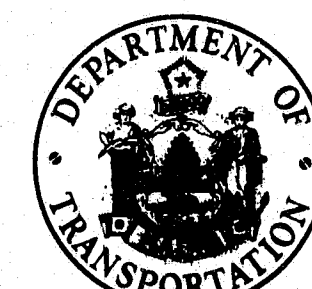


STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



PLANS

| CONVENTIONAL SIGNS | | |
|-------------------------------------|-------|-----------------------------------|
| COUNTY LINES | ===== | TRAVELLED WAY - PROPOSED |
| TOWN LINES | ----- | UNDERGROUND UTILITIES - EXISTING |
| PROPERTY LINES | ----- | UNDERGROUND UTILITIES - PROPOSED |
| R/W LINES - EXISTING | ===== | RAILROAD - SINGLE TRACK |
| R/W LINES - NEW - ACCESS CONTROL | ===== | RAILROAD - DOUBLE TRACK |
| R/W LINES - NEW - NO ACCESS CONTROL | ===== | UTILITY POLE - EXISTING |
| CULVERT - EXISTING | ===== | UTILITY POLE - JOINT OCCUPANCY |
| CULVERT - PROPOSED | ===== | PROPOSED UTILITY POLE - TEMPORARY |
| CURBING - EXISTING | ===== | PROPOSED UTILITY POLE - PERMANENT |
| CURBING - PROPOSED | ===== | TREES |
| TRAVELLED WAY - EXISTING | ===== | WOODS |

INSTALLATION OF FAIRINGS
ON THE
DEER ISLE - SEDGWICK BRIDGE
OVER
EGGEMOGGIN REACH
BETWEEN

LITTLE DEER ISLE & SEDGWICK
HANCOCK COUNTY
MAINE FEDERAL AID PROJECT
PROJECT NO. BH-250S(18)
PROJECT LENGTH: 0.475 MILES

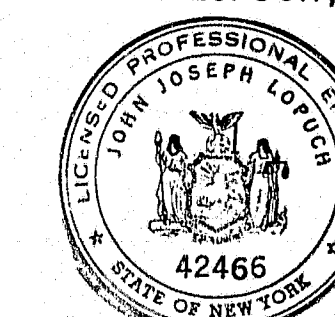
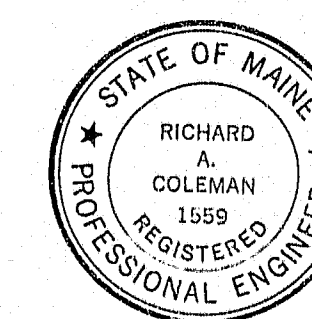
| F.H.W.A. NO. | STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS |
|-----------------|-------|----------------|--------------|-----------------|
| 1 | MAINE | BH-250S(18) | 1 | 28 |

| SHEET NO. | DESCRIPTION |
|--------------|------------------------------------|
| 1 | TITLE SHEET |
| 2 | ESTIMATED QUANTITIES |
| 3 | GENERAL NOTES |
| 4 | GENERAL PLAN AND ELEVATION |
| 5 | TYPICAL HALF PLAN |
| 6 | TYPICAL CROSS SECTIONS |
| 7 | TYPICAL FAIRING DETAILS - I |
| 8 | TYPICAL FAIRING DETAILS - II |
| 9 | TYPICAL FAIRING DETAILS - III |
| 10 | TYPICAL FAIRING DETAILS - IV |
| 11 | MISCELLANEOUS DETAILS |
| 12 | ANEMOMETER BRACKET MODIFICATIONS |
| 13 | SUSPENDER REPLACEMENT - I |
| 14 | SUSPENDER REPLACEMENT - II |
| 15 | ADJUSTMENT OF STAYS |
| 16 | STAY JACKING EQUIPMENT - I |
| 17 | STAY JACKING EQUIPMENT - II |
| 18 | STAY JACKING EQUIPMENT - III |
| 19 | CROSS CLAMP DETAILS |
| 20 | TYPICAL STAY CONNECTIONS AT TOWERS |
| 21 | DIAGONAL STAY ASSEMBLY DETAILS |
| 22 | BAR BOLT AND SADDLE BOLT DETAILS |
| 23 | DIAGONAL STAY SUPPORT DETAILS - I |
| 24 | DIAGONAL STAY SUPPORT DETAILS - II |
| 25 | BACKSTAY STRAND REPAIR |
| 26-28 | MAINTENANCE OF TRAFFIC |

YEAR OF PROJECT COMPLETION - 1994

SUBMITTED BY:
STEINMAN BOYNTON GRONQUIST & BIRDSALL

John J. Lopus
JOHN J. LOPUS, P.E. NEW YORK NO. 42466



109-4 1

APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
COMMISSIONER

DATE

10/1/92

Richard A. Coleman
CHIEF ENGINEER

10/1/92

"REVISL 2 - BUILD" - 11/1/92

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 1

APPROVED:

DIVISION ADMINISTRATOR DATE

TRAFFIC DATA

A.D.T. 1993 1900
A.D.T. 2013 2660
D.H.V. 18
T. (%) 5
D. (%) 2
V. _____
P.S.D. (%) _____
18 KIPS P2.0 40

NOTE

All work contemplated under this contract to be governed by and in conformity with the STANDARD SPECIFICATIONS (revision of October 1990) and supplementals thereto, except as modified on the plans and in the special provisions.

Plans of the existing bridge are available for the Contractor's reference at the Bridge Design Office in Augusta. The plans are reproductions of original drawings as prepared for the construction of the bridge and it is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

BH-2503(18) 2/28

| ESTIMATED QUANTITIES | | | |
|----------------------|------------------------------------------------------------------------------------------------------------------------------|----------|------|
| ITEM NO. | DESCRIPTION | QUANTITY | UNIT |
| 504.703 | STRUCTURAL STEEL FABRICATED AND DELIVERED: FAIRINGS | 1 | L.S. |
| 504.713 | STRUCTURAL STEEL ERECTION: FAIRINGS | 1 | L.S. |
| 504.704 | STRUCTURAL STEEL FABRICATED AND DELIVERED: ANEMOMETER SUPPORT BRACKETS | 1 | L.S. |
| 504.714 | STRUCTURAL STEEL ERECTION: MODIFICATION OF EXISTING ANEMOMETER SUPPORT BRACKETS | 1 | L.S. |
| 504.715 | STRUCTURAL STEEL ERECTION: RELOCATION OF EXISTING | 1 | L.S. |
| 506.18 | CONTAINMENT AND POLLUTION CONTROL - BASE BID | 1 | L.S. |
| 506.19 | DISPOSAL OF HAZARDOUS OR TOXIC MATERIAL - BASE BID | 1 | L.S. |
| 506.30 | SHOP COATING OF STRUCTURAL STEEL | 1 | L.S. |
| 506.31 | FIELD REPAIR OF DAMAGED COATING | 1 | L.S. |
| 506.32 | FIELD PAINTING OF NEW & EXISTING STRUCTURAL STEEL | 1 | L.S. |
| 536.30 | ADJUST. OF EXISTING STAYS | 1 | L.S. |
| 536.31 | SUSPENDER WITH SOCKETS, FABRICATED AND DELIVERED | 1 | L.S. |
| 536.32 | SUSPENDER WITH SOCKETS, ERECTION | 1 | L.S. |
| 536.33 | LABORATORY TESTING OF EXISTING SUSPENDER | 1 | L.S. |
| 536.34 | SEVEN (7) STEEL CROSS CLAMPS FABRICATED AND DELIVERED | 1 | L.S. |
| 536.35 | SEVEN (7) STEEL CROSS CLAMPS, ERECTION | 1 | L.S. |
| 536.36 | DIAGONAL STAY ASSEMBLIES FABRICATED, DELIVERED AND STORED | 8 | EACH |
| 536.37 | DIAGONAL STAY ASSEMBLIES REMOVAL AND NEW DIAGONAL STAY ASSEMBLIES INSTALLATION | 8 | EACH |
| 536.38 | MAIN CABLE STRAND REPAIR | 1 | L.S. |
| 536.39 | FORTY-EIGHT (48) DIAGONAL STAY SUPPORTS FABRICATED, DELIVERED AND STORED | 1 | L.S. |
| 536.40 | FORTY-EIGHT (48) EXISTING DIAGONAL STAY SUPPORTS REMOVAL, AND FORTY-EIGHT (48) NEW DIAGONAL STAY SUPPORTS INSTALLATION | 1 | L.S. |
| 639.18 | FIELD OFFICE TYPE A | 1 | EACH |

| ESTIMATED QUANTITIES | | | |
|---------------------------------|-----------------------------------------------------------------------------------|----------|------|
| ITEM NO. | DESCRIPTION | QUANTITY | UNIT |
| 652.31 | TYPE I BARRICADE | 20 | EA. |
| 652.33 | DRUM | 20 | EA. |
| 652.34 | CONE | 30 | EA. |
| 652.35 | CONSTRUCTION SIGNS | 500 | S.F. |
| 652.36 | MAINTENANCE OF TRAFFIC CONTROL DEVICES | 1 | L.S. |
| 652.38 | FLAGGER | 4000 | M.H. |
| 659.10 | MOBILIZATION | 1 | L.S. |
| 660.21 | ON-THE-JOB TRAINING (BID) | 2000 | M.H. |
| ADDITIVE ALTERNATE ITEMS | | | |
| 506.17 | SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL - ADDITIVE ALTERNATE | 1 | L.S. |
| 506.177 | FIELD PAINTING EXISTING STRUCTURAL STEEL (CODE NO. M10-1) - ADDITIVE ALTERNATE | 1 | L.S. |
| 506.18 | CONTAINMENT & POLLUTION CONTROL - ADDITIVE ALTERNATE | 1 | L.S. |
| 506.19 | DISPOSAL OF HAZARDOUS OR TOXIC MATERIAL - ADDITIVE ALTERNATE | 1 | L.S. |
| ESTIMATE OF LUMP SUM QUANTITIES | | | |
| 504.703 | Structural Steel Fabricated and Delivered: Fairings | 519,000 | LBS. |
| 504.704 | Structural Steel Fabricated and Delivered (Anemometer Support Brackets) | 830 | LBS. |

109-5

2

| |
|--------------------------------------------------------------------------------------------|
| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS |
| DEER ISLE-SEDGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEDGWICK |
| INSTALLATION OF FAIRINGS |
| ESTIMATED QUANTITIES |
| STEINMAN, BOYNTON, GRONQUIST & BIRDSALL CONSULTING ENGINEERS NEW YORK, N.Y. |
| SCALE: NONE DATE: JUNE 1992 SHEET: 2 OF 28 |

Design L.G.C.K'd S.K.S.
Drawn J.C.C.K'd J.A.B.
K.P.S.
Engineer in Charge

GENERAL NOTES

1. DESIGN SPECIFICATIONS: ALLOWABLE STRESS DESIGN PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1989, AS AMENDED BY INTERIM SPECIFICATIONS - BRIDGES, 1990 AND 1991.
2. MATERIAL AND CONSTRUCTION SPECIFICATIONS: MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS - HIGHWAYS AND BRIDGES - REVISION OF OCTOBER 1990.
3. DESIGN LIVE LOAD: HS20-44
4. MATERIALS:
STRUCTURAL STEEL PLATES AND SHAPES:
ASTM A709 GRADE 50
STEEL SHEET: ASTM A607 GRADE 50, CLASS 1,
HOT ROLLED
STRUCTURAL BOLTS, NUTS AND WASHERS:
ASTM A325 HIGH STRENGTH
WELDING: IN ACCORDANCE WITH PROJECT SPECIFICATIONS
FIBERGLASS GRATING: PER SPECIFICATIONS (ABOVE MATERIALS UNLESS OTHERWISE NOTED)
5. GALVANIZING OF FAIRING PANELS: EXCEPT AS OTHERWISE NOTED, THE ENTIRE FAIRING PANEL, INCLUDING ALL GUSSET PLATES, CONNECTION ANGLES, FASTENERS AND HARDWARE, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH THE FOLLOWING:

STRUCTURAL STEEL PLATES AND SHAPES:
ASTM A123
STEEL SHEET: ASTM A525, COATING DESIGNATION G210
FASTENERS AND HARDWARE: ASTM A153

STEEL FRAMING MEMBERS AND GUSSET PLATES SHALL BE HOT-DIP GALVANIZED AFTER ALL WELDING IS COMPLETED AND BEFORE THE STEEL SHEET IS ATTACHED.
STEEL SHEET SHALL BE HOT-DIP GALVANIZED PRIOR TO BEING ATTACHED TO THE PANEL FRAME.
6. SHEET METAL SCREWS:
SCREWS FOR ATTACHING STEEL SHEET TO THE FAIRING PANEL FRAMES SHALL BE ONE OF THE FOLLOWING:

A. #12 - 24 SELF-DRILLING SCREW, CARBON STEEL, WITH HEXAGON WASHER HEAD AND "CLIMASEAL" POLYMER COATING, AS MANUFACTURED BY ITW - BUILDDEX, ELK GROVE VILLAGE, ILLINOIS.

B. #12 - 24 SELF-TAPPING SCREW WITH HEXAGON WASHER HEAD, AISI 1018, 1018, 1019, 1021, 1022 OR 1024 CARBON STEEL, HOT-DIP GALVANIZED.
7. PAINTING:
SHOP AND FIELD PAINTING IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
8. DATUM:
REFERENCE ELEVATION SHALL BE TOP OF THE PLATE ON THE TOWER STRUT DIRECTLY BENEATH THE DECK. THIS ELEVATION SHALL BE 66.0 FEET.
9. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE STATE, WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE STATE, THE DAMAGED MATERIALS SHALL BE REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT NO EXTRA COST TO THE STATE.
10. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS.
11. THE CONTRACTOR SHALL TAKE PRECAUTIONS SO AS NOT TO LEAVE DEBRIS, MATERIALS, TOOLS, ETC., ON THE ROADWAY SURFACE WHEN LEAVING THE WORK AREA, ON A DAILY BASIS. IN ADDITION, THE CONTRACTOR SHALL TAKE PRECAUTIONS SO THAT NO DEBRIS, ETC., IS DROPPED ON THE ADJACENT OPEN TRAFFIC LANE.

12. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL FOR ALL STEEL AND CABLE ITEMS, UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS.
13. HORIZONTAL, VERTICAL AND DETAIL DIMENSIONS AND ELEVATIONS SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM THE ORIGINAL DESIGN AND SHOP DRAWINGS OF THE EXISTING STRUCTURE. THE CONTRACTOR SHALL PERFORM A FIELD SURVEY TO ESTABLISH BASE LINES AND CONTROL POINTS AND TO VERIFY ALL EXISTING DIMENSIONS AFFECTING FABRICATION AND CONSTRUCTION. THIS FIELD SURVEY IS TO BE SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE SHOP AND CONSTRUCTION DRAWINGS ARE STARTED. SHOP AND CONSTRUCTION DRAWINGS SHALL SHOW BOTH DESIGN AND FIELD DIMENSIONS. THIS WORK SHALL BE INCIDENTAL TO PAY ITEMS 504.703 AND 504.713.
14. ORIGINAL DESIGN AND SHOP DRAWINGS OF MOST OF THE EXISTING STRUCTURE ARE AVAILABLE FOR THE CONTRACTOR'S REFERENCE AT THE BRIDGE DESIGN OFFICE IN AUGUSTA.
15. WHEN NEW MATERIAL IS TO BE CONNECTED TO EXISTING MATERIAL, THE EXISTING SURFACE SHALL BE CLEANED OF ALL PAINT, LOOSE RUST OR OTHER FOREIGN MATERIAL PRIOR TO INSTALLATION OF NEW MATERIAL. CLEANING SHALL BE DONE IN ACCORDANCE WITH SSPC-SP6. CLEANED SURFACES SHALL BE VERIFIED BY SSPC-VIS1, SURFACE CONDITION BSA2, CSA2 OR DSA2 AS APPLICABLE. AFTER BOLTS ARE IN PLACE, ALL EXPOSED SURFACES SHALL BE PRIMED IMMEDIATELY.
16. BOLT HOLES IN NEW MATERIAL THAT ARE TO MATCH EXISTING HOLES SHALL BE FIELD DRILLED FROM THE SOLID AFTER ALIGNMENT AND ASSEMBLY, USING THE EXISTING STEEL AS A TEMPLATE.
17. NEW HOLES IN EXISTING MATERIAL SHALL BE DRILLED TO A TEMPLATE.
18. EXCEPT AS NOTED, ALL NEW BOLTS SHALL BE 7/8" DIAMETER, ASTM A325 WITH HEAVY HEX NUTS AND ONE HARDENED WASHER UNDER THE PART TURNED, EXCEPT THAT WASHERS SHALL BE USED UNDER BOTH THE HEAD AND THE NUT WHEN BOLTS ARE USED IN CONNECTIONS IN ANY OF THE FOLLOWING CONDITIONS:

A) REPLACEMENT OF EXISTING BOLTS OR RIVETS.

B) CONNECTIONS WHICH ARE PREPARED BY DRILLING IN THE FIELD.

C) CONNECTIONS BETWEEN NEW AND EXISTING STEEL.
19. ALL BOLTED CONNECTIONS REQUIRING HIGH STRENGTH BOLTS SHALL BE FRICTION-TYPE CONNECTIONS.

ANY GALVANIZED COATING ON THE FAIRING SURFACES OF STRUCTURAL STEEL SHALL BE ROUGHENED USING SUITABLE MEANS APPROVED BY THE ENGINEER, PRIOR TO BOLTING THE CONNECTION.
20. REMOVAL OF RIVETS SHALL BE PERFORMED IN A WORKMANLIKE MANNER SO THAT EXISTING MATERIAL TO REMAIN IS NOT DAMAGED. THE METHOD OF RIVET REMOVAL SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
21. THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE OR DISTURB EXISTING UTILITIES (INCLUDING ELECTRICAL CABLES ATTACHED TO THE EXTERIOR FACE OF THE EAST GIRDER) AND NAVIGATION LIGHTS WITHIN THE PROJECT LIMITS. WHERE WORK AFFECTS OR IS AFFECTED BY EXISTING UTILITIES, THE WORK SHALL BE COORDINATED WITH THAT UTILITY COMPANY OR AGENCY.

THE CONTRACTOR SHALL REPLACE OR REPAIR TO THE SATISFACTION OF THE ENGINEER ANY EXISTING UTILITY LINE THAT IS DAMAGED BY THE CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE STATE.

22. THE CONTRACTOR SHALL LIMIT THE SIZE AND TYPE OF CONSTRUCTION VEHICLES CROSSING THE SUSPENDED SPANS. ON THE SUSPENDED SPANS, NO MORE THAN ONE HS20 TYPE VEHICLE SHALL BE ALLOWED ON THE MAIN SPAN AND EACH OF THE SIDE SPANS AT ANY TIME. (SEE KEY ELEVATION ON SHEET NO. 15).

PRIOR TO THE USE OF CONSTRUCTION VEHICLES, THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF ANTICIPATED VEHICLE USE FOR APPROVAL BY THE ENGINEER.
23. THE CONTRACTOR SHALL SUBMIT TO THE UNITED STATES COAST GUARD FOR APPROVAL, TWO COPIES OF THE PLANS AND SCHEDULE OF OPERATIONS FOR WORK OVER THE CHANNEL AT LEAST 14 DAYS PRIOR TO COMMENCEMENT OF ANY WORK OVER THE CHANNEL. THE STATE OF MAINE SHALL NOT BE HELD RESPONSIBLE FOR ANY DELAYS SUFFERED BY THE CONTRACTOR FOR FAILURE TO ADHERE TO THIS REQUIREMENT OR TO COAST GUARD REQUIREMENTS LISTED IN THE CONTRACT SPECIFICATIONS.
24. THE CONTRACTOR SHALL LIMIT THE DEAD WEIGHT OF SCAFFOLDING OR ANY OTHER DEVICE THAT THE CONTRACTOR MAY EMPLOY FOR CONSTRUCTION ACCESS ON THE SUSPENDED SPANS TO NOT MORE THAN 100 PLF ALONG EACH CABLE. PRIOR TO THE INSTALLATION OF ANY SCAFFOLDING OR OTHER CONSTRUCTION ACCESS DEVICE, THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS WHICH SHOW THE WEIGHT AND LIMITS OF INSTALLATION AND THE METHOD USED TO SUPPORT THE SCAFFOLDING OR DEVICE FROM THE BRIDGE TO THE ENGINEER FOR REVIEW.
25. MONITORING EQUIPMENT:

THE CONTRACTOR'S ATTENTION IS DIRECTED TO EXISTING MONITORING EQUIPMENT (ANEMOMETERS AND ACCELEROMETERS) AND WIRING THAT IS ATTACHED TO THE GIRDERS OF THE BRIDGE. THE DRAWINGS SHOW APPROXIMATE LOCATIONS OF EXISTING ANEMOMETERS AND ACCELEROMETERS AND DETAILS FOR MODIFICATION OF THE EXISTING ANEMOMETER SUPPORT BRACKETS.

