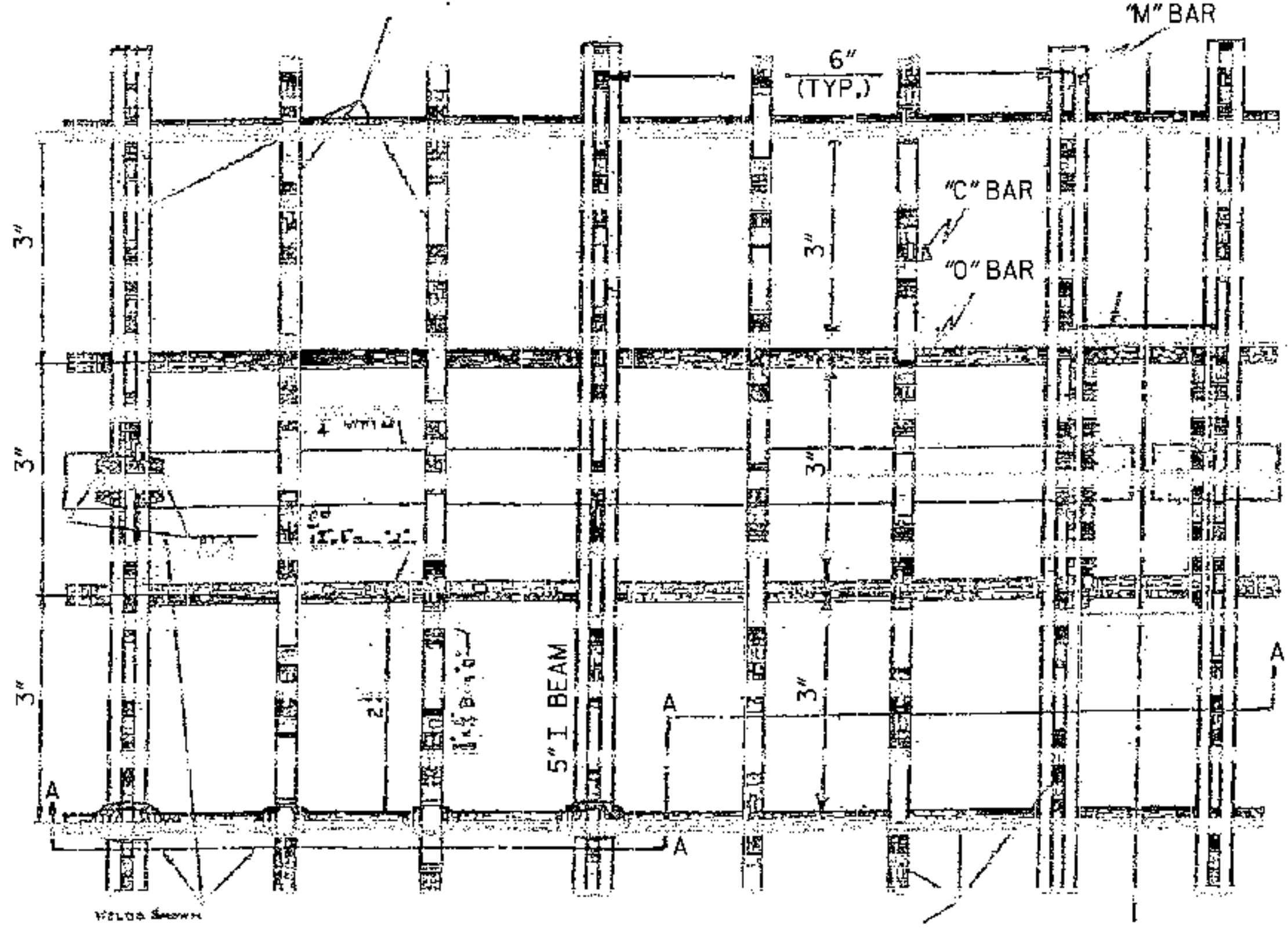
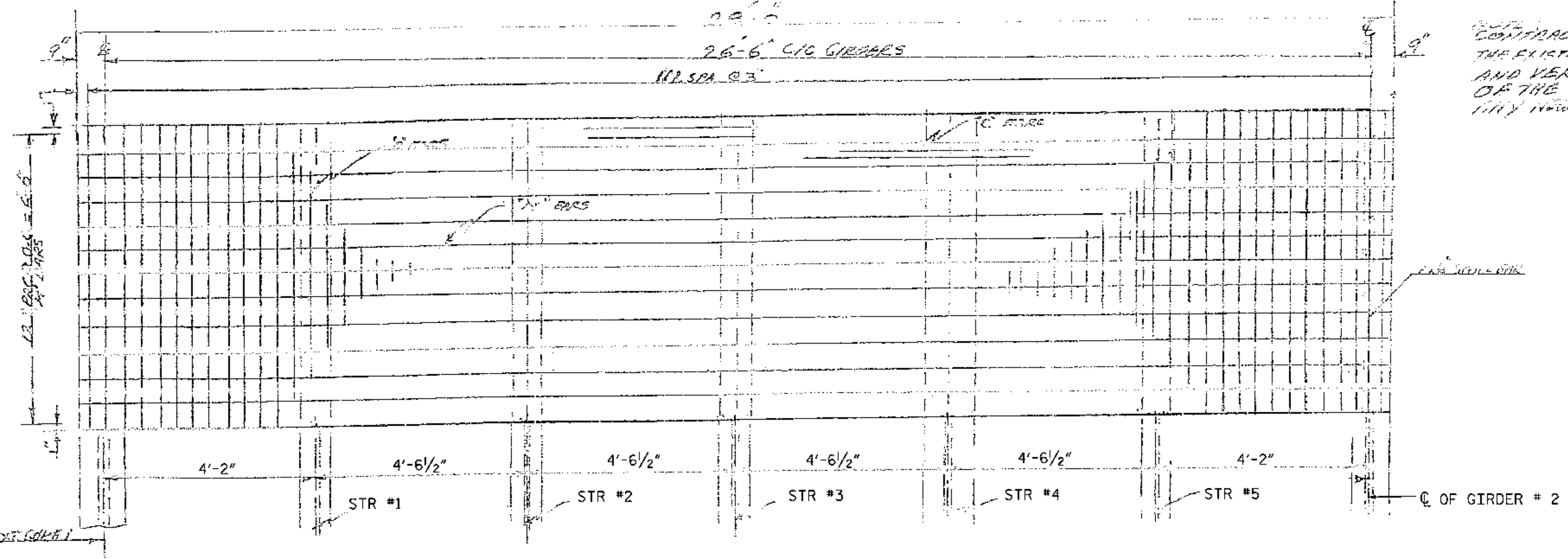
  
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 Fax: 919 851 8107  
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REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE: 2/25/09  
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 DRAWN: F MEHFAR  
 CHECKED: JAD  
 PROJ. NO.: 0910202  
 SHEET: S-11







NOTE:  
 EXISTING GRID FLOOR  
 TO BE REMOVED,  
 GRIND BELT CHECK  
 FLANGES OF GIRDERS  
 AND STRINGERS SMOOTH.

EXISTING GRID PANEL  
 (TYP.)