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS NOT TO DISTURB ANY OF THE MONITORING EQUIPMENT OR WIRING. ANY EQUIPMENT OR WIRING DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.

IF THE CONTRACTOR FINDS THAT THE MONITORING EQUIPMENT OR WIRING WILL INTERFERE WITH ANY OF THE WORK SHOWN ON THE DRAWINGS AFTER MODIFICATION OF THE ANEMOMETER SUPPORT BRACKETS, HE SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK AT THAT LOCATION.
26. NAVIGATION LIGHTS:

THE EXISTING NAVIGATION LIGHTS SHALL REMAIN OPERATIONAL AT ALL TIMES DURING THE WORK UNLESS EXPRESS PERMISSION TO INTERRUPT SERVICE IS OBTAINED FROM THE UNITED STATES COAST GUARD. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN SERVICE OF THE NAVIGATION LIGHTS UNTIL THE COMPLETION OF THE WORK.

AT LEAST 14 DAYS PRIOR TO RELOCATING THE EXISTING NAVIGATION LIGHTS, THE CONTRACTOR SHALL NOTIFY THE UNITED STATES COAST GUARD TO REQUEST APPROVAL OF (1) THE DATE(S) AND TIMES HE PLANS TO RELOCATE THE EXISTING NAVIGATION LIGHTS, AND (2) WHETHER OR NOT SERVICE WILL BE INTERRUPTED AND IF SO FOR HOW LONG. THE CONTRACTOR SHALL ALSO NOTIFY THE COAST GUARD WHEN RELOCATION OF THE NAVIGATION LIGHTS IS COMPLETED.
27. GALVANIZING AND SHOP PRIMING OF STRUCTURAL STEEL SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS (FOR WORK SHOWN ON SHEET NOS. 5 THRU 18):

504.703 STRUCTURAL STEEL FABRICATED AND DELIVERED: FAIRINGS

504.704 STRUCTURAL STEEL FABRICATED AND DELIVERED: ANEMOMETER SUPPORT BRACKETS

- SHOP PAINTING OF STRUCTURAL STEEL SHALL BE PAID FOR UNDER THE FOLLOWING ITEM (FOR WORK SHOWN ON SHEET NOS. 5 THRU 18):
506.30 SHOP COATING OF STRUCTURAL STEEL
- FIELD PAINTING OF STRUCTURAL STEEL SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS:

506.31 FIELD REPAIR OF DAMAGED COATING (FOR WORK SHOWN ON SHEET NOS. 5 THRU 18)
506.32 FIELD PAINTING OF NEW AND EXISTING STRUCTURAL STEEL (FOR WORK SHOWN ON SHEET NOS. 19 THRU 25)
28. THE FOLLOWING PORTIONS OF THE EXISTING STRUCTURE SHALL BE CLEANED, PRIMED AND PAINTED UNDER ITEM 506.31 (FOR WORK SHOWN ON SHEET NOS. 5 THRU 18):

A. SURFACES OF EXISTING MATERIAL ADJACENT TO LOCATIONS WHERE NEW MATERIAL IS CONNECTED.

B. SURFACES OF EXISTING MATERIAL FROM WHICH MATERIAL IS REMOVED AND NO NEW MATERIAL IS ADDED.

C. SURFACES WHERE THE EXISTING PAINT IS DAMAGED DURING CONSTRUCTION.
29. AREAS OF THE EXISTING STRUCTURE TO BE CLEANED, PRIMED AND PAINTED UNDER ITEM 506.32 SHALL BE AS INDICATED ON SHEET NOS. 19 THRU 25 AND AS LISTED IN THE PROJECT SPECIFICATIONS.

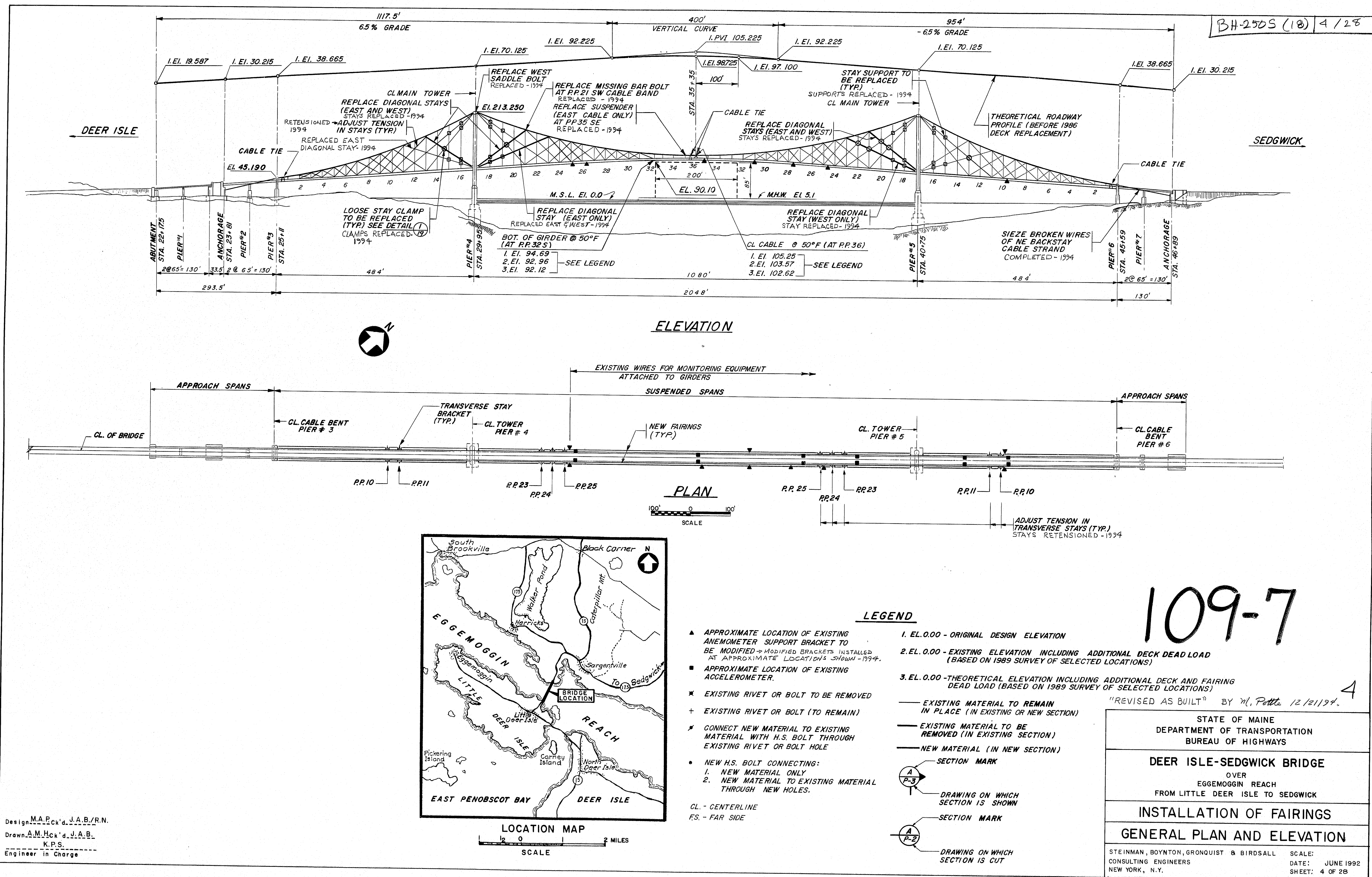
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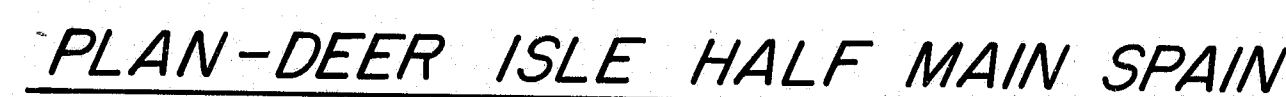
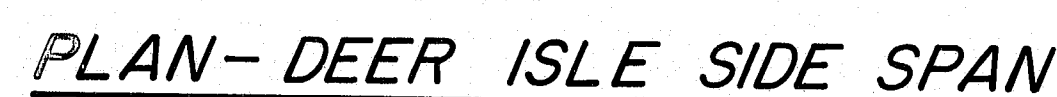
109-6

3

Design K.S. Ch'd J.A.B.
Drawn J.S. Ch'd J.A.B.
K.P.S.
Engineer in Charge

| | |
|--------------------------------------------------------------------------------------------|--------------------------------------------------|
| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS | |
| DEER ISLE-SEDGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEDGWICK | |
| INSTALLATION OF FAIRINGS | |
| GENERAL NOTES | |
| STEINMAN, BOYNTON, GRONQUIST & BIRDSALL CONSULTING ENGINEERS NEW YORK, N.Y. | SCALE: NONE DATE: JUNE 1992 SHEET: 3 OF 28 |





1. FOR GENERAL NOTES SEE SHEET NO. 3.
2. DEER ISLE SIDE SPAN AND HALF MAIN SPAN ARE SHOWN, SEDGWICK SIDE SPAN AND HALF MAIN SPAN ARE SIMILAR.
3. FOR TYPICAL DETAILS OF FAIRINGS SEE SHEET NOS. 7 THRU 10.
4. PROVIDE EXPANDED WIRE MESH AT ALL OPEN ENDS OF THE FAIRINGS. FOR DETAILS SEE SHEET NO. 10.
5. ACCESS HATCHES SHALL BE INSTALLED AT THE LOCATIONS SHOWN. THERE SHALL BE AT LEAST ONE ACCESS HATCH FOR EACH CONTINUOUS SECTION OF FAIRING, AND THE MAXIMUM PERMISSIBLE DISTANCE BETWEEN ACCESS HATCHES IN THE SAME SECTION IS 56 FEET. FOR DETAILS OF ACCESS HATCH SEE SHEET NO. 10.
6. EXISTING NAVIGATION LIGHTS ARE LOCATED AT P.P. 32/00 DEER ISLE AND SEDGWICK SIDE SPANS AND P.P. 36 ON DEER ISLE. HALF MAIN SPAN (6 LOCATIONS) THE EXISTING NAVIGATION LIGHTS SHALL BE MODIFIED AND RELOCATED TO THE INSIDE FACE OF THE GIRDER PRIOR TO INSTALLING THE FAIRINGS AT THESE LOCATIONS. FOR MODIFICATION DETAILS SEE SHEET NO. 11.
7. FOR LOCATIONS OF EXISTING ANEMOMETER SUPPORT BRACKETS TO BE MODIFIED SEE SHEET NO. 4. FOR MODIFICATION DETAILS SEE SHEET NOS. 6 AND 12.
8. THE FAIRING PANELS SHALL BE INSTALLED CONCURRENTLY ALONG THE EAST AND WEST GIRDERS IN SUCH A MANNER THAT, WITH WORK ON THE 2 GIRDERS COMING IN AT THE SAME PANEL POINT ON THE BRIDGE SPAN, THERE IS NEVER MORE THAN A 28 FOOT (ONE PANEL POINT) DIFFERENCE IN THE LENGTH OF FAIRINGS INSTALLED ALONG EACH GIRDER.

109-8

"REVISED AS BUILT" - Wl. Pott - 12/21/94

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

DEER ISLE-SEDGWICK BRIDGE

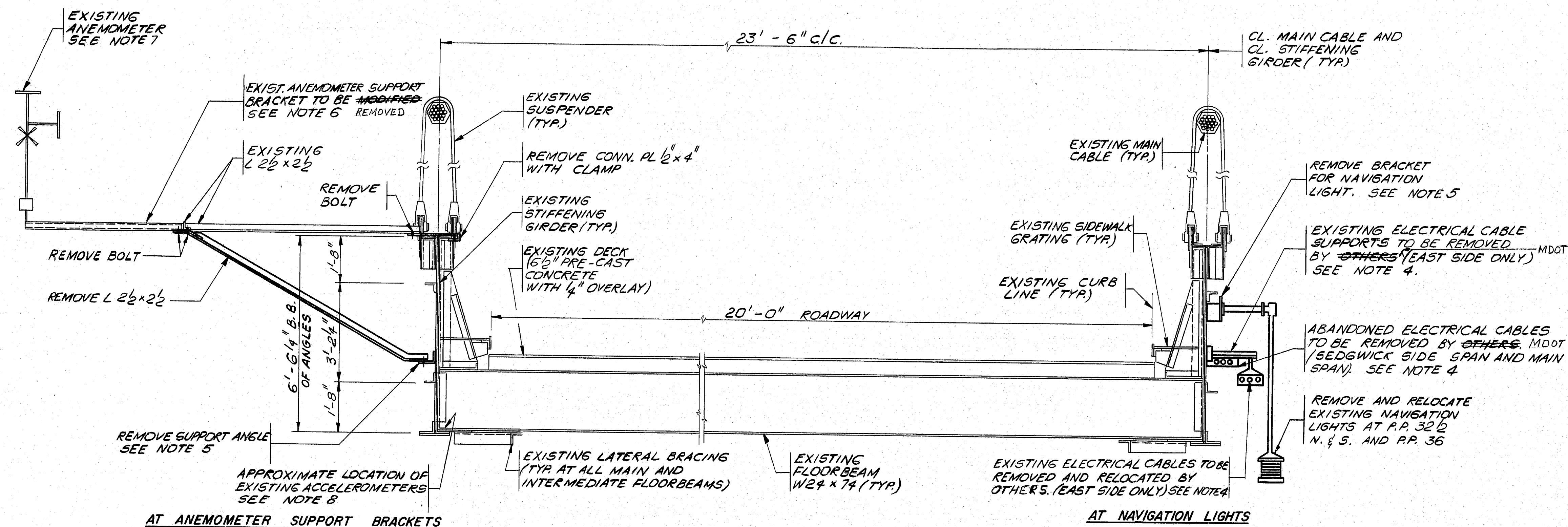
OVER
EGGEMOGGIN REACH
FROM LITTLE DEER ISLE TO SEDGWICK

INSTALLATION OF FAIRINGS

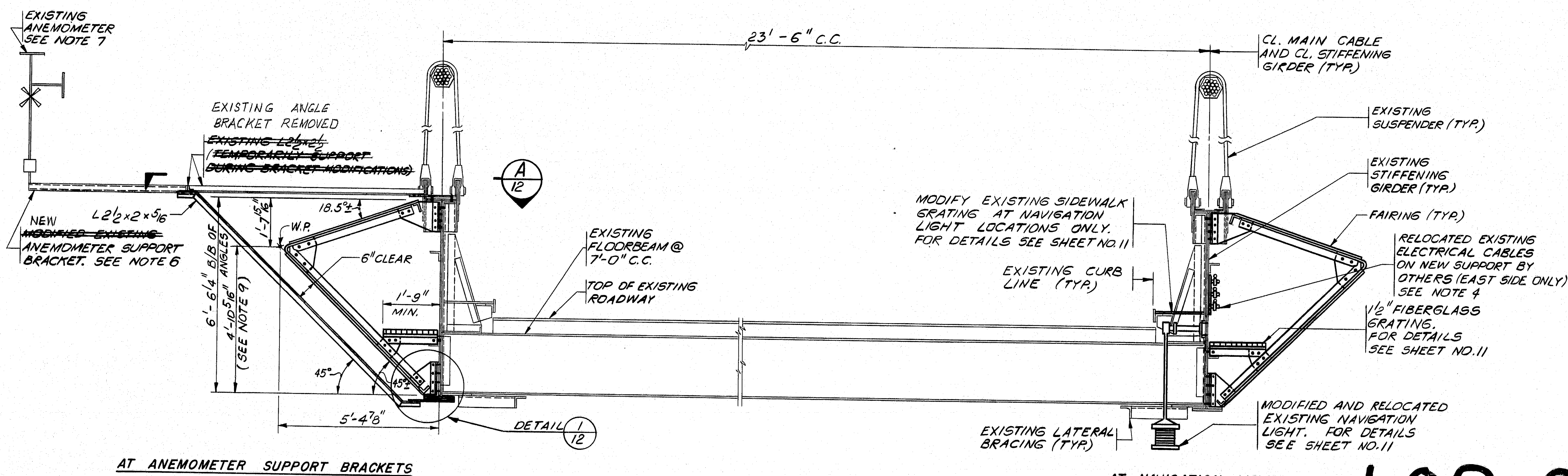
TYPICAL HALF PLAN

STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

SCALE:
DATE: JUNE 1992
SHEET: 5 OF 28



REMOVAL CROSS SECTION



NEW CROSS SECTION

SECTION A TYPICAL
5 (LOOKING NORTH)

NOTES:

- FOR GENERAL NOTES SEE SHEET NO. 3.
- EXISTING AND NEW CROSS SECTIONS SHOWN ARE TYPICAL FOR DEER ISLE AND SEDGWICK MAIN AND SIDE SPANS UNLESS OTHERWISE NOTED.
- FOR TYPICAL DETAILS OF FAIRINGS SEE SHEET NOS. 7 THRU 10.
- THE EXISTING ELECTRICAL CABLES WILL BE RELOCATED ONTO NEW SUPPORTS AND THE EXISTING ELECTRICAL CABLE SUPPORTS AND ABANDONED ELECTRICAL CABLES AND SUPPORTS WILL BE REMOVED BY OTHERS BEFORE THE CONTRACTOR IS TO INSTALL THE FAIRINGS.
- UNLESS OTHERWISE INDICATED, OR UNLESS OTHERWISE DIRECTED BY THE ENGINEER, ALL OPEN RIVET OR BOLT HOLES REMAINING AFTER REMOVAL OF EXISTING STEEL AND ALL EXISTING OPEN RIVET OR BOLT HOLES IN THE STIFFENING GIRDERS, WHICH ARE NOT USED FOR A NEW CONNECTION, SHALL BE FILLED AS FOLLOWS:
 - FILL WITH A325 H.S. BOLT. USE COUNTERSUNK H.S. BOLT IF THERE IS INTERFERENCE WITH OTHER MATERIAL.
 - FILL WITH SPLASH ZONE COMPOUND WHERE BOTH SIDES OF THE HOLE WILL BE COMPLETELY COVERED WITH NEW MATERIAL. SPLASH ZONE COMPOUND SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- WHERE INTERFERENCE, IN THE OPINION OF THE ENGINEER, PREVENTS USE OF BOLTS, HOLE SHALL REMAIN OPEN. SPLASH ZONE COMPOUND SHALL BE APPLIED WHERE POCKETS REMAIN THAT COULD TRAP MOISTURE.
- THIS WORK SHALL BE INCIDENTAL TO PAY ITEMS 504.713, 504.714 AND 504.715, AS APPLICABLE.
- FOR APPROXIMATE LOCATIONS OF ANEMOMETER SUPPORT BRACKETS TO BE MODIFIED SEE SHEET NO. 4. EXISTING SUPPORT BRACKETS SHALL BE MODIFIED AS SHOWN WHETHER OR NOT THERE IS AN ANEMOMETER ATTACHED TO THE BRACKET. FOR ADDITIONAL DETAILS SEE SHEET NO. 12.
- THE EXISTING ANEMOMETERS SHALL BE MAINTAINED IN WORKING ORDER AT ALL TIMES.
- FOR APPROXIMATE LOCATIONS OF EXISTING ACCELEROMETERS ALONG THE BRIDGE SEE SHEET NO. 4. THE EXISTING ACCELEROMETERS SHALL BE MAINTAINED IN WORKING ORDER AT ALL TIMES.
- ALL VERTICAL DIMENSIONS ARE PERPENDICULAR TO STIFFENING GIRDER FLANGE TANGENTS.
- THE CONTRACTOR SHALL REMOVE AND REINSTALL THE TRANSVERSE STAY BRIDGE BOWLS AND STIRRUP RODS DURING THE RELOCATION OF BANGOR HYDRO-ELECTRIC COMPANY'S EXISTING TRANSMISSION CABLE. THIS WORK SHALL BE DONE IN ACCORDANCE WITH SPECIAL PROVISIONS, SECTION 105 AND 107, UTILITIES, AND SHALL BE CONSIDERED INCIDENTAL TO CONTRACT ITEMS.

"REVISED AS BUILT" - 11, 11/11 - 1-3-95

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

DEER ISLE-SEDGWICK BRIDGE
OVER
EGGEMOGGIN REACH
FROM LITTLE DEER ISLE TO SEDGWICK

INSTALLATION OF FAIRINGS

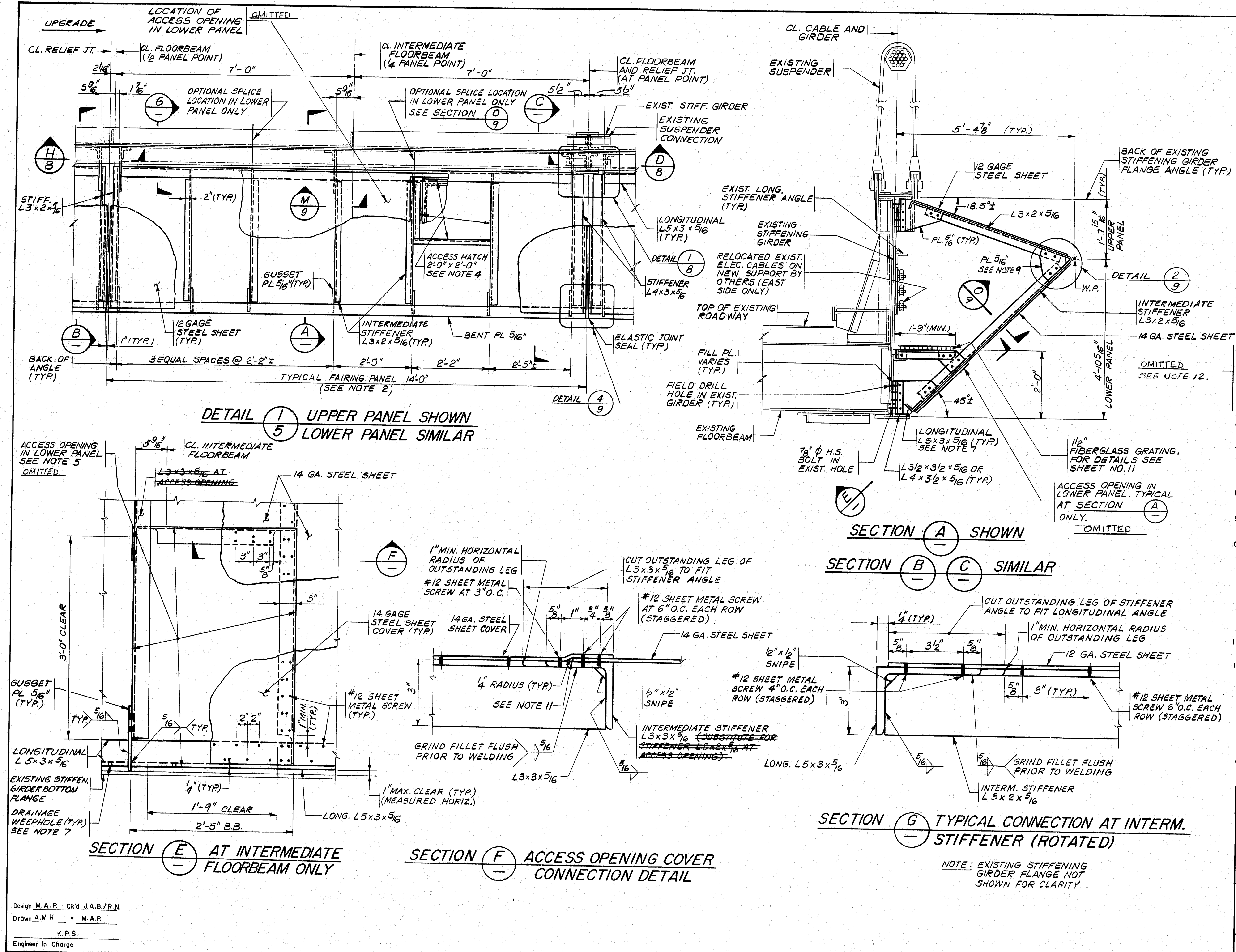
TYPICAL CROSS SECTIONS

STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

SCALE:
DATE: JUNE 1992
SHEET: 6 OF 28

Design M.A.P. ck'd J.A.B./P.N.
Drawn B.S. ck'd J.A.B.
K.P.S.
Engineer in Charge

109-9

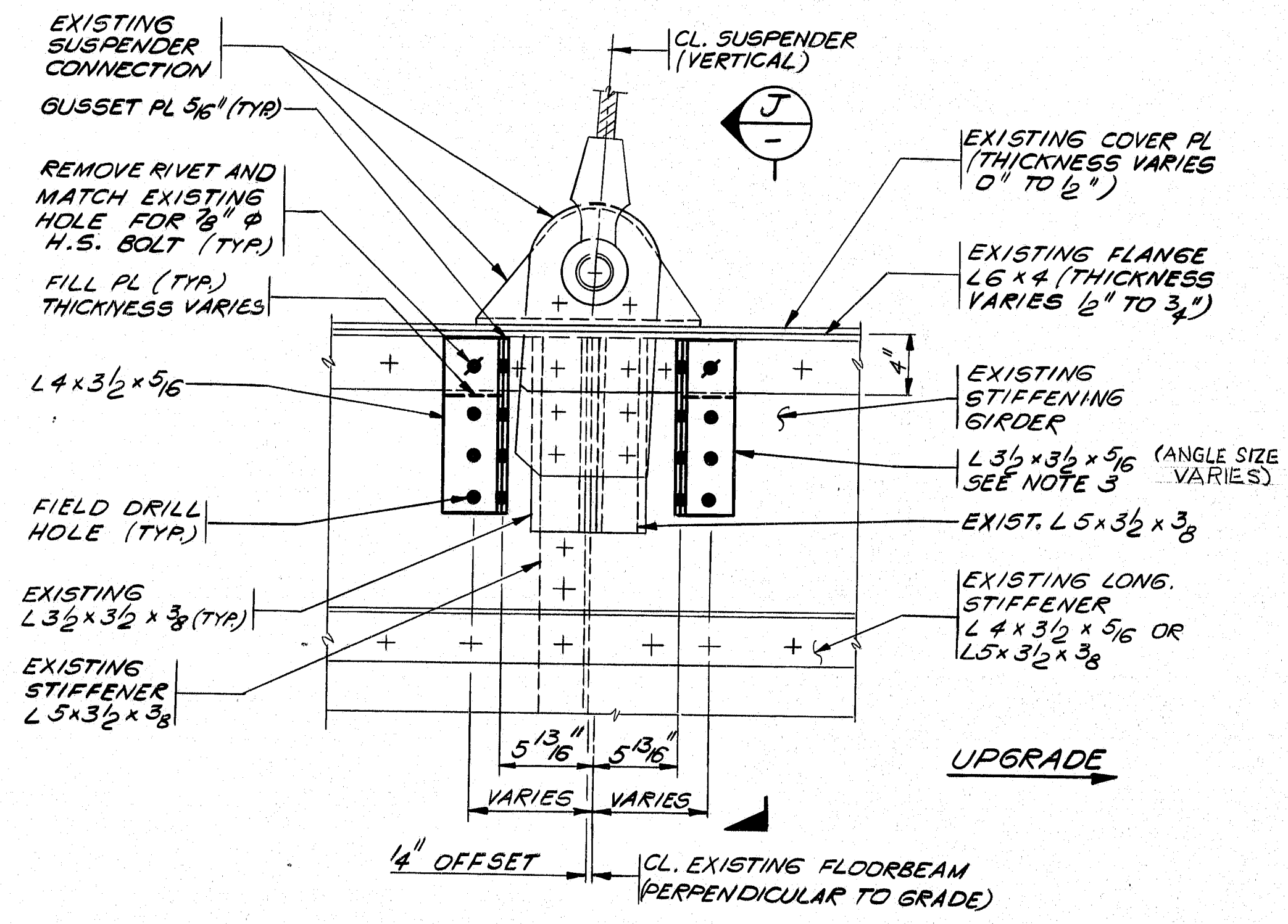


- NOTES:**
- FOR GENERAL NOTES SEE SHEET NO. 3.
 - FAIRING PANELS SHALL BE SHOP ASSEMBLED AND SHIPPED TO THE SITE AS PRE-FABRICATED UNITS (14'-0" x LONG). FIELD WELDING OR ASSEMBLY OF FAIRING PANELS WILL NOT BE PERMITTED.
 - THE CONTRACTOR SHALL FURNISH ANY TEMPORARY STRUTS (NOT SHOWN) NEEDED TO STABILIZE THE FAIRING PANELS DURING SHOP FABRICATION, SHIPMENT TO THE SITE OR ERECTION. ALL TEMPORARY STRUTS SHALL BE REMOVED AFTER THE FAIRING PANELS ARE ERECTED. THE FURNISHING, INSTALLATION AND REMOVAL OF TEMPORARY STRUTS SHALL BE INCIDENTAL TO PAY ITEM 504.713.
 - ACCESS HATCH SHALL BE PROVIDED IN THE UPPER PANEL AT THE LOCATION SHOWN IN FAIRING PANELS WITH AN ACCESS HATCH ONLY. FOR LOCATIONS OF ACCESS HATCHES SEE SHEET NO. 5; FOR ADDITIONAL DETAILS SEE SHEET NO. 10.
 - THE ACCESS OPENING SHOWN IN THE LOWER PANEL IS A SUGGESTED DETAIL AND IS PROVIDED AS A MEANS TO CONNECT THE INTERMEDIATE SUPPORT. THE CONTRACTOR MAY SUBMIT AN ALTERNATE METHOD FOR CONNECTING THE INTERMEDIATE SUPPORT TO THE ENGINEER FOR APPROVAL, PROVIDING THE METHOD CAN BE RE-USED FOR SUBSEQUENT REMOVAL AND REINSTALLATION OF THE FAIRING PANELS.
 - DELETED
 - PROVIDE DRAINAGE WEEDHOLES THROUGH THE 3" LEG OF THE BOTTOM LONGITUDINAL L5 x 3 x 5/16. NEAR THE TOE OF THE FILLET, THE WEEDHOLES SHALL BE 1/2" DIAMETER AT 1'-0" SPACING.
 - ALL WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEMS 504.703 AND 504.713.
 - PROVIDE 1" DIA. HOLES IN OUTSIDE GUSSET PLATE FOR 7/8" DIA. H.S. BOLTS.
 - ALL FAIRING PANELS SHALL BE FABRICATED TO THE OVERALL DIMENSIONS SHOWN IN DETAIL 5 ON SHEET NO. 9 (SUBJECT TO FIELD VERIFICATION OF DIMENSIONS BY THE CONTRACTOR). FAIRING PANELS SHALL BE INSTALLED WITH THE CORNER OF LONGITUDINAL ANGLES LEVEL WITH THE INSIDE OF GIRDER FLANGE ANGLE, AS SHOWN IN SECTION 1 ON SHEET NO. 8. INDIVIDUAL PANEL HEIGHTS SHALL BE ADJUSTED IN THE FIELD AS REQUIRED TO ACCOMMODATE VARYING THICKNESS OF GIRDER FLANGE ANGLES BY LOOSENING AND RETIGHTENING BOLTS IN THE OUTSIDE GUSSET PLATE CONNECTION (SEE NOTE 9 ABOVE).
 - FILL VOID AT ENDS OF ACCESS OPENING SHEET COVER WITH SPLASH ZONE COMPOUND.
 - ACCESS THROUGH ADJACENT FAIRING PANELS USED AS THE MEANS TO CONNECT THE INTERMEDIATE SUPPORTS.

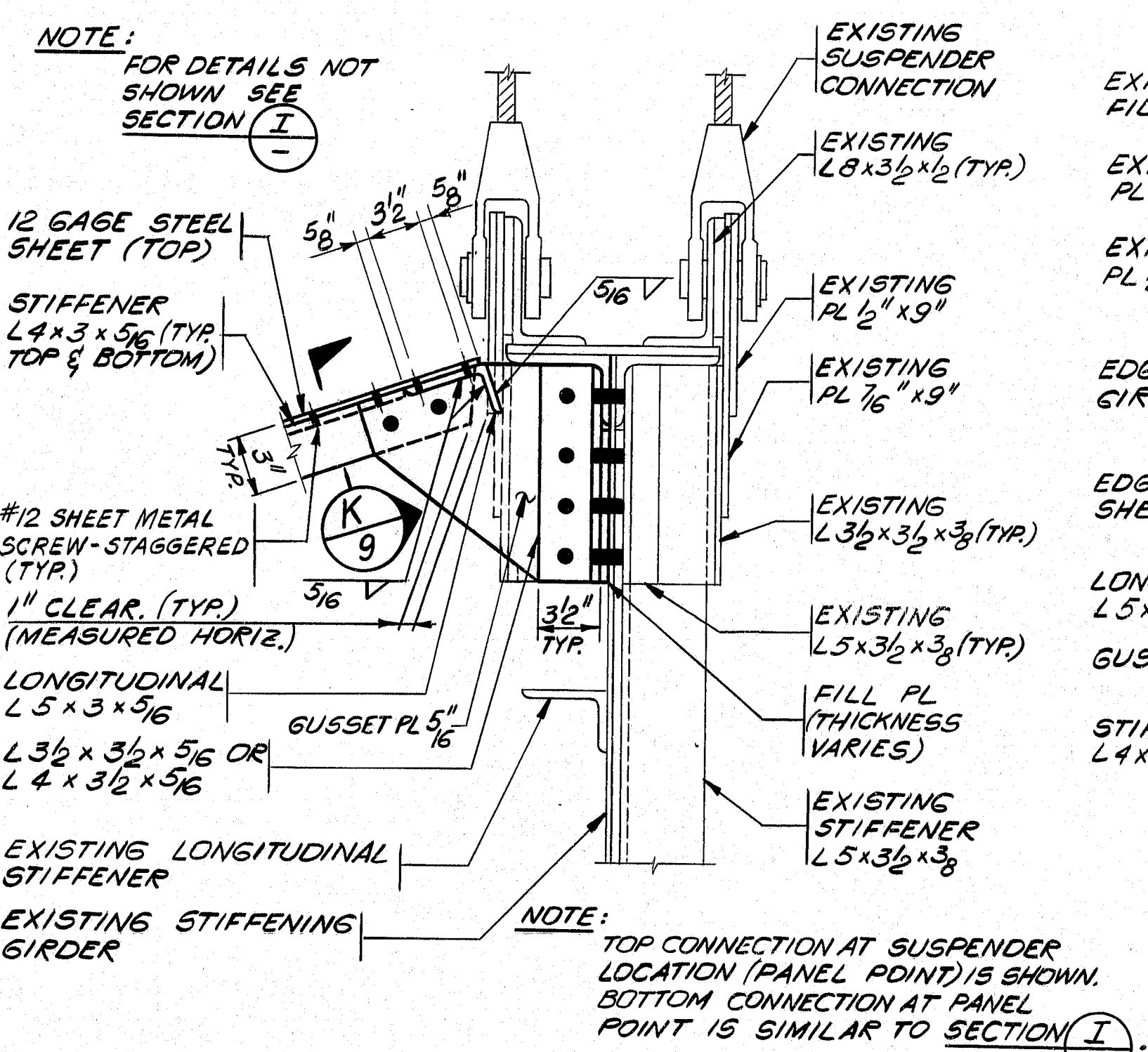
109-10

"REVISED AS BUILT" - M. P. H. 1-6-95.

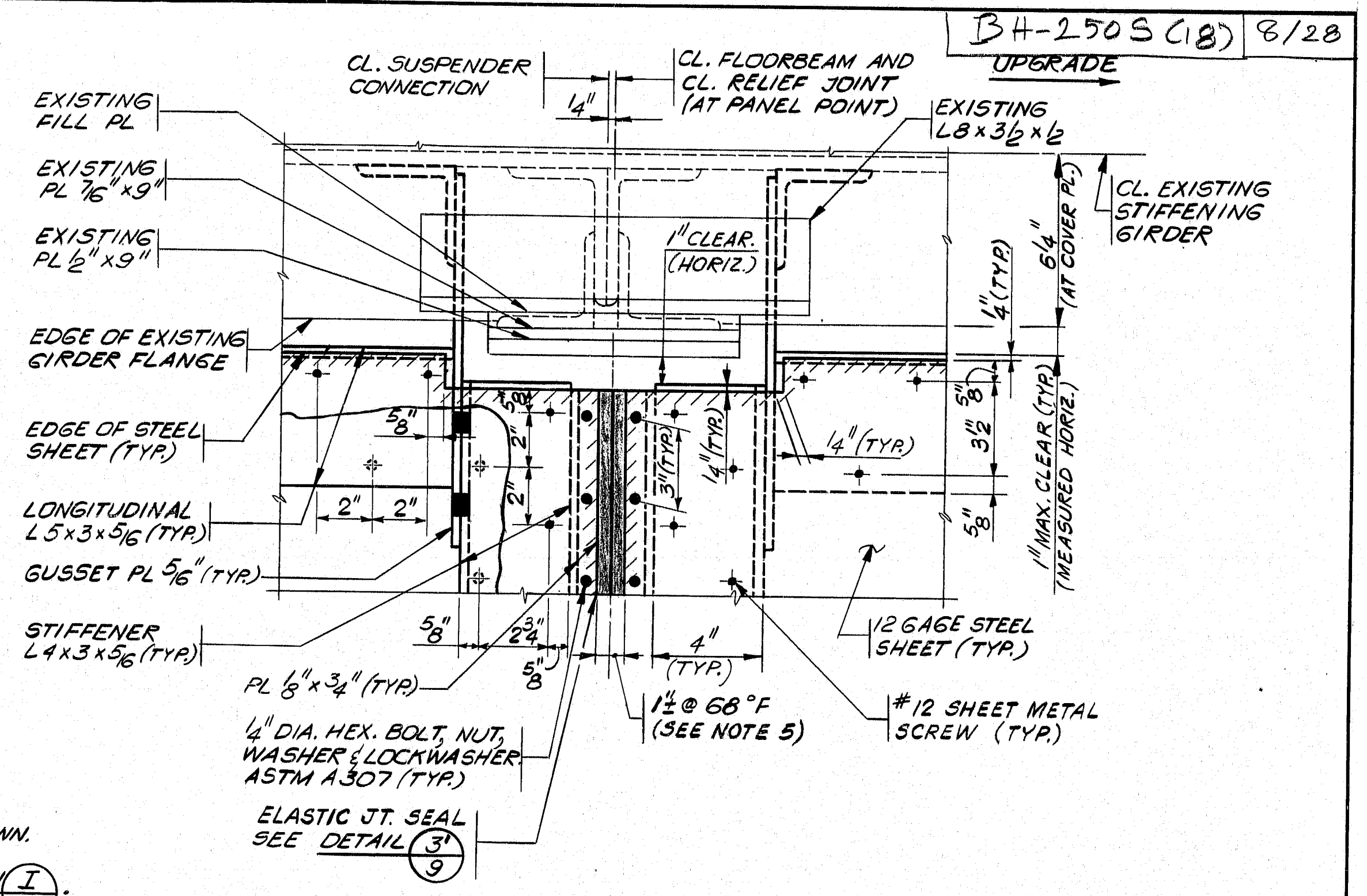
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| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS |
| DEER ISLE-SEDGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEDGWICK |
| INSTALLATION OF FAIRINGS |
| TYPICAL FAIRING DETAILS - I |
| STEINMAN, BOYNTON, GRONQVIST & BIRDSALL CONSULTING ENGINEERS NEW YORK, N.Y. |
| SCALE: 1" = 1'-0" DATE: JUNE 1992 SHEET: 7 OF 28 |