F:\2009\Beaufort Draw Bridge\Structures\06\Sheet 12.dgn  
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**BEAUFORT N.C., CARTERET CO.  
 BRIDGE NO. 29 OVER BEAUFORT CHANNEL**

**GRID FLOOR - EXISTING**



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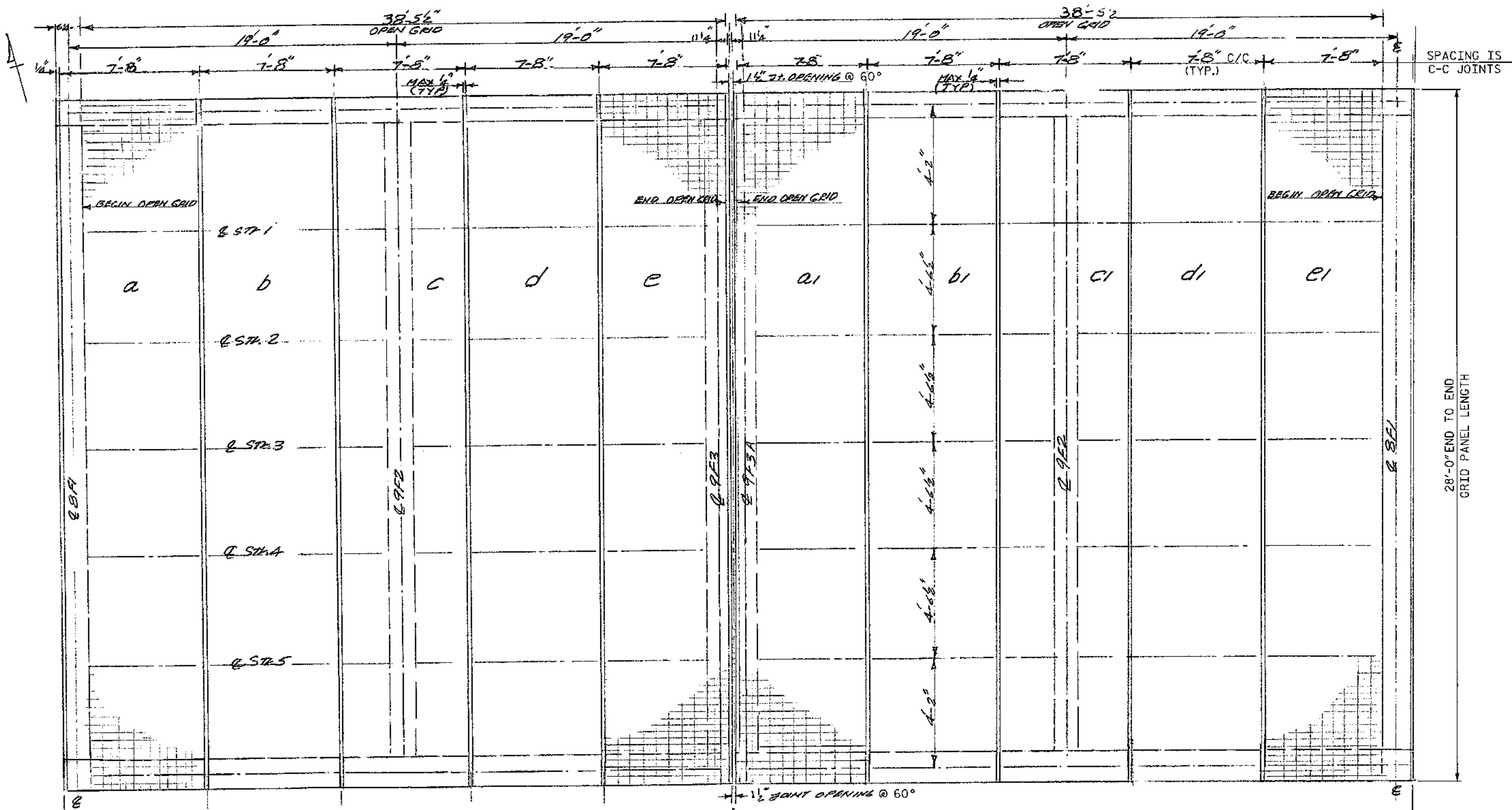
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NO.	DATE	DESCRIPTION	BY

DATE: 2/25/09  
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 DRAWN: F MEHFAR  
 CHECKED: JAD  
 PROJ. NO.: 09102.02  
 SHEET: S-12







WEST LEAF  
PROPOSED GRID PANELS LAYOUT

EAST LEAF  
PROPOSED GRID PANELS LAYOUT

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**BEAUFORT N.C., CARTERET CO.  
BRIDGE NO. 29 OVER BEAUFORT CHANNEL**

**PROPOSED GRID FLOOR LAYOUT**

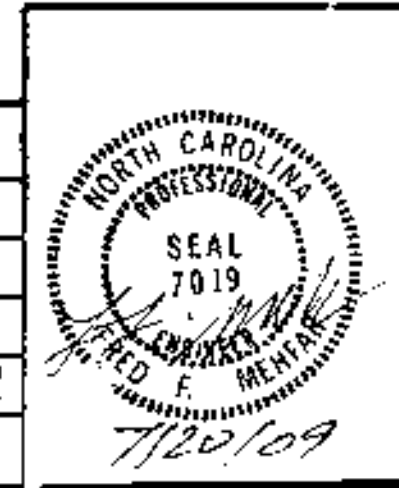


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REVISIONS			
NO.	DATE	DESCRIPTION	BY

DATE:	2/25/09
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DRAWN:	F MEHFAR
CHECKED:	JAD
PROJ. NO.:	0910202
SHEET:	S-13



HS 20 LOAD TABLE

SECTION MODULUS (IN <sup>3</sup> /FT)		MAX. CONTINUOUS CLEAR SPAN (FT.)	APPROX. GRID WEIGHT (LBS/SF)
TOP STEEL	BOTTOM STEEL		
4.038	4.321	6.8	18.5

**WELDING PROCESS**

ALL WELDING TO BE DONE IN ACCORDANCE WITH AASHTO HIGHWAY & BRIDGE SPEC. A.W.S.D1.5.

**MATERIAL SPECIFICATIONS**

M'BEAMS (5.514/FT.) TO BE A.S.T.M. A 572  
 C'BAR (1/4" x 2") TO BE A.S.T.M. A 572  
 DIAG. BARS (1/4" x 1") TO BE A.S.T.M. A 572  
 SUPPL. BARS (1/4" x 1") TO BE A.S.T.M. A 572  
 BOTTOM C'BAR (5/8") TO BE A.S.T.M. A 572

**FINISH SPECIFICATIONS**

PREP: } GALVANIZED  
 PAINT: }

**GALVANIZING SPECIFICATIONS**

MATERIAL TO BE HOT-DIP GALVANIZED AFTER FABRICATION AS PER A.S.T.M. A123 LATEST REVISION. PANELS NOT TO EXCEED 7'-8" WIDE WHEN GALVANIZING.