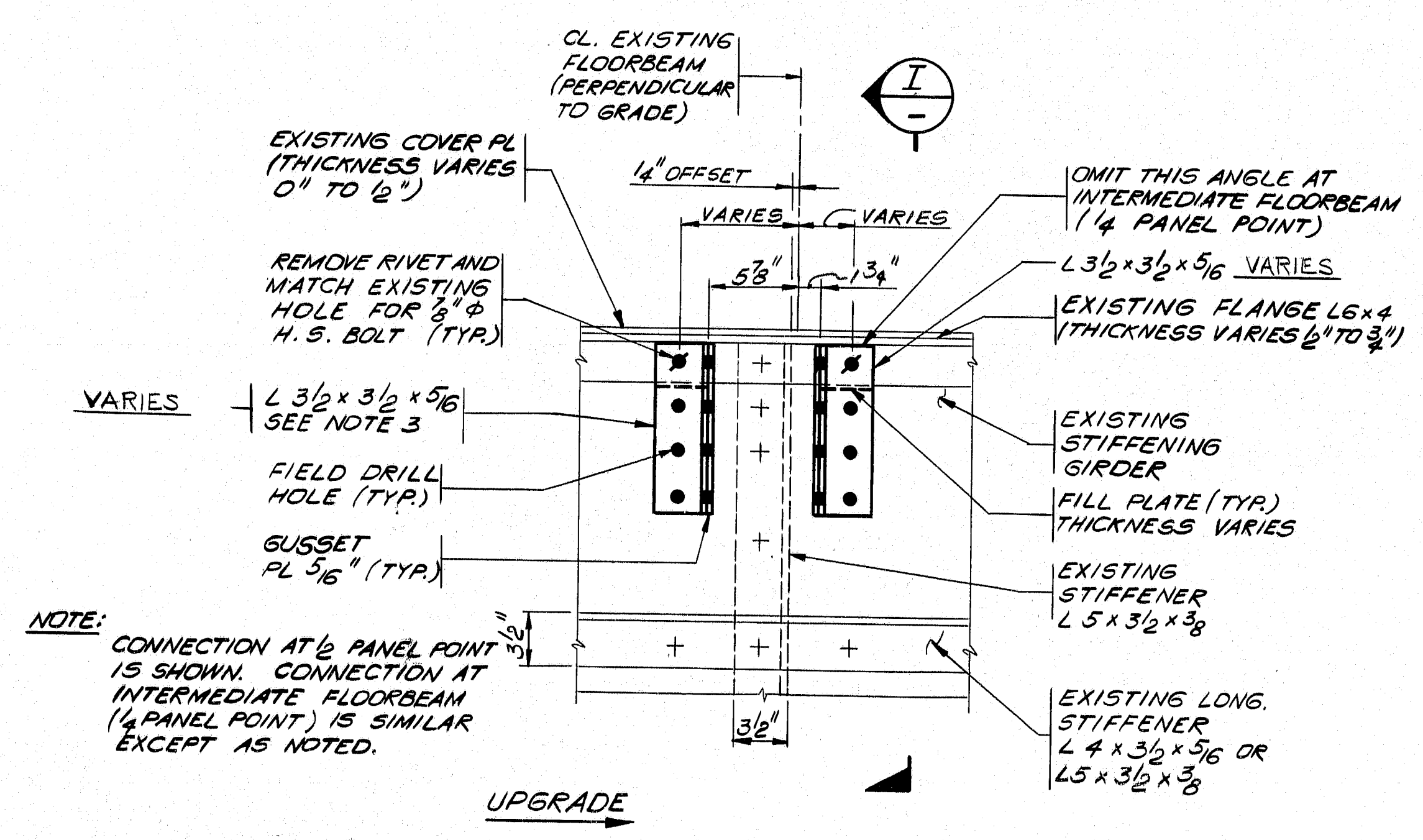
SECTION D TYPICAL CONN.
TOP & BOTTOM



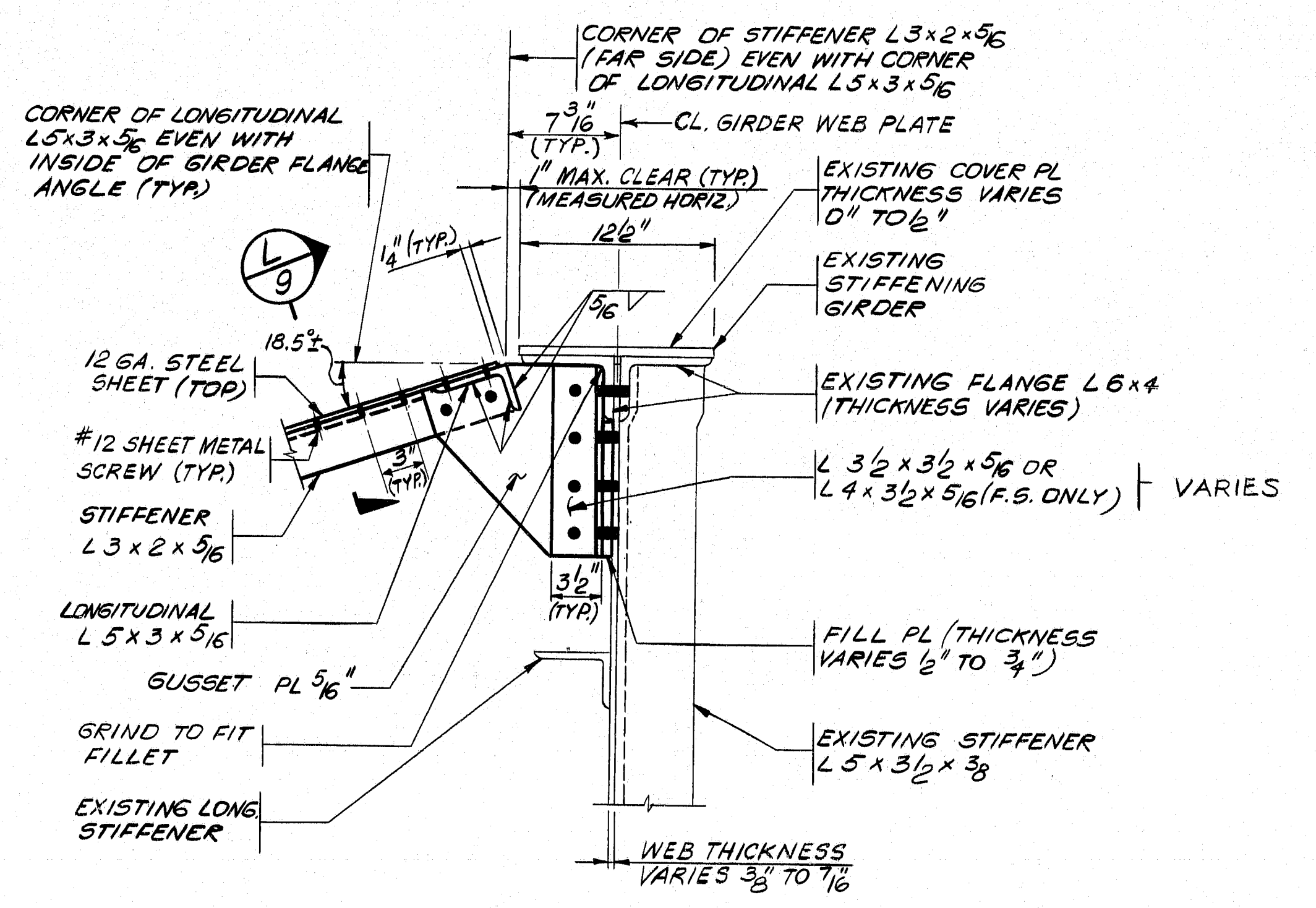
SECTION J SUSPENDER LOCATION
TOP CONNECTION



DETAIL I PLAN AT SUSPENDER
CONNECTION



SECTION H TYPICAL CONN.
TOP & BOTTOM



SECTION I 1/2 PANEL
POINT SHOWN

- NOTES:
- FOR GENERAL NOTES SEE SHEET NO. 3.
 - DELETED
 - SUBSTITUTE L4 X 3-1/2 X 5/16 FOR L3 1/2 X 3-1/2 X 5/16 WHERE REQUIRED TO MAINTAIN A MINIMUM EDGE DISTANCE OF 1-1/8" IN ANGLE LEGS FOR BOLTS THRU EXISTING GIRDER WEB.
 - ALL WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEMS 504.703 AND 504.713.
 - THIS GAP VARIES DEPENDING ON LIVE LOAD ON THE BRIDGE AND AMBIENT AIR TEMPERATURE. THE CONTRACTOR SHALL PROVIDE A 1" GAP (+1/8", -1/4") THROUGHOUT THE ENTIRE FAIRING DEPTH AT 68°F WITH NO LIVE LOAD ON THE BRIDGE.
 - ANGLE LEG WIDTH VARIES TO FIT EXISTING RIVET HOLES.

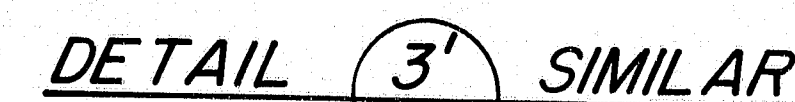
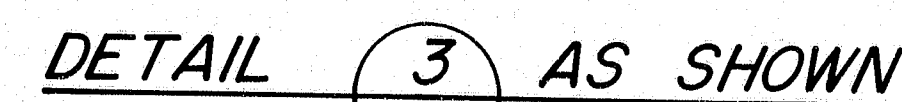
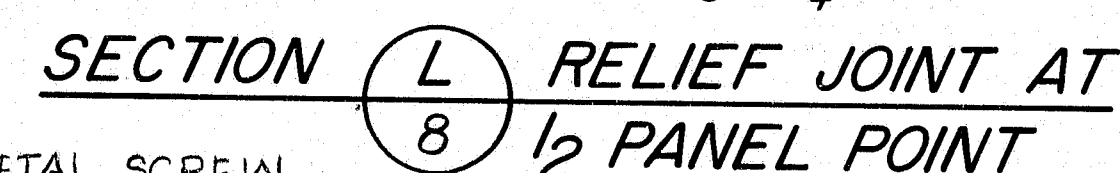
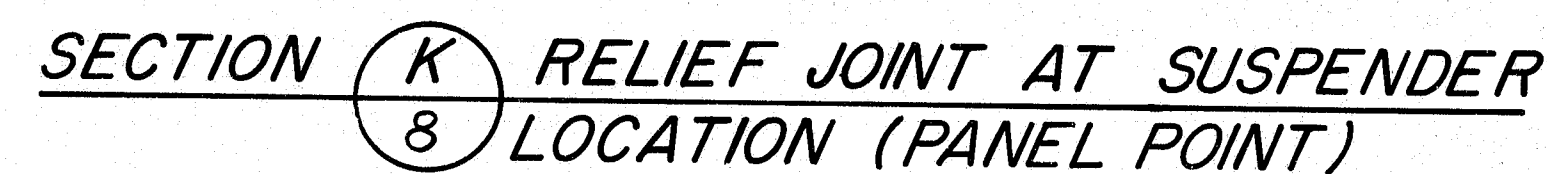
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"REVISED AS BUILT" - M. Pottle 1-6-95.

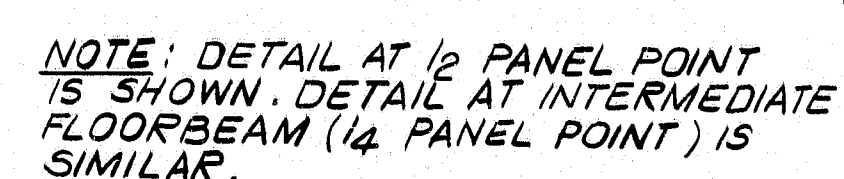
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| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS |
| DEER ISLE-SEDGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEDGWICK |
| INSTALLATION OF FAIRINGS |
| TYPICAL FAIRING DETAILS - II |
| STEINMAN, BOYNTON, GRONQUIST & BIRDSONG CONSULTING ENGINEERS NEW YORK, N.Y. |
| SCALE: DATE: JUNE 1992 SHEET: 8 OF 28 |

Design M.A.P. & J.B./R.N.
Drawn B.S. & J.B.
K.P.S.
Engineer in Charge

NOTE:
CONNECTION AT 1/2 PANEL POINT IS SHOWN.
CONNECTION OF LONGITUDINAL ANGLE TO
GIRDER AT INTERMEDIATE FLOORBEAM (1/4 PANEL
POINT) IS SIMILAR. FOR CONNECTION OF
STIFFENER ANGLE AT INTERMEDIATE FLOORBEAM
SEE SECTION (A)



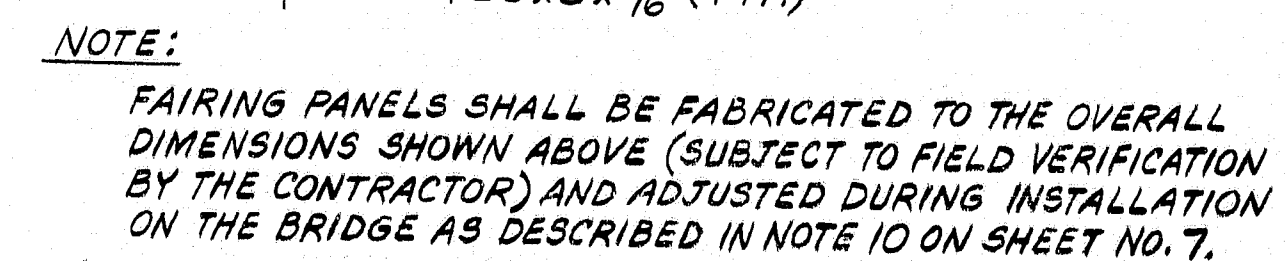
DETAIL (2) TYPICAL CONNECTION
(SEE NOTE 10)



DETAIL 4 PLAN AT RELIEF JOINT
7 (TYPICAL)



SECTION (N) DETAIL AT RELIEF JOINT
— (TYPICAL)



DETAIL (5) TYP. FAIRING PANEL GEOMETRY
(FOR FABRICATION)

1. FOR GENERAL NOTES SEE SHEET NO. 3.
2. SPLICE DETAIL SHOWN IS FOR OPTIONAL USE IN THE LOWER PANEL ONLY, AND MAY BE OMITTED IF 14 GAGE STEEL SHEET CAN BE FURNISHED IN ONE PIECE FOR THE 12'-0" PANEL. (SEE NOTE 10, BELOW.) SPLICES IN THE LOWER PANEL SHEET SHALL BE USED ONLY AT THE INTERMEDIATE STIFFENER LOCATIONS SHOWN IN DETAIL 1 ON SHEET NO. 5.
3. 12 GAGE STEEL SHEET FOR THE UPPER PANELS SHALL BE FURNISHED IN ONE PIECE; NO SPLICES WILL BE PERMITTED.
4. SUBSTITUTE L4 X 3/2 X 1/2 X 5/16 FOR L 3 1/2 X 3 1/2 X 5/16 WHERE REQUIRED TO MAINTAIN A MINIMUM EDGE DISTANCE OF 1-1/8" IN ANGLE LEG FOR BOLTS THRU EXISTING GIRDER WEB.
5. RELIEF JOINT DETAILS FOR UPPER FAIRING PANEL ARE SHOWN.
6. RELIEF JOINT DETAILS FOR LOWER FAIRING PANEL ARE SIMILAR.
7. ELASTIC JOINT SEAL SHALL BE PERFORMED ELASTOMER CONFORMING TO THE REQUIREMENTS FOR GLAND TYPE SEALS IN SECTION 714 OF THE STANDARD SPECIFICATIONS.
8. JOINT SEALS SHALL BE FURNISHED AND INSTALLED IN ONE PIECE FOR THE FULL LENGTH OF EACH RELIEF JOINT. SPLICES WILL NOT BE PERMITTED.
9. ELASTIC JOINT SEAL SHALL BE BONDED TO THE STEEL SHEET AND BENT PLATE USING LUBRICANT-ADHESIVE CONFORMING TO THE REQUIREMENTS OF SUBSECTION 714.03 OF THE STANDARD SPECIFICATIONS.
10. ALL WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER ITEMS 504.703 AND 504.713.
11. THIS GAP VARIES DEPENDING ON LIVE LOAD ON THE BRIDGE AND AMBIENT AIR TEMPERATURE. THE CONTRACTOR SHALL PROVIDE A 1" GAP (+8", - 14") THROUGHOUT THE ENTIRE FAIRING DEPTH AT 68°F WITH NO LIVE LOAD ON THE BRIDGE.
12. THE REQUIRED WIDTH OF 14 GAGE STEEL SHEET FOR THE LOWER PANEL, AS DETAILED, IS APPROXIMATELY 78 3/8". IF THE CONTRACTOR CAN FURNISH 14 GAGE STEEL SHEET IN A LENGTH CLOSE TO 78 3/8" (MINIMUM WIDTH 75") HE MAY, AT HIS OPTION, SUBMIT TO THE ENGINEER, REVISED DETAIL 2 AND THE WIDTH OF THE 5/16" BENT PLATE SHOWN IN DETAIL 2 AND THE DETAIL FOR ATTACHING STEEL SHEET TO THE BOTTOM LONGITUDINAL L5X3X5/16 TO ACCOMMODATE THE SMALLER SHEET WIDTH.
13. IF THE LOWER SHEET WIDTH IS REDUCED, THE STEEL SHEET MUST OVERLAP THE BENT PLATE AND LONGITUDINAL ANGLE BY A MINIMUM OF 2 1/2" AND THE SPLICE DETAIL SHOWN IN DETAIL 2 SHALL BE OMITTED.
14. THE CONTRACTOR SHALL SUBMIT DETAILED SHOWING SUCH PROPOSED CHANGES TO THE ENGINEER FOR APPROVAL.

109-12

"REVISED AS BUILT" - M. Potts 1-6-95

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

DEER ISLE-SEDGWICK BRIDGE

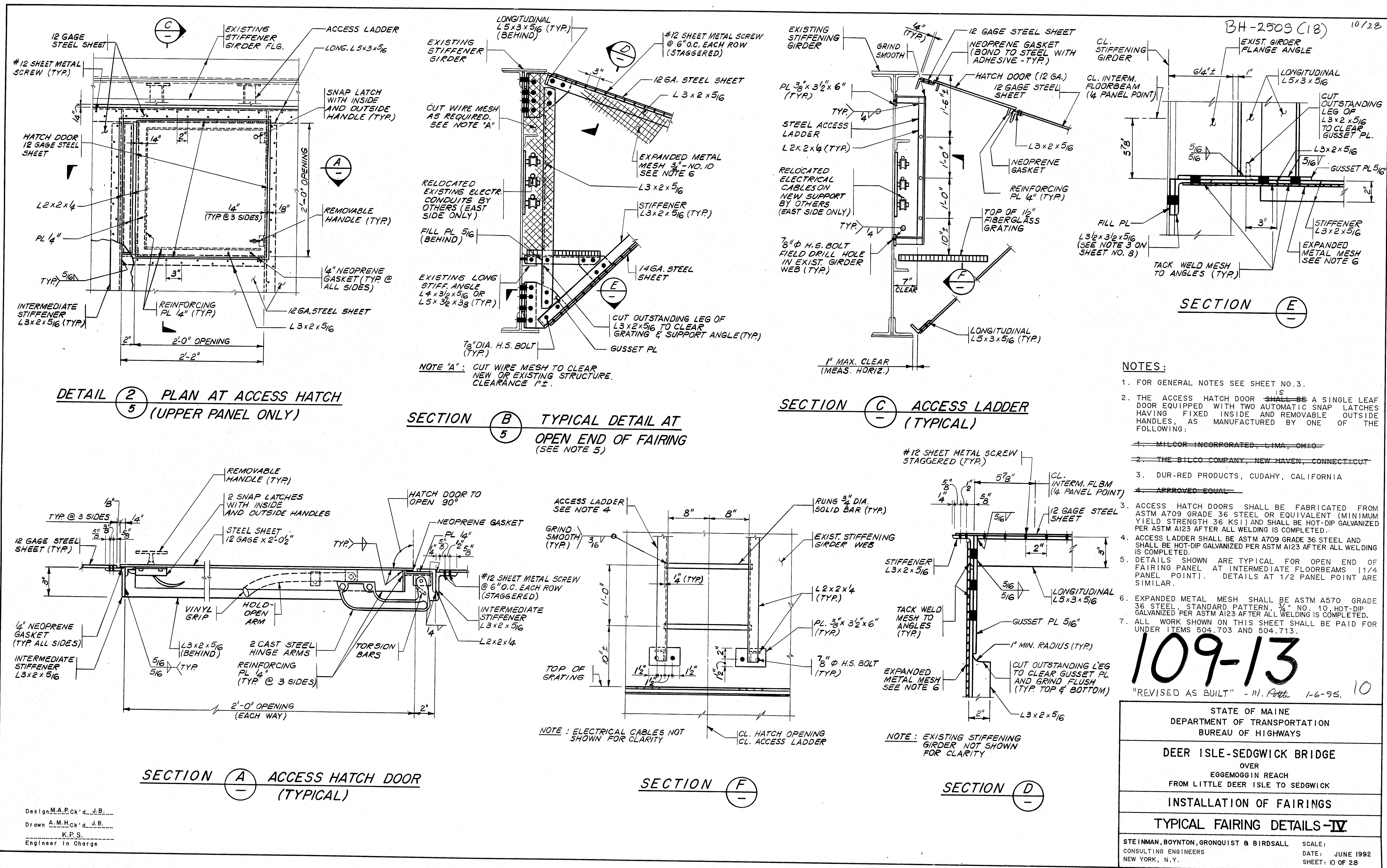
EGGEMOGGIN REACH

INSTALLATION OF FAIRINGS

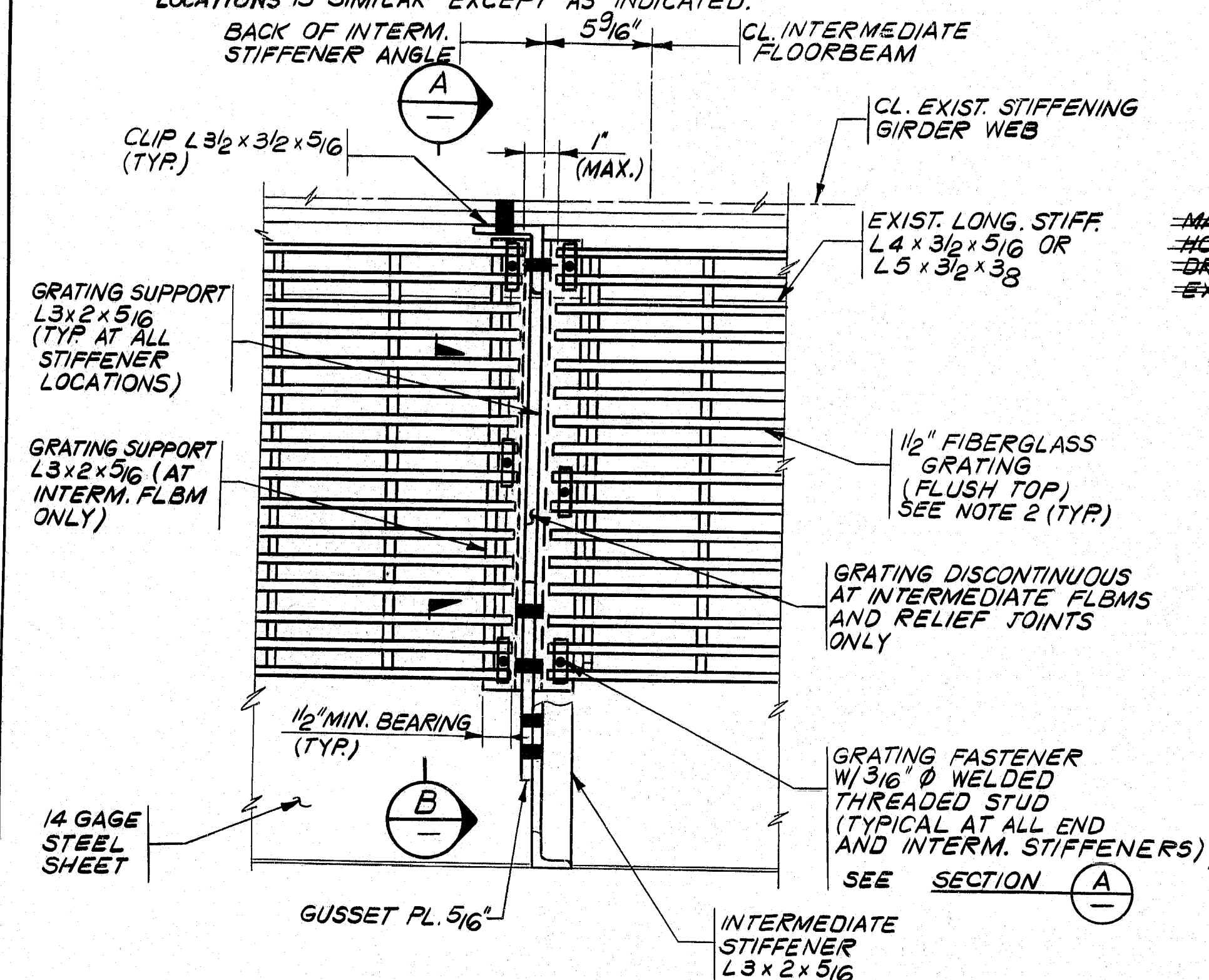
TYPICAL FAIRING DETAILS - III

STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

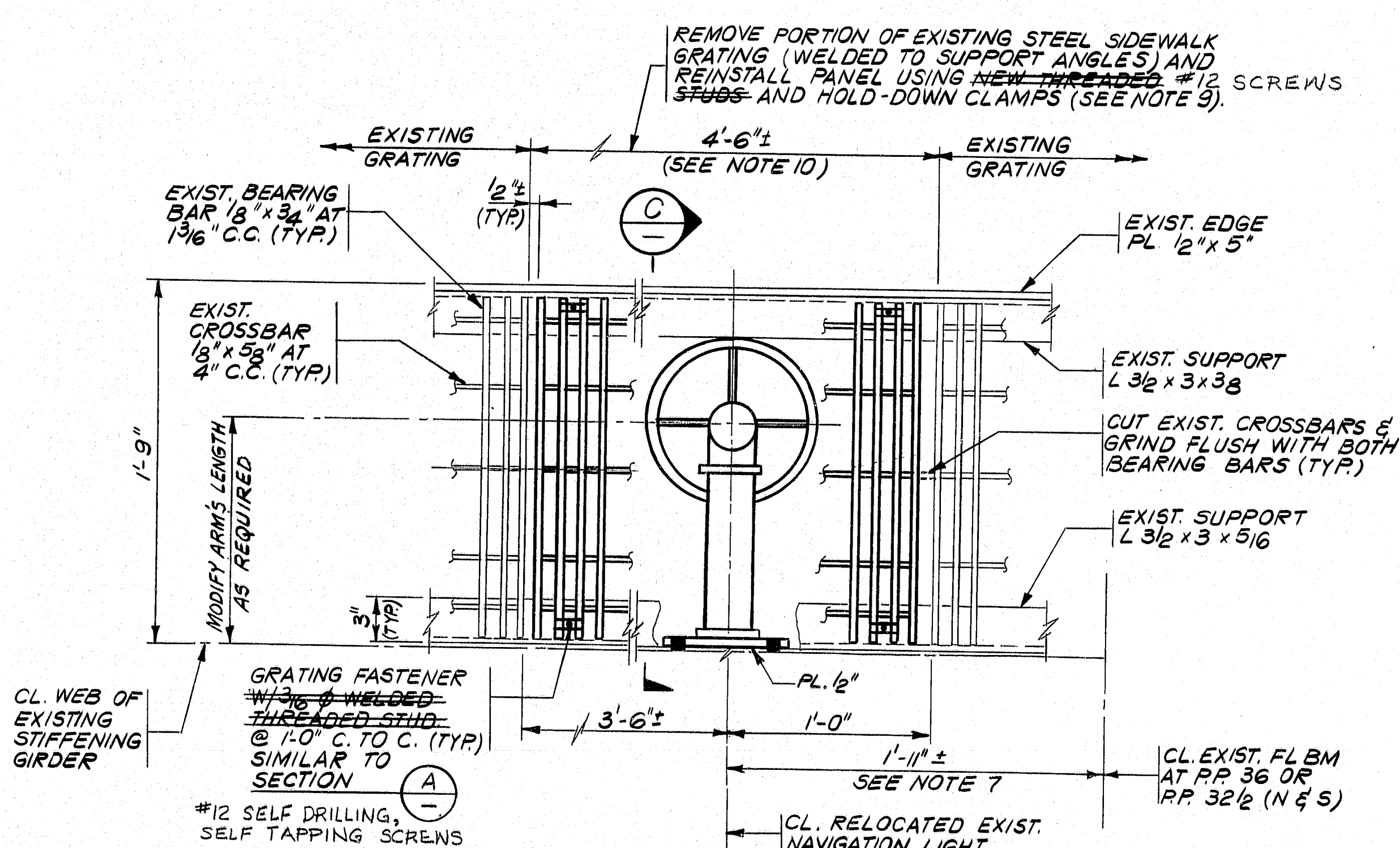
SCALE: _____
DATE: JUNE 1992
SHEET: 9 OF 28



NOTE: GRATING PLAN AT INTERMEDIATE FLOORBEAM IS SHOWN. GRATING PLAN AT ALL OTHER STIFFENER LOCATIONS IS SIMILAR EXCEPT AS INDICATED.

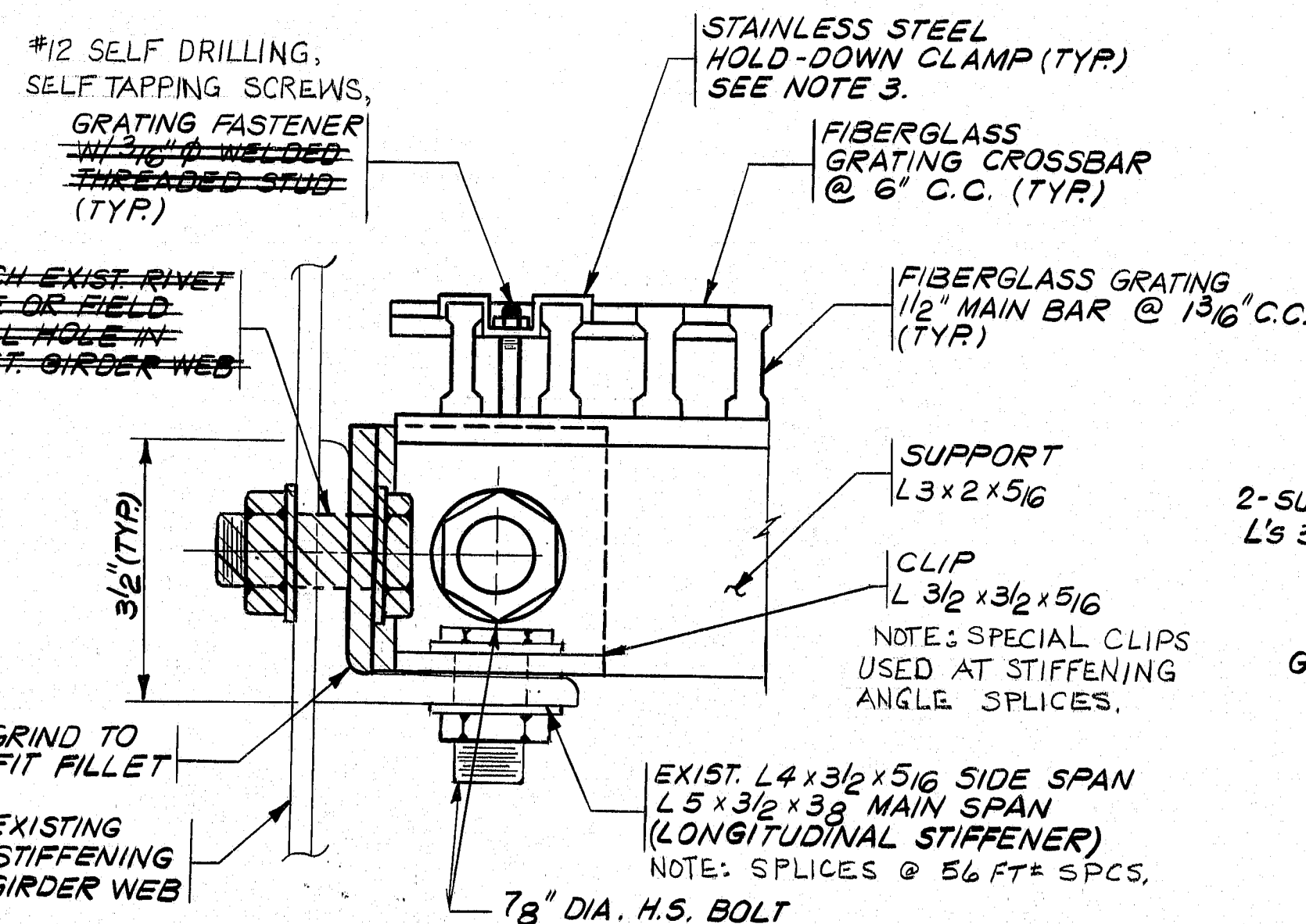


TYPICAL PLAN OF FIBERGLASS GRATING @ INTERM. FLOORBEAMS



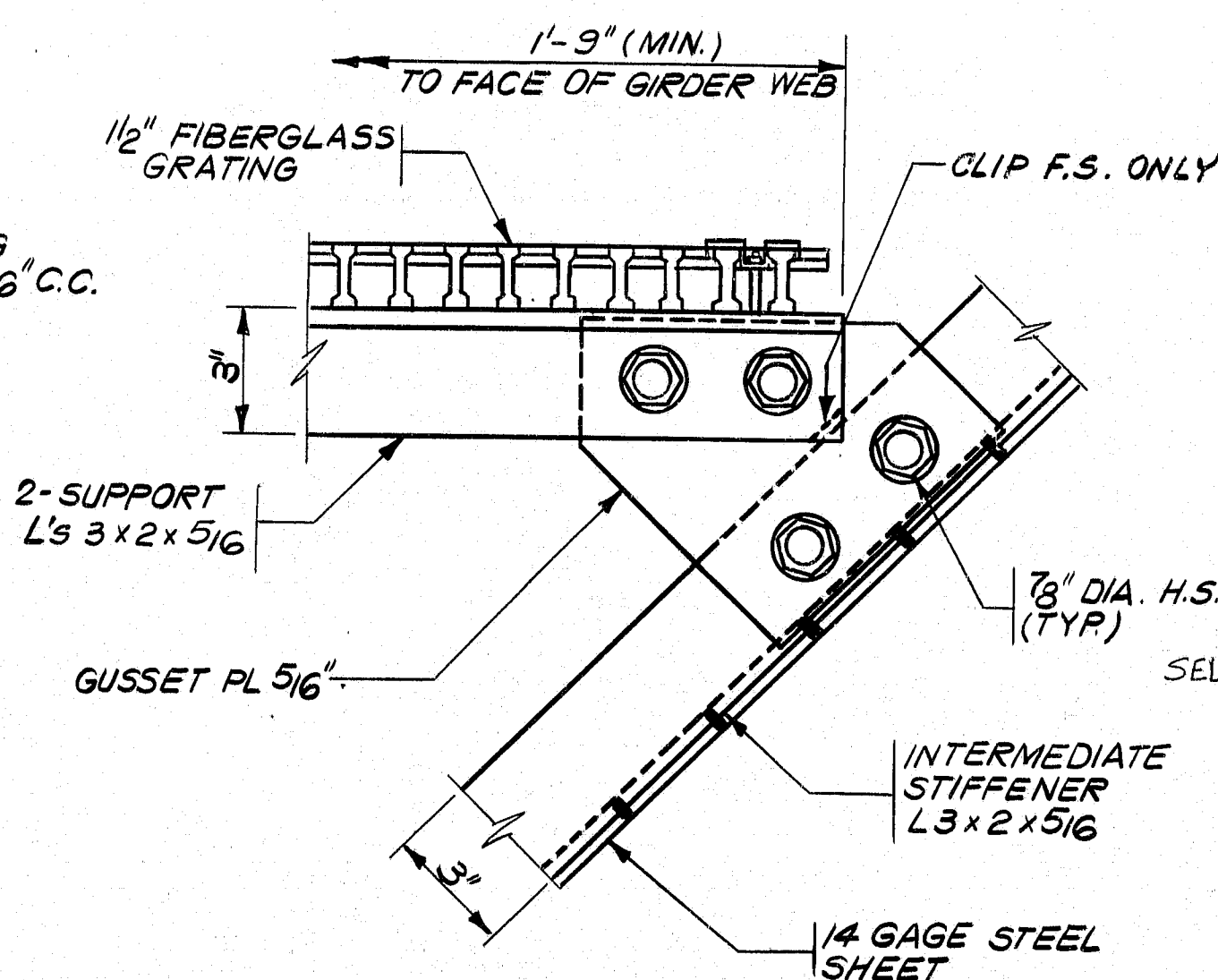
TYPICAL PLAN OF MODIFIED GRATING OVER RELOCATED NAVIGATIONAL LIGHT

Design M.A.P. Ckd J.A.B.
Drawn A.M.H. * M.A.P.
K.P.S.
Engineer In Charge

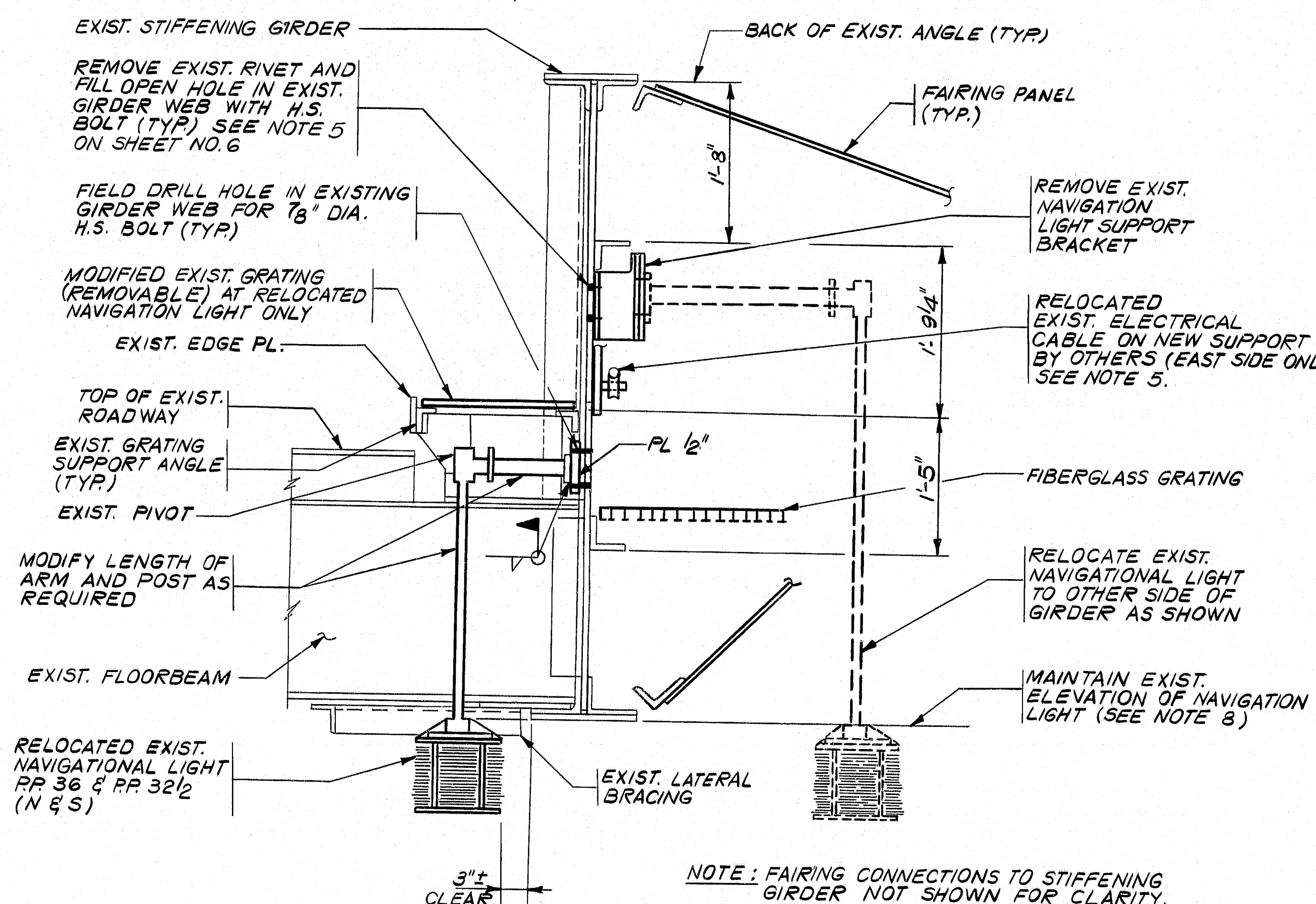


SECTION A TYPICAL CONNECTION AT GIRDER

NOTE: GRATING SUPPORT MEMBERS, CONNECTION ANGLES, H.S. BOLTS AND THREADED STUDS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 AND A153.