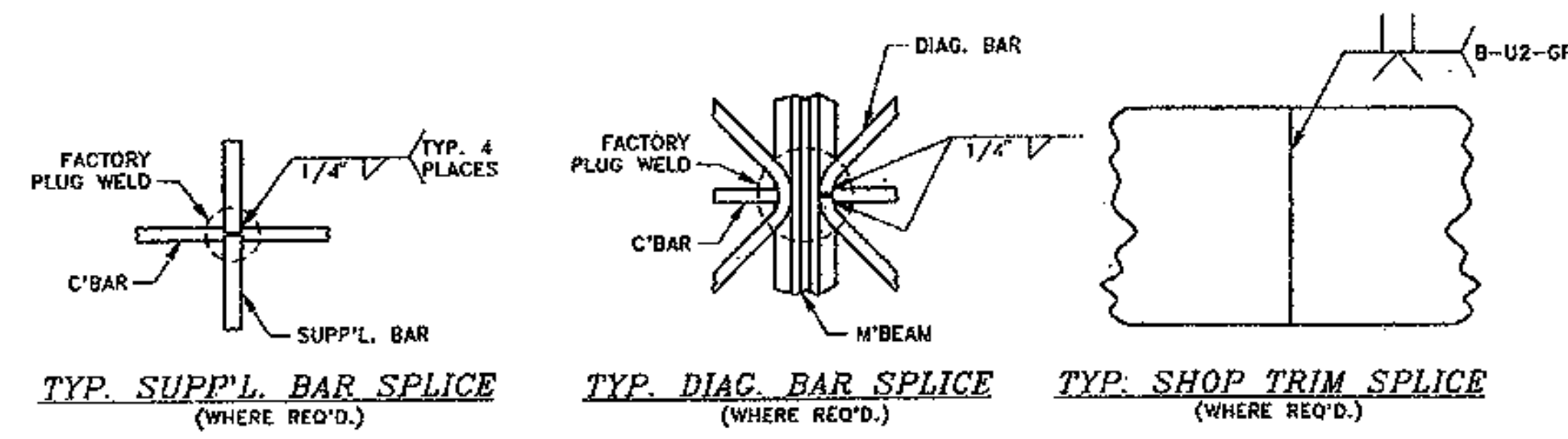
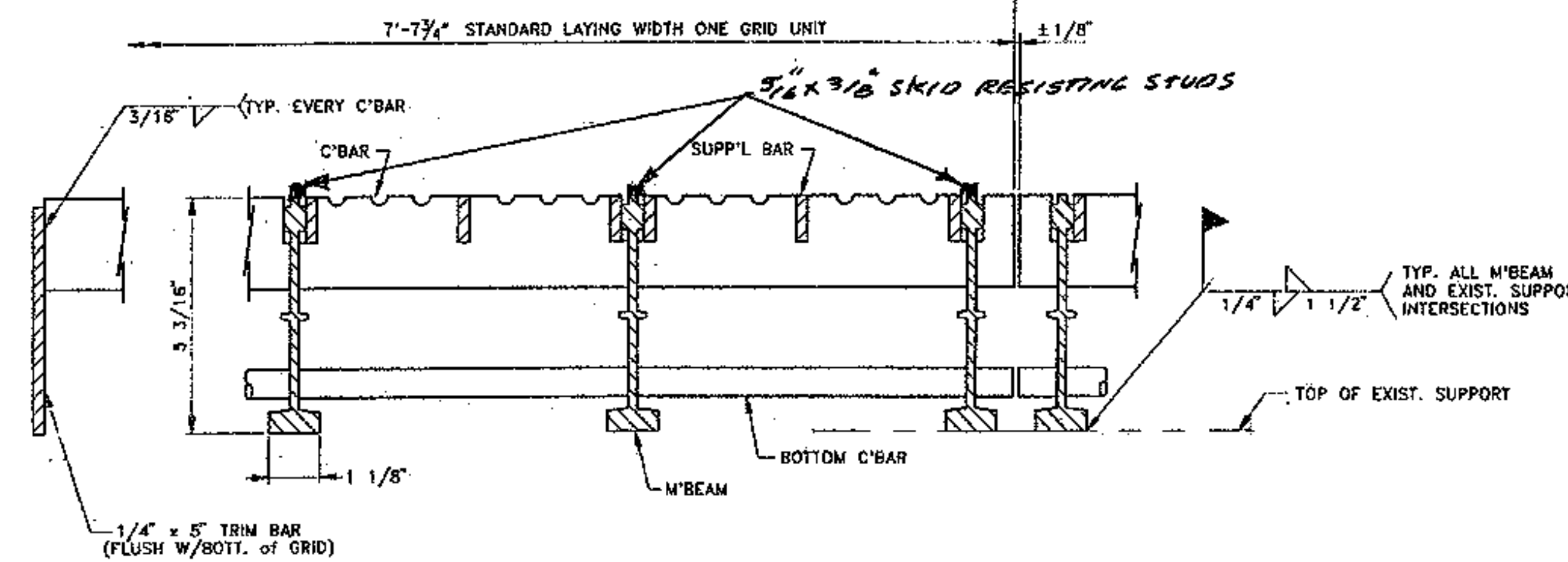
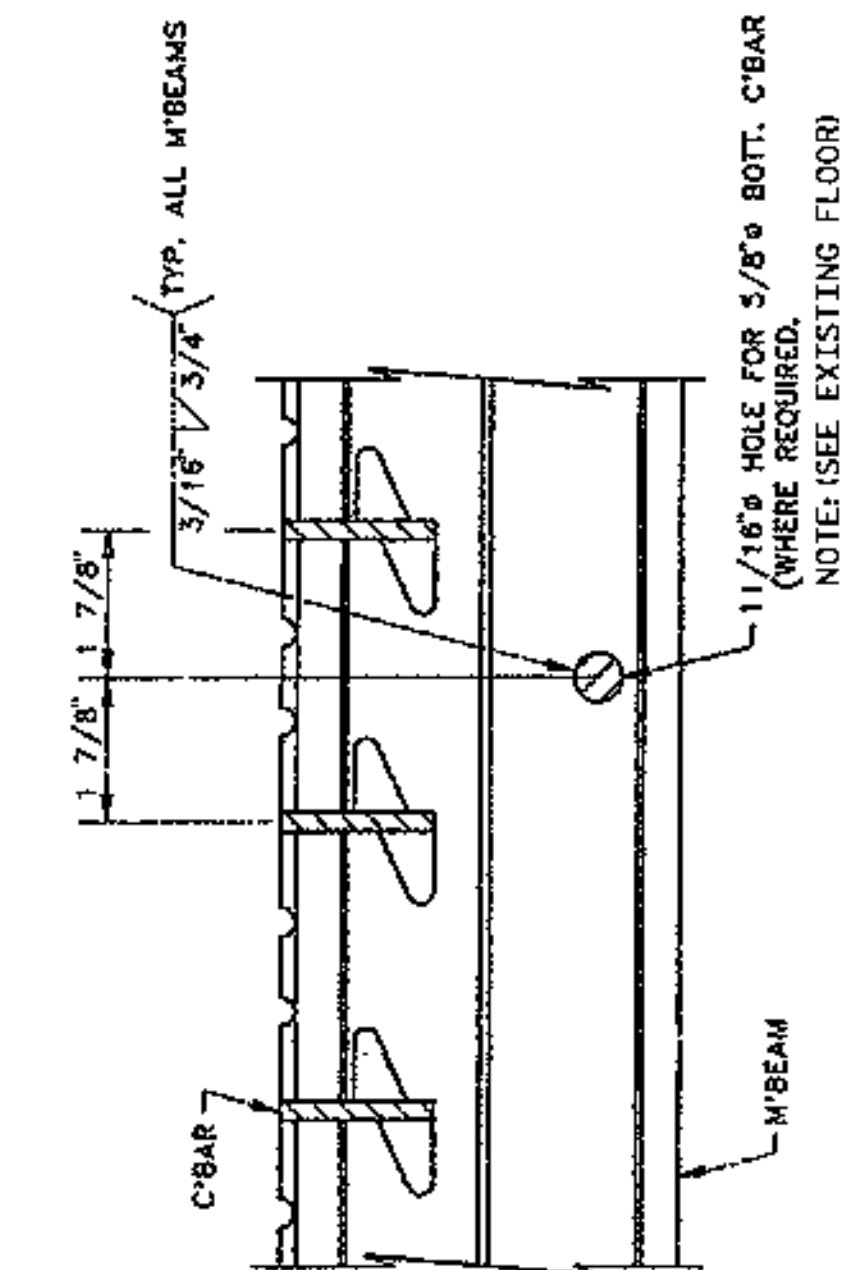
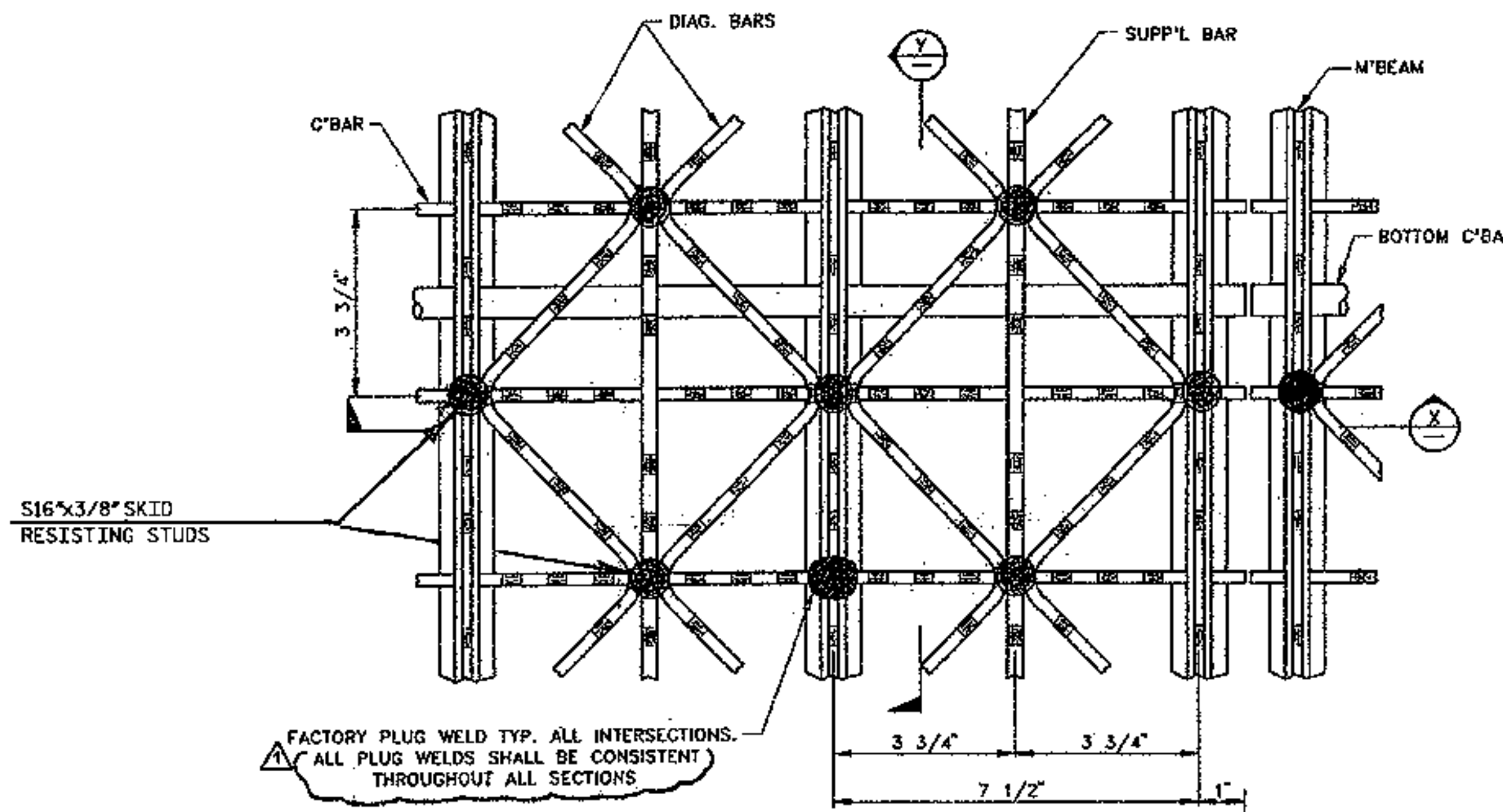
**NOTES**

THIS DRAWING TO BE USED AS A REFERENCE DRAWING ONLY. REFER TO DETAIL DRAWINGS FOR ACTUAL PANEL CHARACTERISTICS.

CONTRACTOR MAY REQUEST TO MAKE MINOR CHANGES FOR PRODUCT IMPROVEMENT.

ALL MATERIAL SUBJECT TO MILL/SHOP TOLERANCES.

SERRATIONS TO BE APPROXIMATELY 3/16" DEEP BY 3/8" WIDE ON RANDOM CENTERS.



PROPOSED GRID PANEL

NOTE:  
 CONTRACTOR SHALL MEASURE THE EXIST. PANEL DIMENSIONS AND VERIFY CLEAR LENGTH & WIDTH REQUIRED PRIOR TO ANY NEW PANEL FABRICATION.

SECTION 1

P:\2009\Beaufort Draw Bridge\Structures\CGH Sheet 14.dgn  
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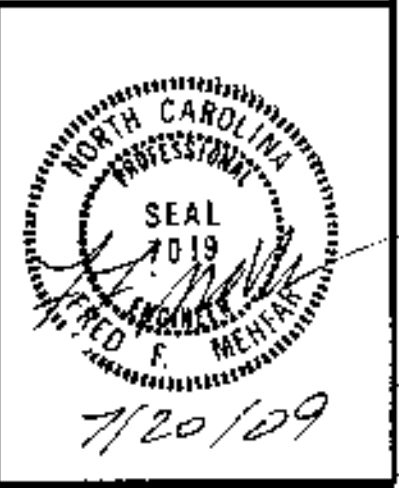
**BEAUFORT N.C., CARTERET CO.**  
**BRIDGE NO. 29 OVER BEAUFORT CHANNEL**  
**PROPOSED GRID FLOOR**