SECTION B TYPICAL CONNECTION



SECTION C MODIFICATION TO NAVIGATION LIGHT (TYPICAL)

NOTE: FAIRING CONNECTIONS TO STIFFENING GIRDER NOT SHOWN FOR CLARITY.

BH-2505 (18)

11/28

NOTES:

- FOR GENERAL NOTES SEE SHEET NO. 3.
- FIBERGLASS GRATING SHALL BE 1-1/2" DEPTH FLUSH TOP. TYPE 1010-1010 AS MANUFACTURED BY IKG-BORDEN, CLARK, NEW JERSEY, OR APPROVED EQUAL. MODIFIED TYPE USED.
- GRATING HOLD-DOWN CLAMPS SHALL BE STAINLESS STEEL SADDLE-TYPE CLAMPS, TYPE FG9 AS MANUFACTURED BY IKG-BORDEN, OR APPROVED EQUAL.
- ALL WORK SHOWN ON THIS SHEET FOR THE FIBERGLASS GRATING INCLUDING FURNISHING AND INSTALLING THE GRATING SUPPORT ANGLES, ~~WELD THREADED STUDS~~ AND HOLD DOWN CLAMPS, SHALL BE INCIDENTAL TO PAY ITEMS 504.703 AND 504.713.
- THE EXISTING ELECTRICAL CABLES WILL BE RELOCATED ONTO NEW SUPPORTS AND THE EXISTING ELECTRICAL CABLE SUPPORTS ~~AND ABANDONED~~ ~~WELD THREADED STUDS~~ AND HOLD DOWN CLAMPS, SHALL BE INCIDENTAL TO PAY ITEMS 504.703 AND 504.713.
- THE CONTRACTOR SHALL MODIFY AND RELOCATE THE EXISTING NAVIGATION LIGHTS AS SHOWN ON THIS SHEET PRIOR TO INSTALLING THE FAIRINGS AT NAVIGATION LIGHT LOCATIONS.
- THE LOCATION OF THE NAVIGATION LIGHT ALONG THE STIFFENING GIRDER SHALL BE MOVED UP TO 1'-0" MAXIMUM AWAY FROM THE EXISTING FLOORBEAM AS REQUIRED TO AVOID PHYSICAL INTERFERENCE WITH THE EXISTING LATERAL BRACING. THE EXACT LOCATION SHALL BE AS DETERMINED BY THE CONTRACTOR AND AS APPROVED BY THE ENGINEER.
- THE NAVIGATION LIGHT SHALL BE REINSTALLED AT THE EXISTING ELEVATION, EXCEPT THAT THE ELEVATION OF THE LIGHT SHALL BE LOWERED A MAXIMUM OF 1'-0" AS REQUIRED TO CLEAR THE EXISTING LATERAL BRACING AND PROVIDE UNOBSTRUCTED VIEW OF THE NAVIGATION LIGHT FROM THE RIVER.
- PROCEDURE FOR MODIFICATION OF EXISTING SIDEWALK GRATING AT NAVIGATION LIGHT LOCATIONS:
 - CUT AND REMOVE THE SECTION OF EXISTING GRATING AS INDICATED.
 - CUT EXISTING CROSS BARS AND GRIND FLUSH WITH BEARING BARS AS INDICATED.
 - GRIND ALL WELDS FLUSH ON THE EXISTING GRATING PANEL AND SUPPORT ANGLES.
 - ~~WELD THREADED STUDS TO THE EXISTING GRATING SUPPORT ANGLES.~~
 - PAINT MARRED AND DISTURBED SURFACES OF THE EXISTING GRATING AND STEEL SUPPORTS IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
 - RE-INSTALL EXISTING GRATING PANEL USING NEW HOLD-DOWN CLAMPS AS SHOWN, & SELF DRILLING, SELF TAPPING SCREWS.
- THE LENGTH OF THE EXISTING GRATING PANEL TO BE CUT SHALL BE SUFFICIENT TO ALLOW THE RELOCATED NAVIGATION LIGHT TO SWING UP THROUGH THE GRATING FOR MAINTENANCE, WHEN THE GRATING PANEL IS REMOVED.
- ALL WORK SHOWN ON THIS SHEET FOR MODIFICATION AND RELOCATION OF THE EXISTING NAVIGATION LIGHTS, INCLUDING MODIFICATION OF THE EXISTING GRATING PANELS AND FILLING OPEN HOLES WITH H.S. BOLTS, SHALL BE PAID FOR UNDER ITEM 504.715.

"REVISED AS BUILT" - M. POTT 1-6-95.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

DEER ISLE-SEDGWICK BRIDGE
OVER
EGGEMOGGIN REACH
FROM LITTLE DEER ISLE TO SEDGWICK

INSTALLATION OF FAIRINGS

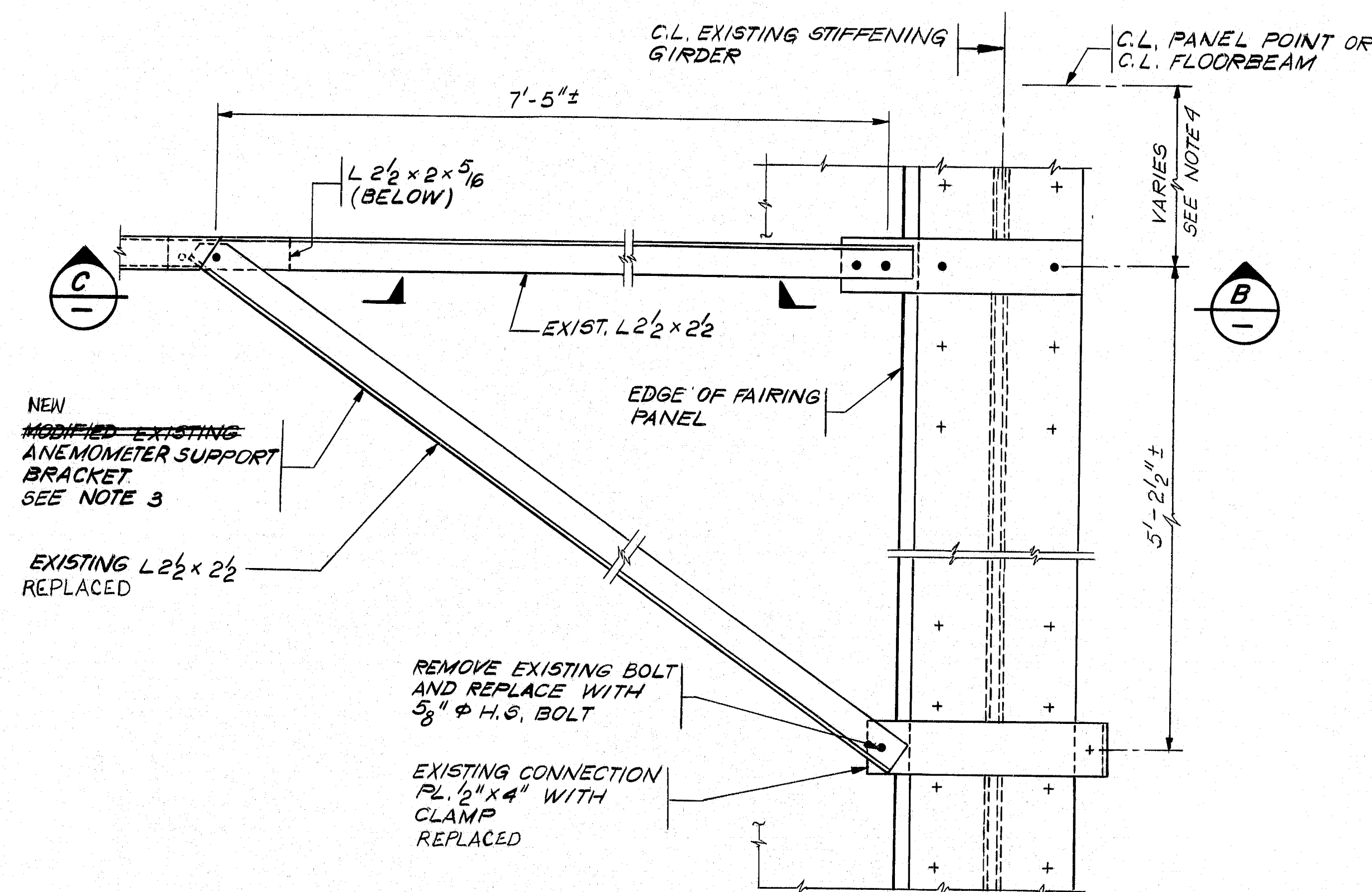
MISCELLANEOUS DETAILS

STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

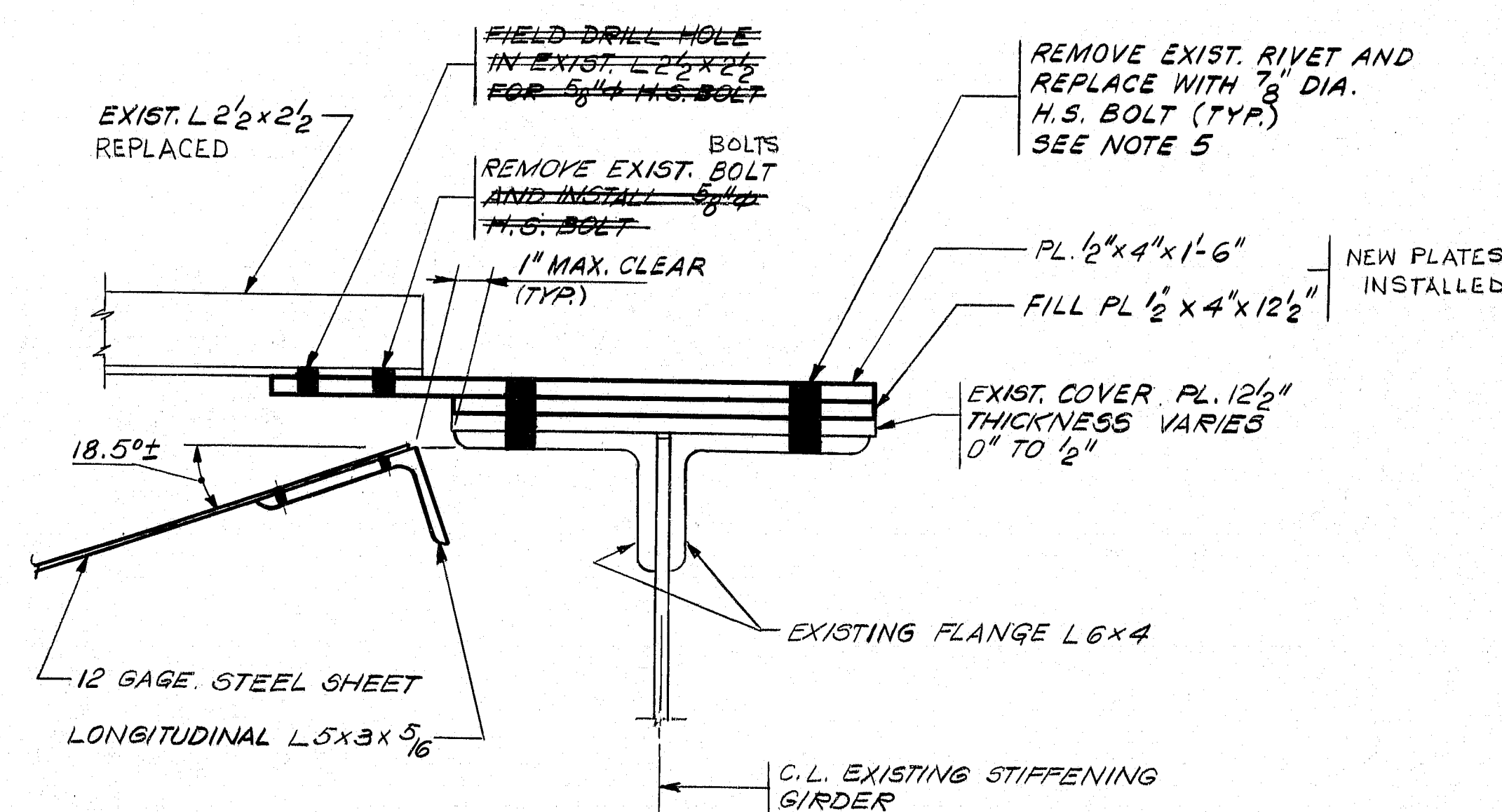
SCALE:
DATE: JUNE 1992
SHEET 11 OF 28

109-14

BH-250S (18) 12/28

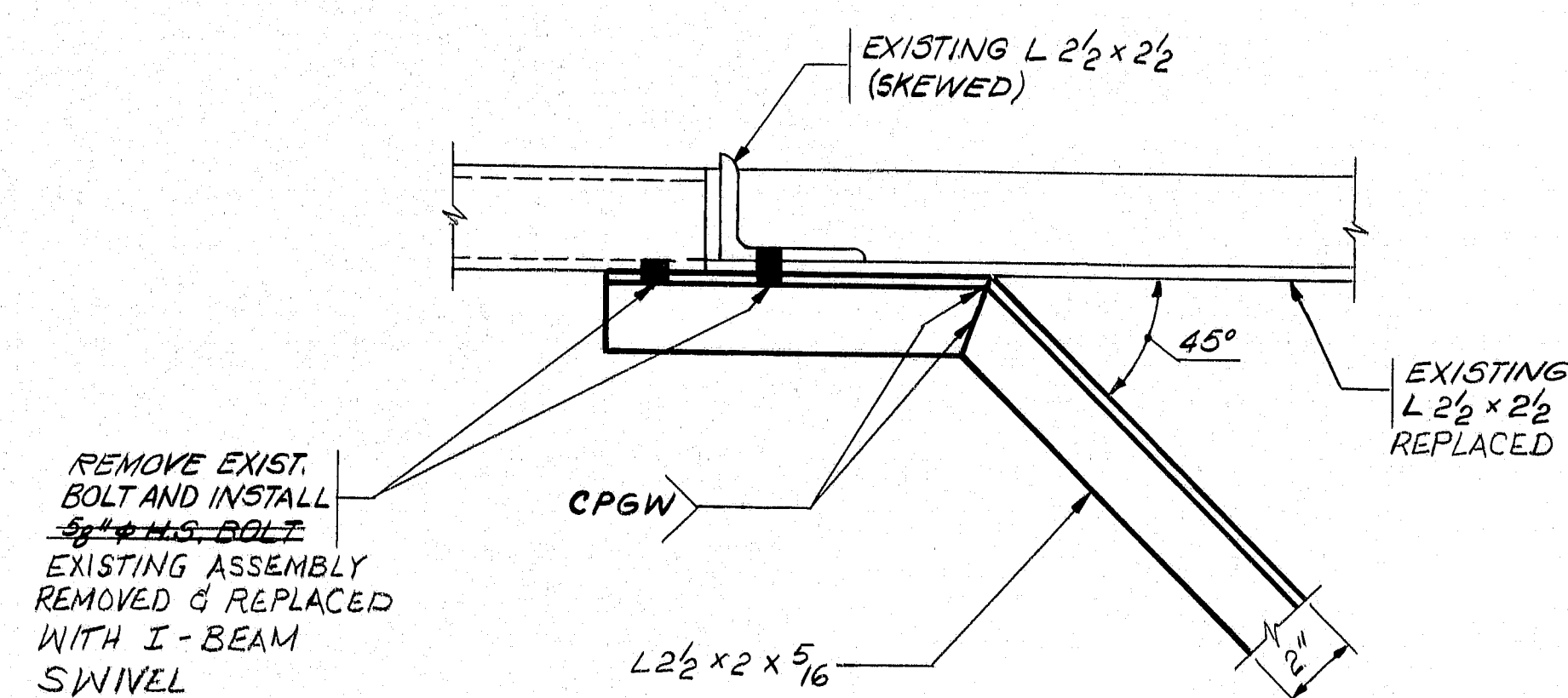


SECTION A PLAN AT ANEMOMETER SUPPORT BRACKET (MODIFIED)



NOTE: FAIRING CONNECTION AND EXISTING SUSPENDER CONNECTION NOT SHOWN FOR CLARITY.