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 Bus: 919 851 8077  
 Fax: 919 851 8107  
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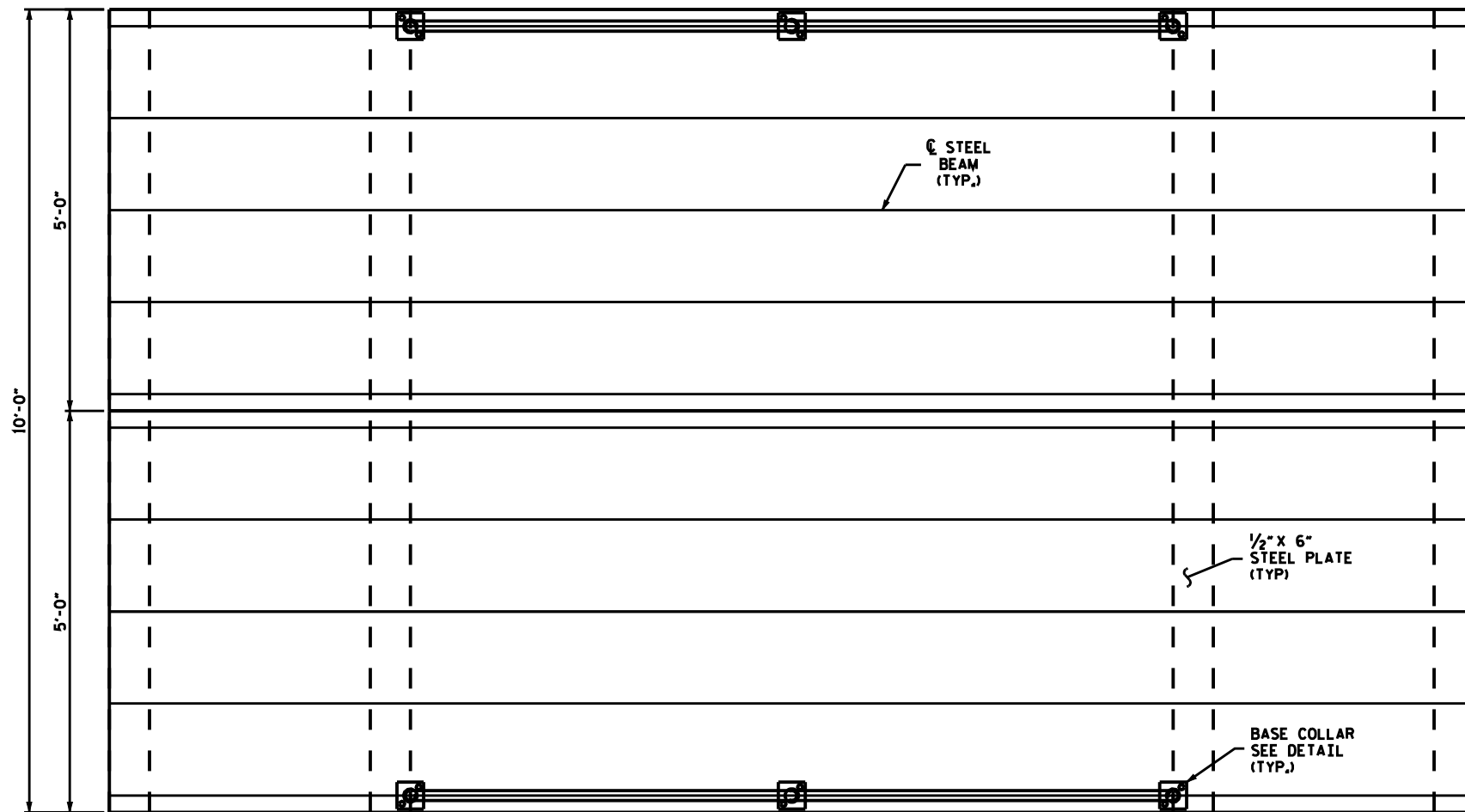
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REVISIONS			
NO.	DATE	DESCRIPTION	BY

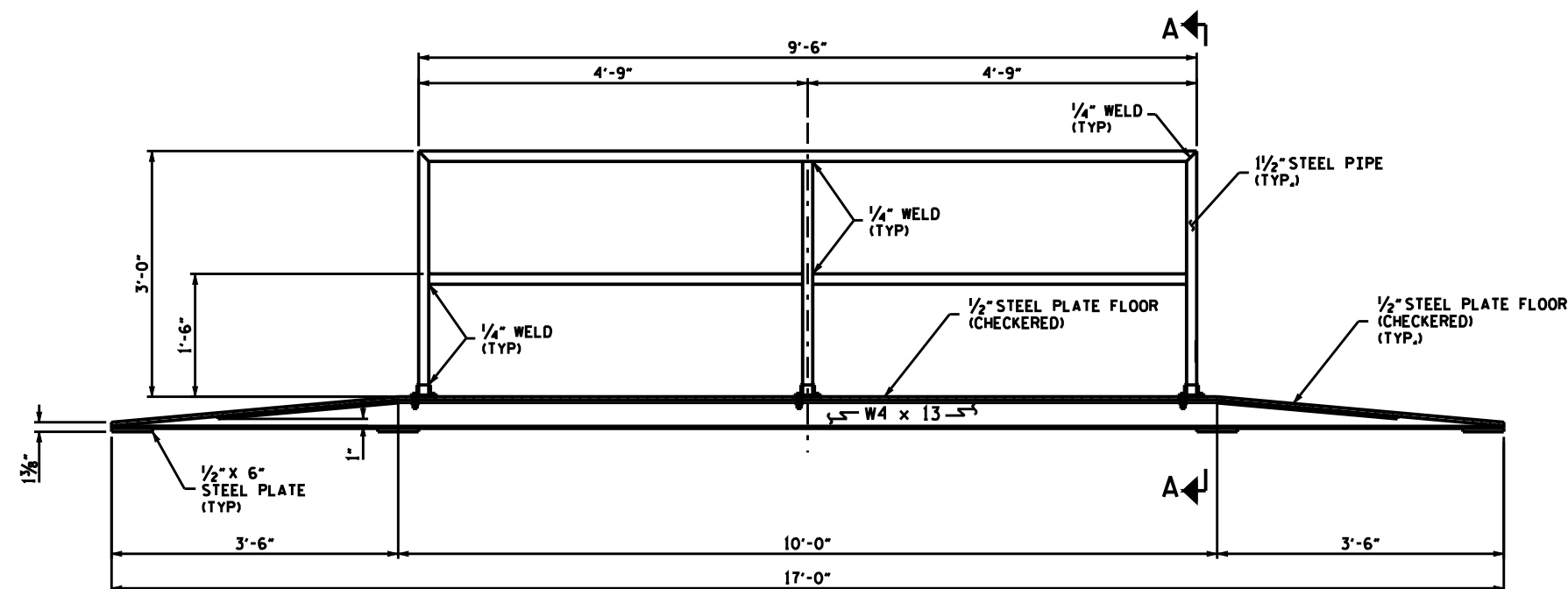
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SCALE:	NTS
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PROJ. NO.:	0910202
SHEET:	S-14







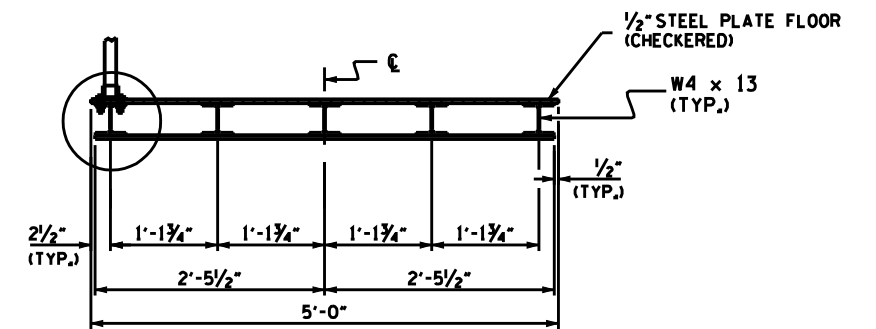
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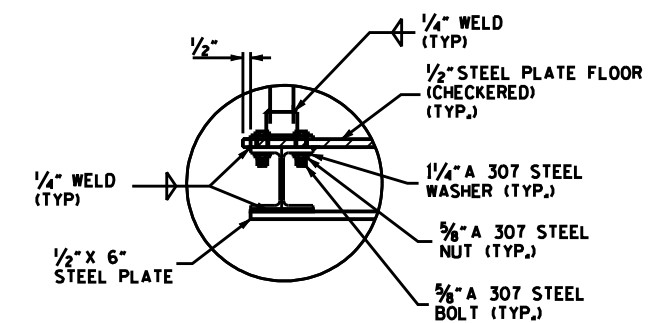
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**NOTES**

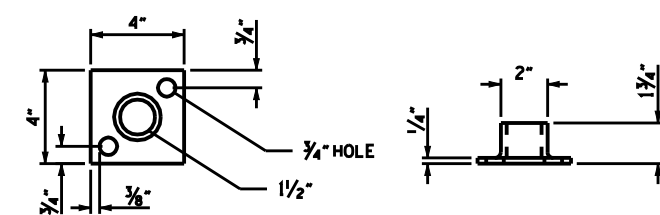
1. STEEL SHALL BE A36 OR A50.
2. FOR SUBMITTAL OF WORKING DRAWINGS SEE SPECIAL PROVISIONS.
3. BOLTS, NUTS & WASHERS TO BE A307 GALVANIZED.



**SECTION A-A**



**DETAIL A**



**BASE COLLAR DETAILS**

PROJECT NO. R-3307A  
 COUNTY: CARTERET  
 DECK REHAB BRIDGE NO. 29

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 BALHORN

**ACCESS RAMP**

DRAWN BY: CLB DATE: 09/09  
 CHECKED BY: EBN DATE: 09/09

REVISIONS						Sheet No.
NO.	BY	DATE	NO.	BY	DATE	S-15
1			3			TOTAL SHEETS
2			4			15

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
	TCP-1

**PLAN FOR PROPOSED  
TRAFFIC CONTROL, MARKING & DELINEATION**

**BEAUFORT BRIDGE REPAIR - CARTERET COUNTY**

**ROADWAY STANDARD DRAWINGS**

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1135.01	CONES
1150.01	FLAGGERS
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER

**INDEX OF SHEETS**

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, PHASING, AND INDEX OF SHEETS
TCP-2	GENERAL NOTES
TCP-3	TYPICAL SECTIONS
TCP-4	US 70 TEMPORARY OFF-SITE DETOUR ROUTE

**LEGEND**

- GENERAL**
- DIRECTION OF TRAFFIC FLOW
  - NORTH ARROW
  - PROPOSED PVMT. EXIST. PVMT.
  - WORK AREA
  - REMOVAL OF EXISTING PAVEMENT
- TRAFFIC CONTROL DEVICES**
- TYPE I BARRICADE
  - TYPE II BARRICADE
  - TYPE III BARRICADE
  - CONE
  - DRUM SKINNY DRUM
  - FLASHING ARROW PANEL (TYPE C)
  - STATIONARY SIGN
  - PORTABLE SIGN
  - STATIONARY OR PORTABLE SIGN
  - CRASH CUSHION
  - CHANGEABLE MESSAGE SIGN
  - TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
  - POLICE
  - FLAGGER
- PAVEMENT MARKINGS**
- CRYSTAL/CRYSTAL PAVEMENT MARKER
  - YELLOW/YELLOW PAVEMENT MARKER
  - CRYSTAL/RED PAVEMENT MARKER
  - PAVEMENT MARKING SYMBOLS

**PHASING**

- STEP 1) INSTALL CHANGEABLE MESSAGE SIGNS AND USE ROADWAY STANDARD DRAWINGS 1101.02, SHT. 1 OF 9, TO PERFORM PROPOSED DRAW BRIDGE SUPERSTRUCTURE REPAIR ACCORDING TO THE LANE CLOSURE RESTRICTIONS AND TYPICAL SECTIONS AS SHOWN ON TCP-2 AND THE STRUCTURE PLANS.
- STEP 2) PERFORM AS MUCH OF THE PROPOSED BRIDGE REPAIR AS POSSIBLE DURING DAYTIME HOURS THAT CAN BE COMPLETED WITHOUT THE NEED OF LANE CLOSURES ON EXISTING US 70.
- USE ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9, TO PERFORM PROPOSED BRIDGE REPAIR WORK THAT CAN BE COMPLETED NIGHTLY BEHIND LANE CLOSURES.
- REMOVE CHANGEABLE MESSAGE SIGNS AND TEMPORARY LANE CLOSURE PORTABLE SIGNING AT THE END OF EACH WORKNIGHT AND RETURN US 70 TRAFFIC TO THE EXISTING TWO-LANE, TWO-WAY PATTERN.
- STEP 3) USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9, INSTALL PORTABLE CONCRETE BARRIER AND TEMPORARY CRASH CUSHIONS AT THE DRAW BRIDGE AND MAINTAIN A TWO-LANE, TWO-WAY US 70 TRAFFIC PATTERN AS SHOWN ON TCP-2.
- PERFORM PROPOSED GIRDER REPAIR WORK AS MUCH AS POSSIBLE BEHIND PORTABLE CONCRETE BARRIER AS SHOWN IN THE CONSTRUCTION PLANS.
- STEP 4) UPON COMPLETION OF STEP 3, REMOVE PORTABLE CONCRETE BARRIER AND TEMPORARY CRASH CUSHIONS FROM THE DRAW BRIDGE AND RESTORE THE EXISTING TWO-LANE, TWO-WAY TRAFFIC PATTERN ON US 70.
- STEP 5) INSTALL CHANGEABLE MESSAGE SIGNS AND TEMPORARY US 70 DETOUR SIGNING AS SHOWN ON TCP-4.
- USING POLICE AND ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9, CLOSE THE US 70 BRIDGE TO TRAFFIC NIGHTLY ACCORDING TO THE TIME RESTRICTIONS ON TCP-2 AND PERFORM PROPOSED STEEL GRID FLOOR REPLACEMENT WORK AS SHOWN IN THE STRUCTURE PLANS.
- DURING THE TEMPORARY BRIDGE CLOSURE, OTHER PROPOSED BRIDGE WORK MAY BE PERFORMED AS APPROVED BY THE ENGINEER.
- STEP 6) UPON COMPLETION OF STEP 5, REMOVE CHANGEABLE MESSAGE SIGNS AND TEMPORARY DETOUR SIGNING AND REOPEN US 70 TO TRAFFIC.

	APPROVED: DATE: 9/15/09	PLAN PREPARED FOR NCDOT BY:
SEAL		E.G. WETHERILL, P.E. PROJECT ENGINEER C.L. MULLEN DESIGN ENGINEER _____ DESIGN TECHNICIAN

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# GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR AS DIRECTED BY THE ENGINEER.

**TIME RESTRICTIONS**

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. US 70	6:00 AM TO 9:00 PM (MON. THRU SUN.)

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME	HOLIDAY
1. US 70	FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
	2. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 PM TUESDAY TO 9:00 PM MONDAY.
	3. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
	4. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 AM DECEMBER 31st TO 9:00 PM JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 PM THE FOLLOWING TUESDAY.