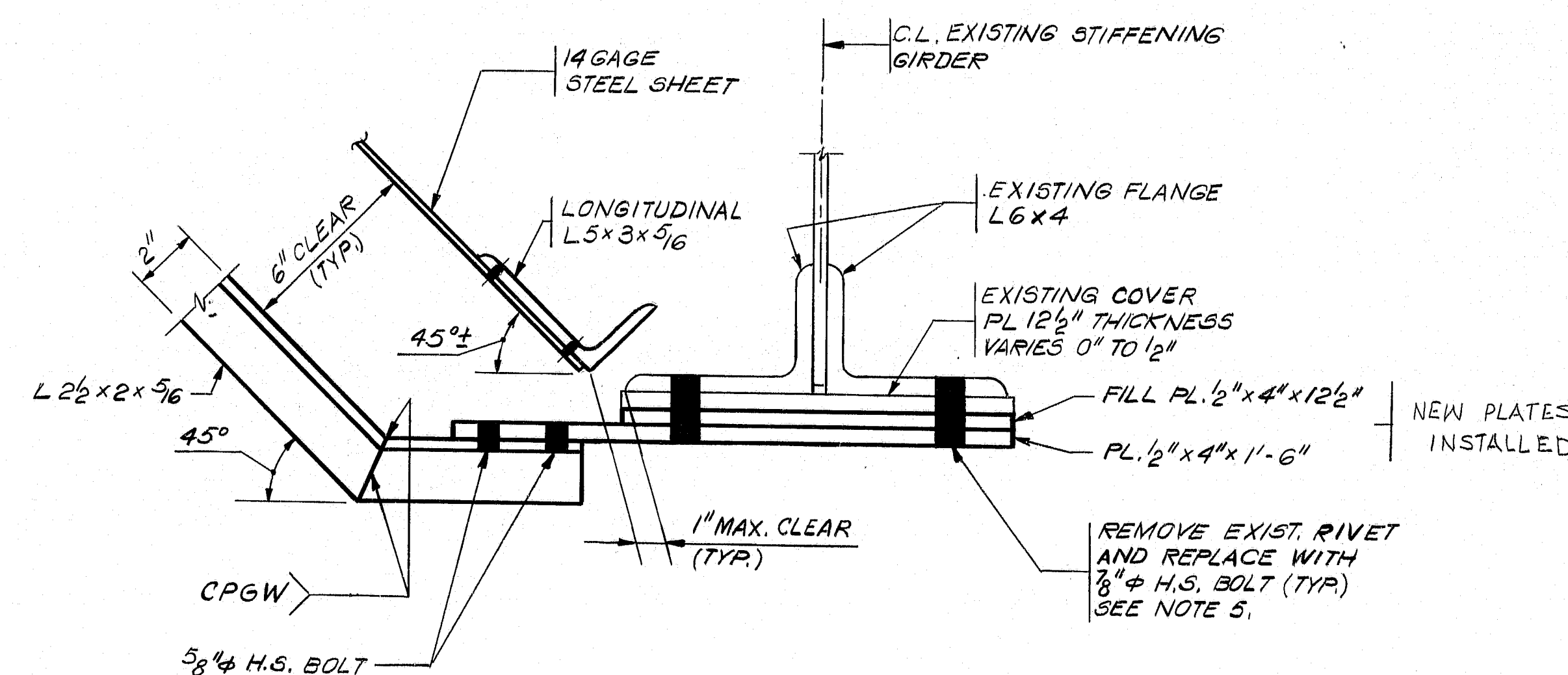
SECTION B TOP BRACKET CONNECTION



SECTION C

CPGW - COMPLETE PENETRATION GROOVE WELD

NOTE: FAIRING CONNECTION NOT SHOWN FOR CLARITY.



DETAIL 1 BOTTOM BRACKET CONNECTION

NOTES:

1. FOR GENERAL NOTES SEE SHEET NO. 3.
2. FOR APPROXIMATE LOCATIONS OF EXISTING ANEMOMETER SUPPORT BRACKETS TO BE MODIFIED SEE SHEET NO. 4.
3. THE EXISTING ANEMOMETER SUPPORT BRACKET SHALL BE TEMPORARILY SUPPORTED DURING THE BRACKET MODIFICATION.
4. IF THE EXISTING SUPPORT BRACKET DOES NOT LINE UP WITH EXISTING RIVET HOLES IN THE STIFFENING GIRDER FLANGE AS SHOWN IN SECTION "A", MOVE THE SUPPORT BRACKET TO THE NEAREST RIVET HOLES.
5. WHERE THERE IS NO EXISTING STIFFENING GIRDER FLANGE COVER PLATE, PROVIDE AN ADDITIONAL FILL PLATE 1/2" X 4" X 12-1/2" AND FIELD DRILL HOLES IN THE EXISTING FLANGE ANGLES FOR 7/8" DIAMETER H.S. BOLTS.
6. ALL WORK SHOWN ON THIS SHEET FOR MODIFICATION OF EXISTING ANEMOMETER SUPPORT BRACKETS SHALL BE PAID FOR UNDER ITEMS 504.704 AND 504.714.

NOTE: EXISTING ANEMOMETER SUPPORT BRACKETS REMOVED COMPLETELY & REPLACED WITH NEW ASSEMBLY CONSISTING OF AN ANGLE FRAME SUPPORTING AN APPROXIMATELY 12 FT. LONG I-BEAM WHICH ROTATES @ MIDPOINT, SUPPORTING THE ANEMOMETER.

109-15

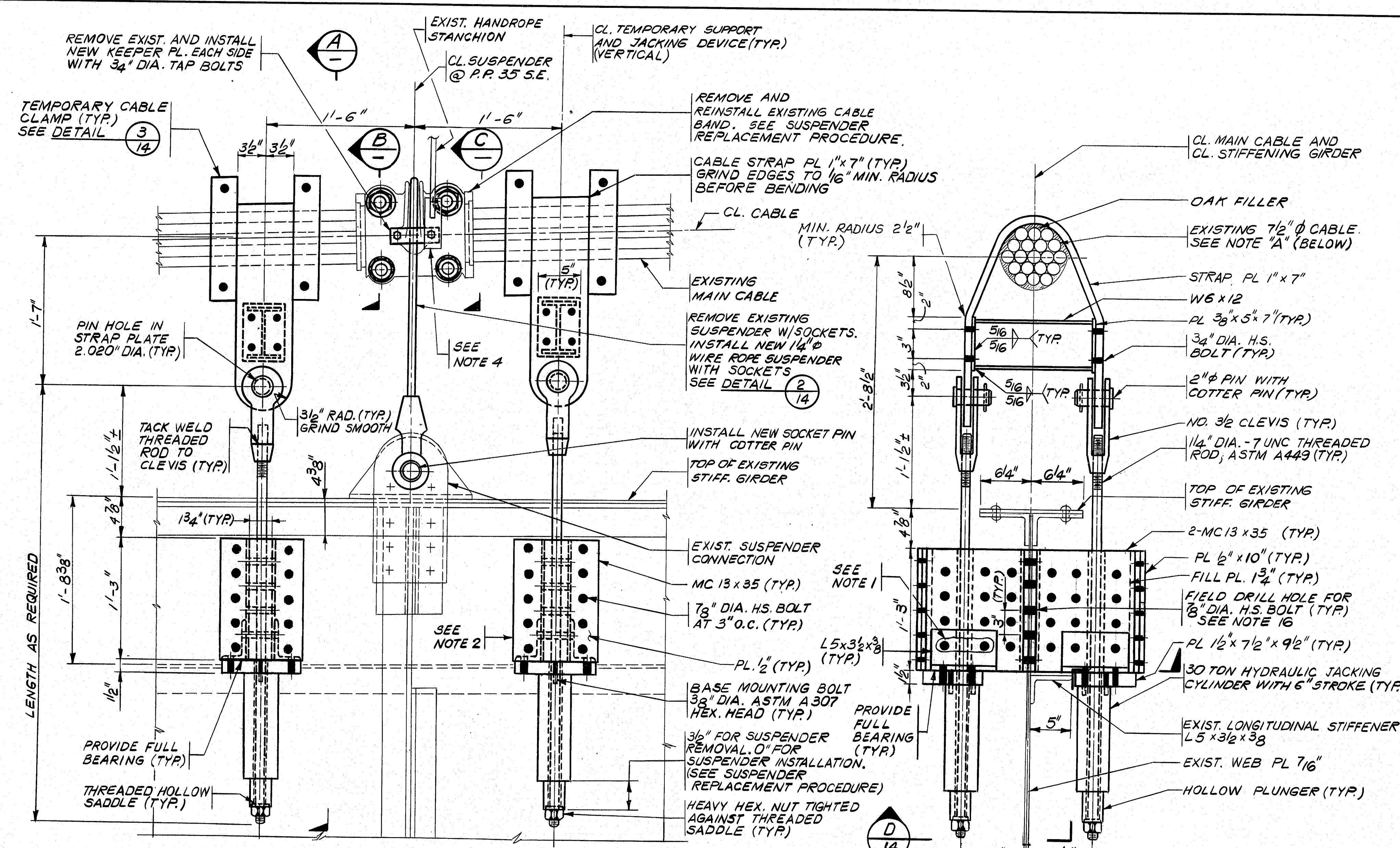
12

"REVISED AS BUILT" - M. H. H. - 1-3-35

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| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS |
| DEER ISLE-SEDGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEDGWICK |
| INSTALLATION OF FAIRINGS |
| ANEMOMETER BRACKET MODIFICATIONS |
| STEINMAN, BOYNTON, GRONQUIST & BIRDSALL CONSULTING ENGINEERS NEW YORK, N.Y. |
| SCALE: DATE: JUNE 1992 SHEET: 12 OF 28 |

Design J.B. Ck'd M.A.P.
Drawn R.S. Ck'd J.B.
K.P.S.
Engineer in Charge

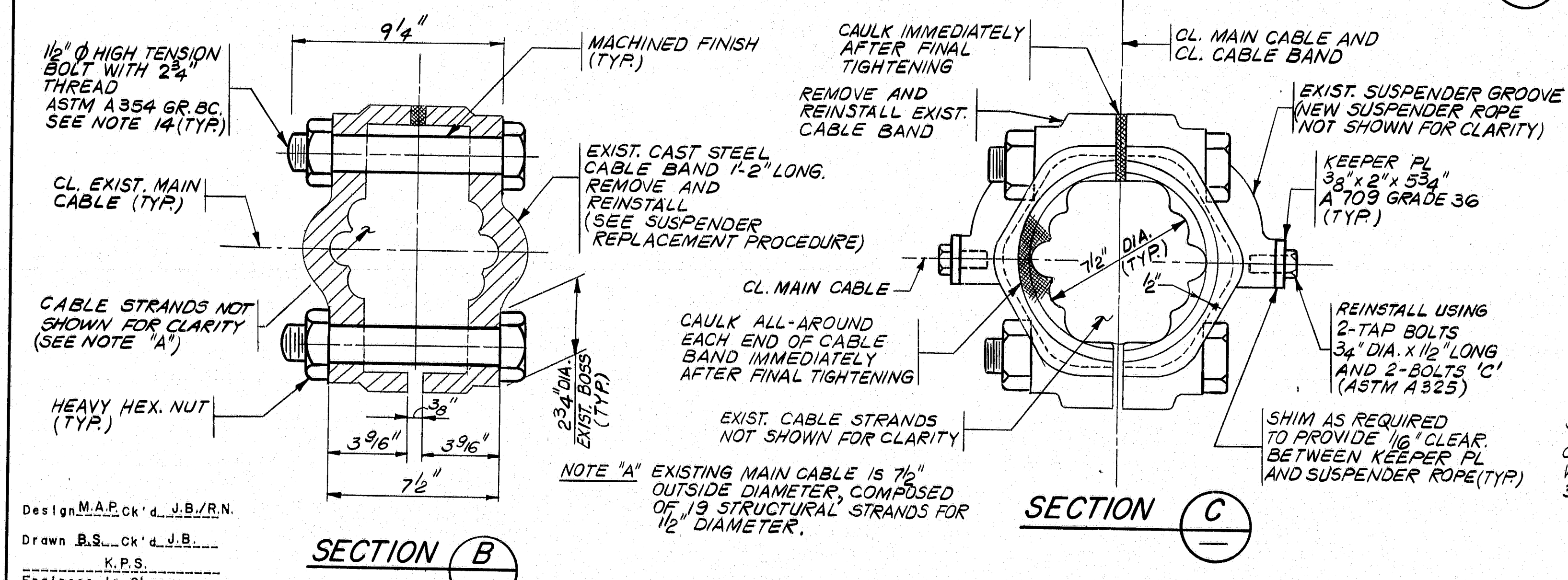
BH-250S (18) 13/28



ELEVATION - TEMPORARY SUPPORT AT PP 35 S.E.

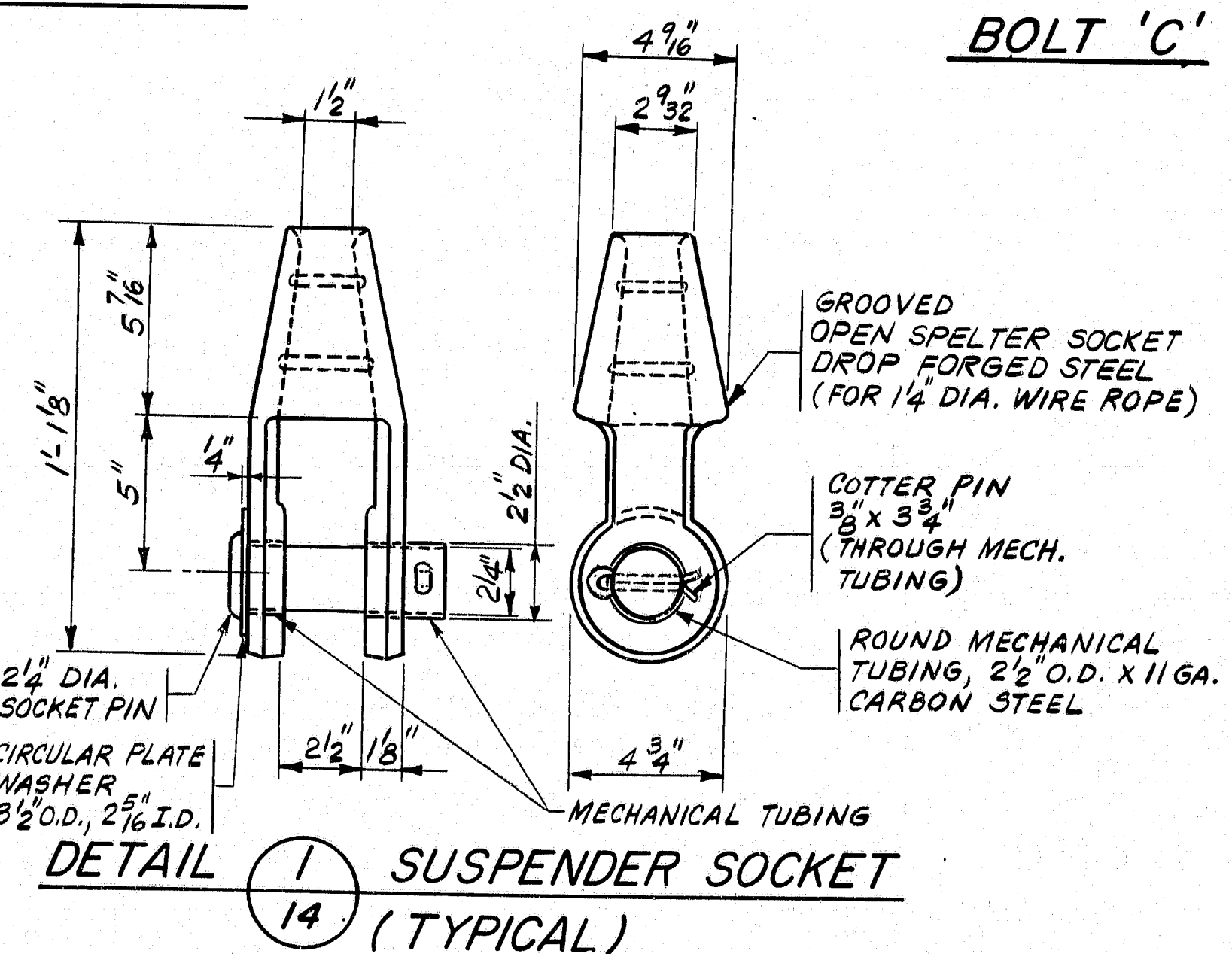
SECTION A TYPICAL

BOLT 'C'



SECTION B

SECTION C



DETAIL 14 SUSPENDER SOCKET (TYPICAL)

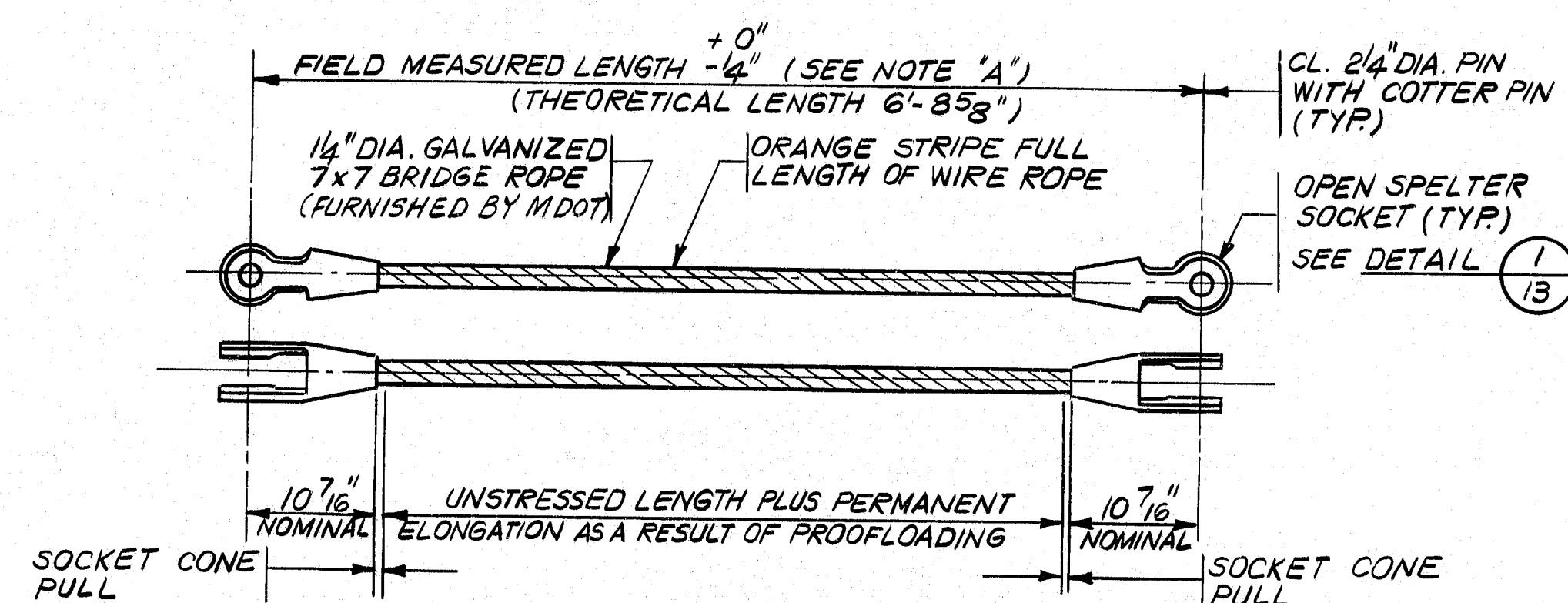
NOTES:

1. TIGHTEN BOLTS CONNECTING L'S 5 X 3 1/2 X 3/8 TO MC13 X 35'S AFTER APPLYING 3.0 KIPS FORCE PER JACK.
2. PRIOR TO CONNECTING MC13 X 35'S TO THE EXISTING GIRDER WEB, THE CONTRACTOR SHALL:
 1. CLEAN THE SURFACES OF THE GIRDER WEB WHERE THE MC13 X 35'S ARE TO BE ATTACHED.
 2. CLEAN FAYING SURFACES OF THE TEMPORARY SUPPORT STEEL (MC13 X 35'S AND CONNECTING PLATES AND ANGLES).
 ABOVE SURFACES SHALL BE CLEANED IN ACCORDANCE WITH GENERAL NOTE NO. 15 (SEE SHEET NO. 3).
3. FOR ADDITIONAL NOTES SEE SHEET NO. 14.
4. TEMPORARILY DISCONNECT EXISTING HANDROPE STANCHION AND RECONNECT TO CABLE BAND USING 2-BOLTS 'C'.