C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. US 70	4:00 AM TO 11:00 PM MONDAY THRU THURSDAY AND FROM 4:00 AM FRIDAY UNTIL 11:00 PM SUNDAY

D) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	OPERATION
1. US 70	6:00 AM TO 9:00 PM (MON. THRU SUN.)	TRAFFIC SHIFTS & CONCRETE BARRIER INSTALL/RESET

E) DO NOT CONDUCT SINGLE-VEHICLE HAULING AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
1. US 70	6:00 AM TO 9:00 PM (MON. THRU SUN.)

**LANE AND SHOULDER CLOSURE REQUIREMENTS**

- F) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FEET OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

**TRAFFIC PATTERN ALTERATIONS**

I) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

**SIGNING**

J) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLAN.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLAN.

K) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

**TRAFFIC BARRIER**

L) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION, PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

M) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS:

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FEET
45 - 50	20 FEET

**TRAFFIC CONTROL DEVICES**

- N) SPACE CHANNELIZING DEVICES IN WORK AREAS EQUAL IN METERS TO 2/3rds THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FEET ON-CENTER IN RADII, AND 3 FEET OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.
- O) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

**PAVEMENT MARKINGS AND MARKERS**

P) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS FOR US 70 INTERIM TRAFFIC PATTERNS AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. US 70	(4") COLD APPLIED PLASTIC (TYPE 4 - REMOVABLE TAPE)	N/A

Q) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL US 70 BRIDGE SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. US 70	(4") COLD APPLIED PLASTIC (TYPE 1 - PERMANENT STD.)	N/A


R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

**MISCELLANEOUS**

T) POLICE MAY BE USED TO MAINTAIN TRAFFIC DURING A ROAD CLOSURE ON US 70.


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559 Jones Franklin Rd. Suite 164  
Raleigh, N.C. 27606  
Bus: 919 851 8077  
Fax: 919 851 8107  
License: P-0377

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GS/GPS - CONSTRUCTION OBSERVATION

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

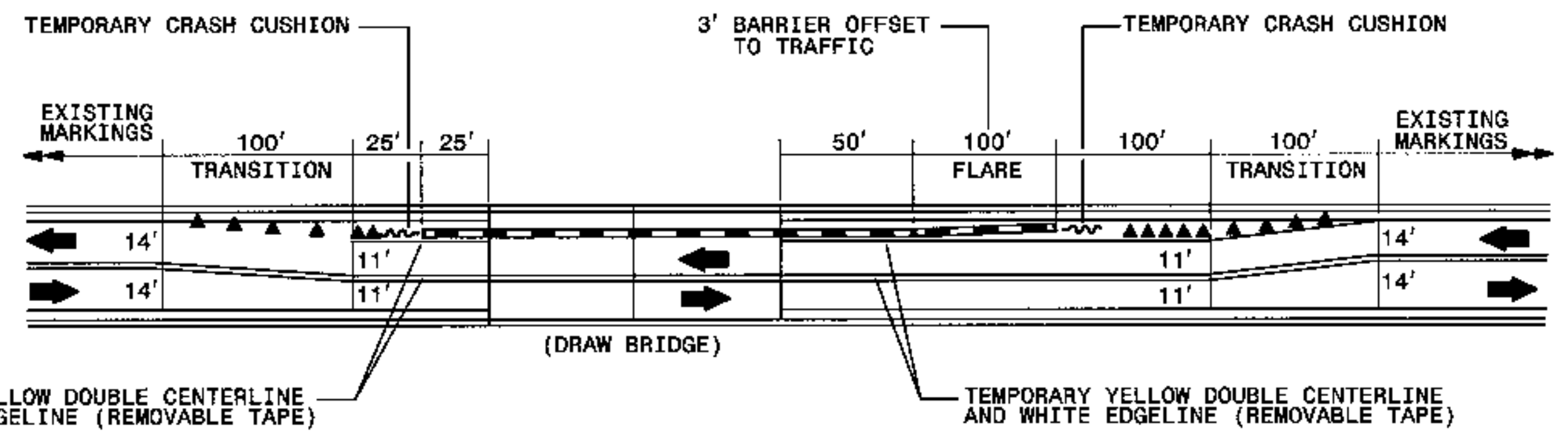
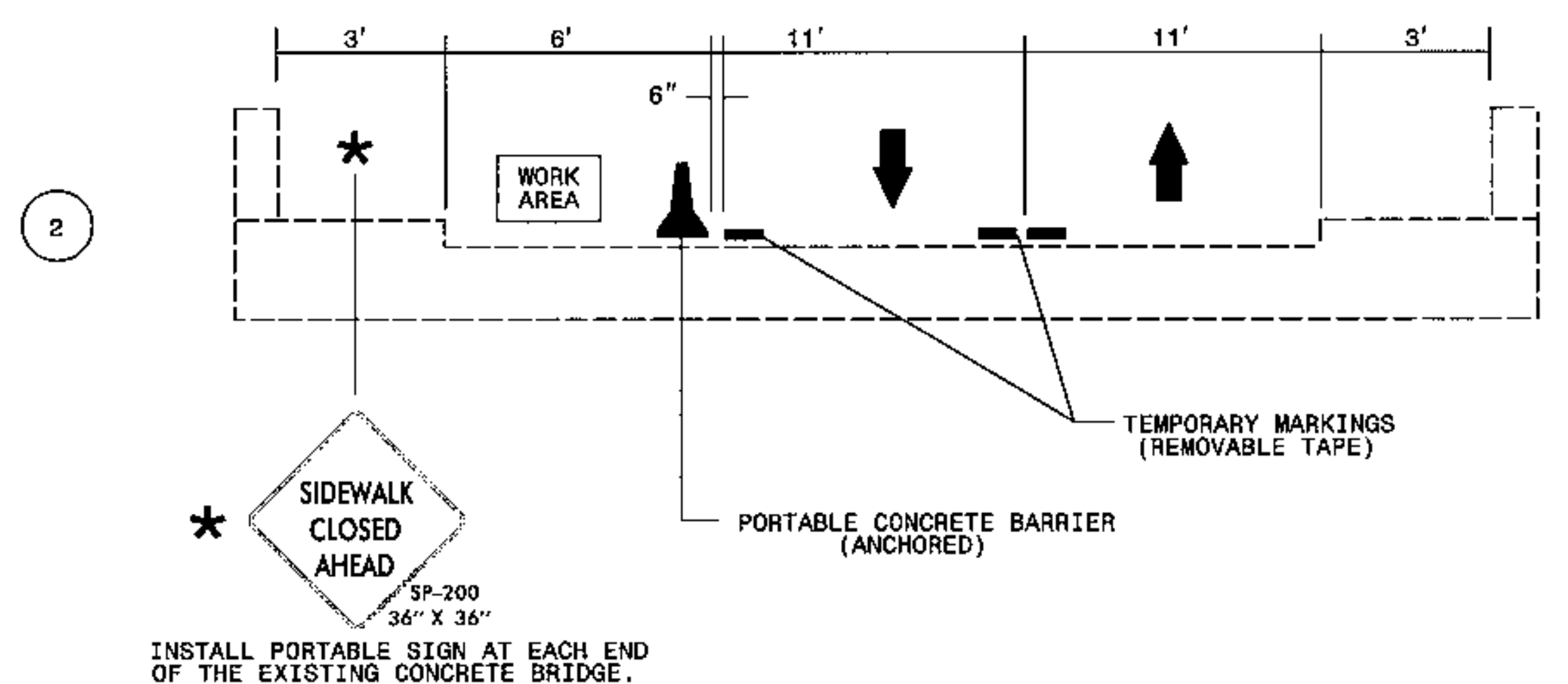
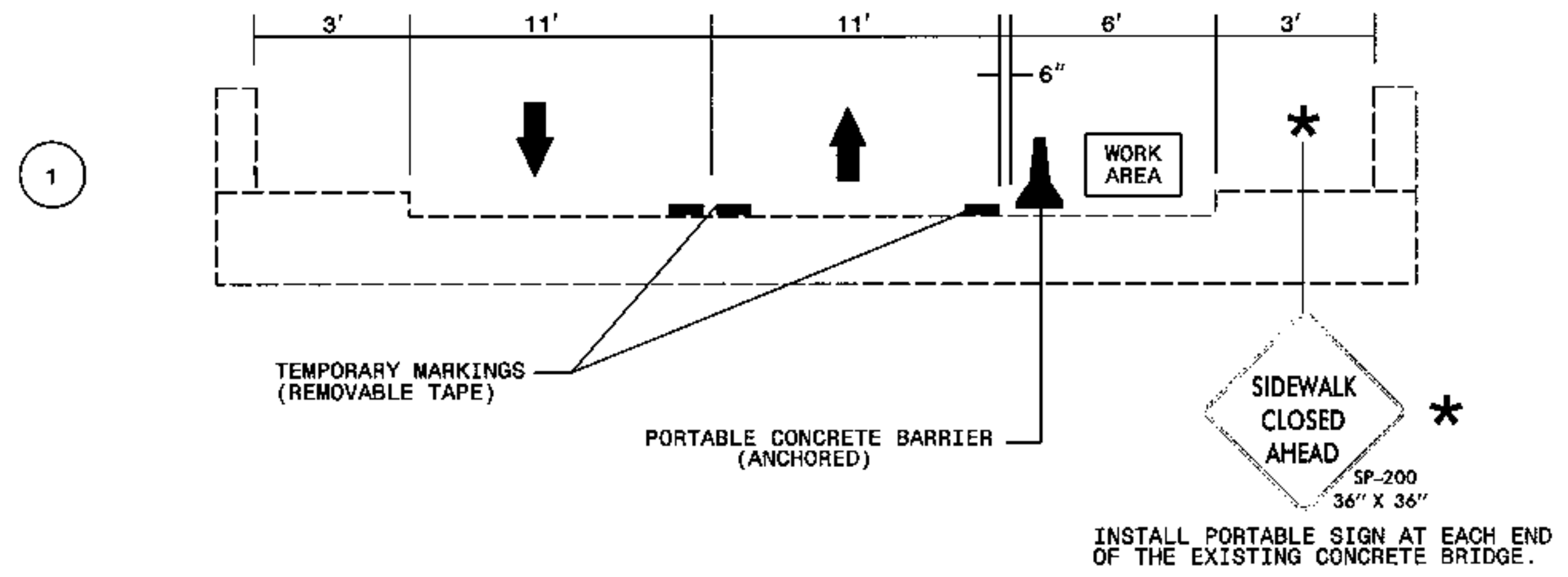


SEAL

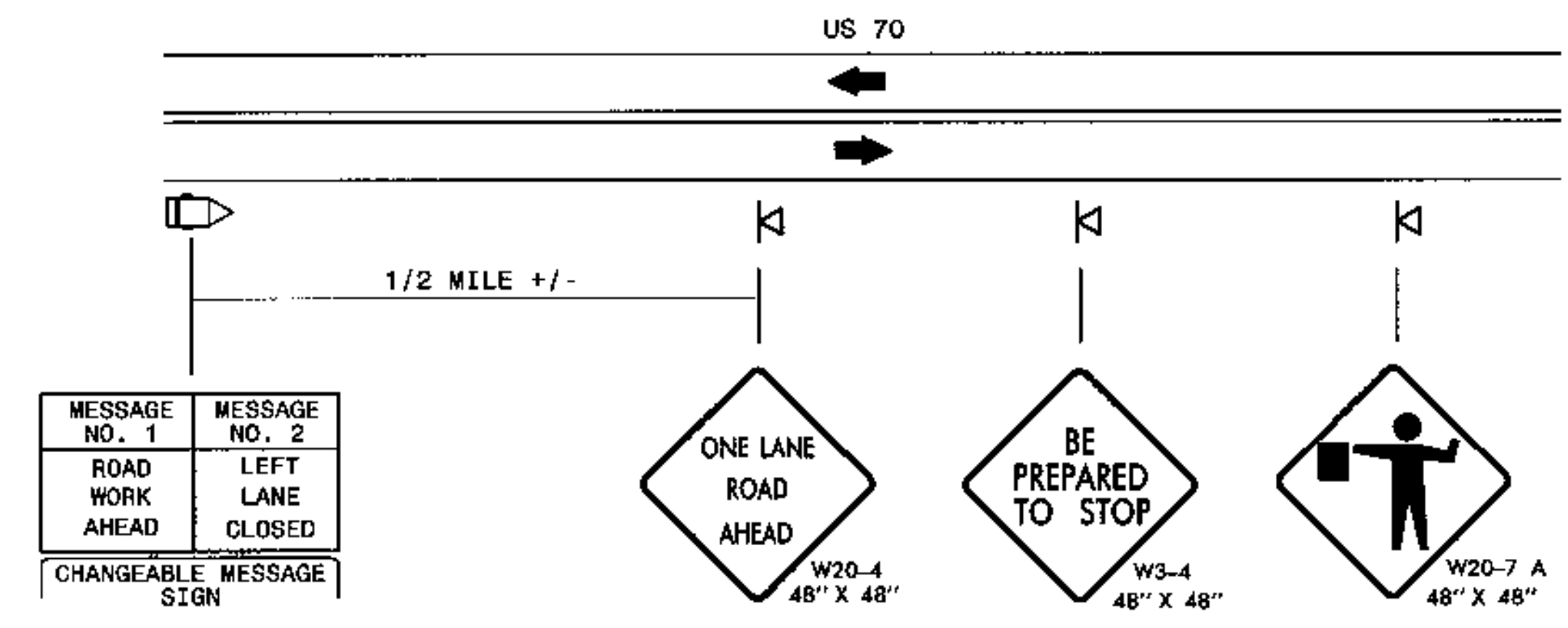
## GENERAL NOTES

SCALE: NONE	
DATE: _____	REVISIONS
DATE: _____	
DESIGN: WJ	
APPROVED: WJ	

### TYPICAL SECTIONS



**PORTABLE CONCRETE BARRIER PLACEMENT AND  
TEMPORARY US 70 TRAFFIC PATTERN**



**ADVANCE SIGNING SEQUENCE FOR  
LANE CLOSURES ON US 70**

NOTE: SEE ROADWAY STANDARD DWG. 1101.02, SHT. 1 OF 9 FOR SIGN SPACING

SEE TCP-4 FOR US 70 TEMPORARY OFF-SITE DETOUR ROUTING WHEN PERFORMING PROPOSED STEEL GRID FLOOR REPLACEMENT.

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**WETHERILL ENGINEERING**  
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 Bus: 919 851 8077  
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 License: F-0377

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: *[Signature]* DATE: 7/16/09

**TYPICAL SECTIONS**

SCALE: NONE  
 DATE: 12/08  
 DWG. BY: CLM  
 DESIGN BY: CLM  
 REVIEWED BY: BAM

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 10773 EDWARD G. WETHERILL

REVISIONS