109-16

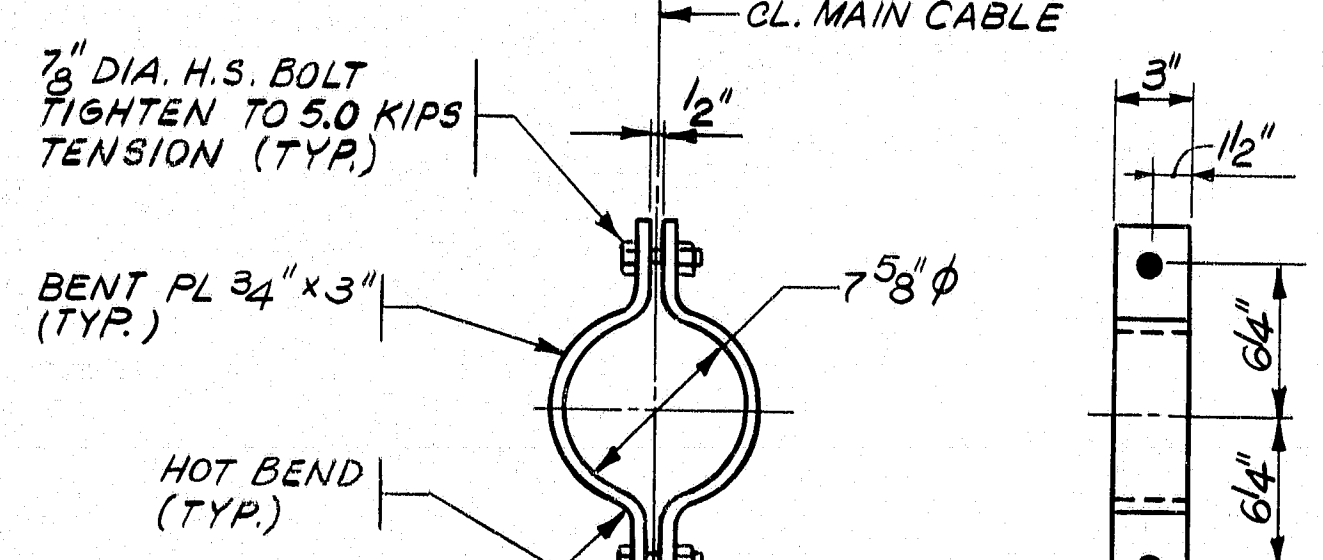
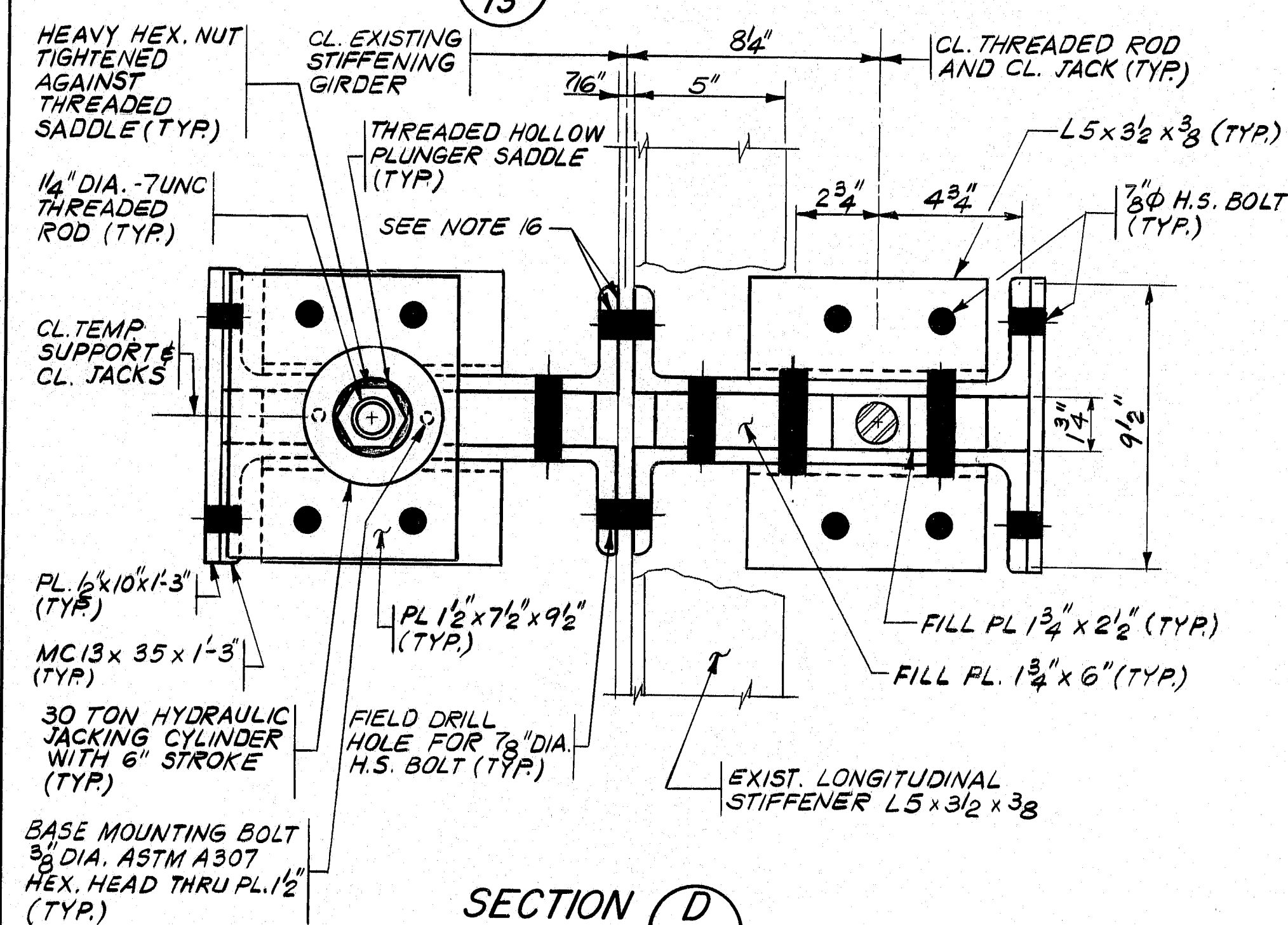
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| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS | |
| DEER ISLE-SEDGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEDGWICK | |
| INSTALLATION OF FAIRINGS | |
| SUSPENDER REPLACEMENT-I | |
| STEINMAN, BOYNTON, GRONQUIST & BIRDSALL CONSULTING ENGINEERS NEW YORK, N.Y. | SCALE: DATE: JUNE 1992 SHEET: 13 OF 28 |

Design M.A.P.ck'd J.B./R.N.
Drawn B.S.ck'd J.B./R.N.
K.P.S.
Engineer in Charge



NOTE 'A': AFTER SUSPENDER ASSEMBLY IS FABRICATED, THE ASSEMBLY SHALL BE TENSIONED TO 50% OF THE CATALOG ULTIMATE STRENGTH OF THE WIRE ROPE. THE LOAD IN THE ASSEMBLY SHALL THEN BE REDUCED TO 20% OF THE CATALOG ULTIMATE STRENGTH. THE MEASURED LENGTH CL. TO CL. OF PINS SHALL THEN BE CHECKED AGAINST THE FIELD MEASURED LENGTH AS SHOWN ABOVE.

DETAIL 2 SUSPENDER ASSEMBLY



NOTE: PROVIDE OAK FILLERS ALL AROUND UNDER TEMPORARY CABLE CLAMP TO PROTECT MAIN CABLE.

DETAIL 3 TEMPORARY CLAMP

Design MAP, ck'd J.B./R.N.
Drawn A.M.H., ck'd J.B.
K.P.S.
Engineer in Charge

NOTES:

- FOR GENERAL NOTES SEE SHEET NO. 3.
- MATERIALS (SUSPENDER REPLACEMENT):
WIRE ROPE SUSPENDER: 1-1/4" DIAMETER 7X7 GALVANIZED STEEL BRIDGE ROPE TO BE FURNISHED BY MAINE DOT AND SOCKETED BY THE CONTRACTOR.
SOCKETS: DROP FORGED STEEL OPEN SPELTER SOCKET WITH PIN, MEETING FEDERAL SPECIFICATION RR-S-550D, TYPE A.
SOCKETING MATERIAL: EPOXY RESIN OR ZINC IN ACCORDANCE WITH PROJECT SPECIFICATIONS (SECTION 602).
CABLE BAND BOLTS: ASTM A354 GRADE BC, 1-1/2" DIAMETER X 9-1/4" LONG WITH 2-3/4" THREADS-8 UN CLASS 2A, FURNISHED WITH ASTM A194 GRADE 2H HEAVY HEX NUT (SHOP PAINTED AS PER PROJECT SPECIFICATIONS).
TAP BOLTS: ASTM A325, 3/4" DIAMETER X 1-1/2" LONG.
CAULKING: ONE COMPONENT, GUN GRADE (NON-SAG) POLYURETHANE CONFORMING TO FEDERAL SPECIFICATION TT-S-00230C TYPE II, CLASS A.

- MATERIALS (TEMPORARY SUPPORT):
STRUCTURAL STEEL PLATES AND SHAPES: ASTM A709 GRADE 36 (UNPAINTED).
THREADED RODS: 1-1/4" DIAMETER ASTM A449 WITH HEAVY HEX. NUT.
CLEVIS: NO. 3-1/2 DROP FORGED CARBON STEEL, AISC STANDARD.
PINS: 2" DIAMETER AISC STANDARD PIN WITH HEAD AND CUTTER PIN, CARBON STEEL.
STRUCTURAL BOLTS: 7/8" DIAMETER ASTM A325 WITH HEAVY HEX. NUT AND ONE HARDENED WASHER UNDER BOTH THE HEAD AND THE NUT, UNLESS OTHERWISE NOTED.
- JACKING EQUIPMENT:
JACKING CYLINDERS: 4 - 30 TON 6" STROKE SINGLE-ACTION HOLLOW PLUNGER HYDRAULIC JACKING CYLINDERS WITH THREADED HOLLOW SADDLE.
ALL FOUR JACKS SHALL BE CONTROLLED BY A SYNCHRONOUS LIFTING AND LOWERING CONSOLE THAT WILL MAINTAIN EQUAL LOAD ON ALL FOUR JACKS DURING THE ENTIRE OPERATION.

- THE CONTRACTOR SHALL SUBMIT DETAILS OF PROPOSED JACKING EQUIPMENT TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING EQUIPMENT.
- THE FOLLOWING IS A LIST OF MANUFACTURERS OF JACKING EQUIPMENT ACCEPTABLE TO THE STATE:
USED →
1. ENERPAC - BUTLER, WISCONSIN
2. TEMPLETON, KENLY AND CO. - BROADVIEW, ILLINOIS
3. OWATONNA TOOL COMPANY - OWATONNA, MINNESOTA
4. APPROVED EQUAL
- THE TEMPORARY SUPPORT, JACKING EQUIPMENT AND PROCEDURE SHOWN ARE SUGGESTED AND THE CONTRACTOR MAY SUBMIT AN ALTERNATE DESIGN AND PROCEDURE TO THE ENGINEER FOR APPROVAL.
- THE WORK SHOWN ON THIS SHEET SHALL BE PERFORMED AT P.P. 35 DEER ISLE MAIN SPAN, EAST CABLE. THIS WORK MUST BE COMPLETED BEFORE THE FAIRINGS ARE INSTALLED IN THIS AREA.
- PRIOR TO FABRICATING THE NEW SUSPENDER, THE CONTRACTOR SHALL FIELD MEASURE THE STRESSED LENGTH OF THE EXISTING SUSPENDER AT P.P. 35SE. THE NEW SUSPENDER SHALL BE FABRICATED TO THIS LENGTH, WITHIN THE TOLERANCES SHOWN IN DETAIL 2.

- THE EXISTING CABLE TIES LOCATED AT PP. 36, AND BETWEEN P.P. 36 AND P.P. 35 DEER ISLE MAIN SPAN, MUST REMAIN IN PLACE DURING THE SUSPENDER REPLACEMENT OPERATION.
- DURING THE SUSPENDER REPLACEMENT, THE NORTHBOUND LANE SHALL BE CLOSED TO TRAFFIC. THE CONTRACTOR WILL BE PERMITTED TO HAVE ONLY ONE VEHICLE WEIGHING A MAXIMUM OF 10 TONS IN THIS LANE BETWEEN P.P. 32 DEER ISLE MAIN SPAN AND P.P. 17 SEDGWICK MAIN SPAN. (SEE KEY ELEVATION ON SHEET NO. 15.)
- THE CONTRACTOR SHALL NOT START REMOVAL OF THE EXISTING SUSPENDER UNTIL AFTER THE NEW SUSPENDER HAS BEEN FABRICATED, DELIVERED TO THE SITE AND ACCEPTED BY THE ENGINEER.
- THE CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY PART OF THE EXISTING STRUCTURE, MAIN CABLE OR CABLE BAND, INCLUDING PAINTED SURFACES, DURING THE SUSPENDER REPLACEMENT. ANY DAMAGE TO THE EXISTING STRUCTURE, CABLE OR CABLE BAND RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED (OR THE MEMBER REPLACED) BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO ADDITIONAL COST TO THE STATE.
- CABLE BAND BOLTS SHALL BE TENSIONED TO 73,000 LBS. MIN. AND 77,000 LBS. MAX. USING A TORQUE WRENCH (WITH MULTIPLIER) THE BOLTS SHALL BE TIGHTENED IN AN "X" PATTERN IN SEVERAL PASSES UNTIL ALL BOLTS ARE WITHIN THE SPECIFIED RANGE OF TENSION.
- ALL MEASUREMENTS SHALL BE MADE USING A CALIBRATED STEEL TAPE. ALL RECORDED MEASUREMENTS AND GAGE PRESSURE READINGS SHALL INCLUDE A TEMPERATURE READING. A COPY OF ALL RECORDED MEASUREMENTS AND GAGE PRESSURE READINGS WITH CORRESPONDING JACKING FORCES (SEE SUSPENDER REPLACEMENT PROCEDURE) SHALL BE FURNISHED TO THE ENGINEER.
- FOLLOWING COMPLETION OF THE SUSPENDER REPLACEMENT AND REMOVAL OF THE TEMPORARY SUPPORTS:
1. FILL OPEN HOLES IN THE EXISTING STIFFENING GIRDER WEB WITH 7/8" DIAMETER A325 H.S. BOLTS.
2. PAINT SURFACES OF THE EXISTING STIFFENING GIRDER WHERE THE TEMPORARY SUPPORTS WERE ATTACHED IN ACCORDANCE WITH THE REQUIREMENTS FOR PAINTING EXISTING STRUCTURAL STEEL OF SPECIAL PROVISION SECTION 506-PAINTING STRUCTURAL STEEL (SHOP COATING OF NEW STEEL AND FIELD REPAIR OF AREAS OF NEW STEEL AND EXISTING STRUCT. STEEL). PAYMENT WILL BE INCLUDED UNDER PAY ITEM 536.32.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST ONE WEEK PRIOR TO REPLACING THE SUSPENDER. THE WORK SHALL BE COORDINATED WITH THE ENGINEER AND THE ENTIRE SUSPENDER REPLACEMENT OPERATION, INCLUDING REMOVAL OF THE EXISTING SUSPENDER AND CABLE BAND, INSPECTION OF THE MAIN CABLE BY THE ENGINEER, REINSTALLATION OF THE EXISTING CABLE BAND AND INSTALLATION OF THE NEW SUSPENDER MUST BE COMPLETED IN A SINGLE WORKDAY. THE STIFFENING GIRDER SHALL NOT BE TEMPORARILY SUPPORTED OVERNIGHT.
- FABRICATION, DELIVERY AND INSTALLATION OF THE NEW SUSPENDER SHALL BE PAID FOR UNDER ITEMS 536.31 AND 536.32. ALL RELATED WORK SHOWN ON THIS SHEET, INCLUDING INSTALLATION AND REMOVAL OF THE TEMPORARY SUPPORTS, JACKING, REMOVAL OF THE EXISTING SUSPENDER AND CABLE BAND, AND REINSTALLATION OF THE EXISTING CABLE BAND, SHALL BE INCIDENTAL TO PAY ITEM 536.32.

SUSPENDER TESTING AND CABLE INSPECTION:

- THE CONTRACTOR SHALL REMOVE THE EXISTING SUSPENDER IN ONE PIECE WITH BOTH SOCKETS ATTACHED, TAKING EXTREME CARE NOT TO DAMAGE THE SUSPENDER OR SOCKETS, AND SHALL DELIVER IT TO THE TESTING LABORATORY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISUAL INSPECTION AND LABORATORY TESTING OF THE EXISTING SUSPENDER IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. THIS WORK SHALL BE PAID FOR UNDER ITEM 536.33.
- AFTER THE EXISTING CABLE BAND AND TEMPORARY SUPPORTS ARE REMOVED, THE ENGINEER WILL INSPECT THE MAIN CABLE IN THE AREA ADJACENT TO P.P. 35SE. THE CONTRACTOR SHALL ASSIST THE ENGINEER IN THIS INSPECTION BY PROVIDING ACCESS TO THE CABLE AND PROVIDING THE LABOR, EQUIPMENT AND MATERIALS NECESSARY TO WEDGE OPEN THE MAIN CABLE FOR APPROXIMATELY 5'-0" EACH SIDE OF P.P. 35SE. THIS WORK SHALL BE INCIDENTAL TO PAY ITEM 536.32.

SUSPENDER REPLACEMENT PROCEDURE:

- MEASURE AND RECORD THE DISTANCE FROM CL. MAIN CABLE TO TOP OF STIFFENING GIRDER.
- INSTALL TEMPORARY SUPPORTS AND JACKING EQUIPMENT AS SHOWN, WITH JACKING CYLINDER PLUNGERS EXTENDING APPROXIMATELY 3-1/2" TO ALLOW FOR DEFLECTION OF THE MAIN CABLE AND STIFFENING GIRDER AFTER THE EXISTING SUSPENDER IS REMOVED.
- RELIEVE TENSION IN THE EXISTING SUSPENDER BY JACKING TO THE ZERO LOAD POSITION. THE ZERO LOAD POSITION IS DEFINED AS THE POINT AT WHICH THE SOCKET CAN BE EASILY MOVED IN THE EXISTING SUSPENDER CONNECTION, EITHER BY SHAKING THE SUSPENDER OR TAPPING THE PIN WITH A HAMMER. (SEE NOTE 'B' BELOW)
- MEASURE AND RECORD THE DISTANCE FROM CL. MAIN CABLE TO TOP OF STIFFENING GIRDER AND RECORD THE GAGE PRESSURE READINGS AT THE ZERO LOAD POSITION.
- REMOVE THE EXISTING SUSPENDER (STORE FOR LABORATORY TESTING).
- SLOWLY RELEASE THE HYDRAULIC JACKS, ALLOWING THE MAIN CABLE AND STIFFENING GIRDER TO DEFLECT, AND REMOVE THE UPPER PORTION OF THE TEMPORARY SUPPORTS.
- MEASURE AND RECORD THE DISTANCE FROM CL. MAIN CABLE TO TOP OF STIFFENING GIRDER.
- REMOVE THE EXISTING CABLE BAND.
- AFTER THE ENGINEER HAS COMPLETED HIS INSPECTION OF THE MAIN CABLE, REINSTALL THE EXISTING CABLE BAND USING NEW CABLE BAND BOLTS. (SEE NOTE 'C' BELOW)
- REINSTALL THE UPPER PORTION OF THE TEMPORARY SUPPORTS WITH THE JACKING CYLINDERS FULLY COLLAPSED.
- JACK THE STIFFENING GIRDER BACK TO THE ZERO LOAD POSITION, BASED ON MEASUREMENT OF THE DISTANCE FROM CL. MAIN CABLE TO TOP OF GIRDER (SEE STEPS 3 AND 4). RECORD THE GAGE PRESSURE READINGS AT THIS POSITION. (SEE NOTE 'B' BELOW)
- INSTALL THE NEW SUSPENDER WITH NEW SOCKET PINS.
- SLOWLY RELEASE THE HYDRAULIC JACKS AND REMOVE THE TEMPORARY SUPPORTS.
- MEASURE AND RECORD THE STRESSED LENGTH OF THE NEW SUSPENDER CL. TO CL. OF PINS, AND MEASURE AND RECORD THE FINAL DISTANCE FROM CL. MAIN CABLE TO TOP OF STIFFENING GIRDER.
- INSTALL NEW KEEPER PLATES ON CABLE BAND WITH NEW TAP BOLTS.

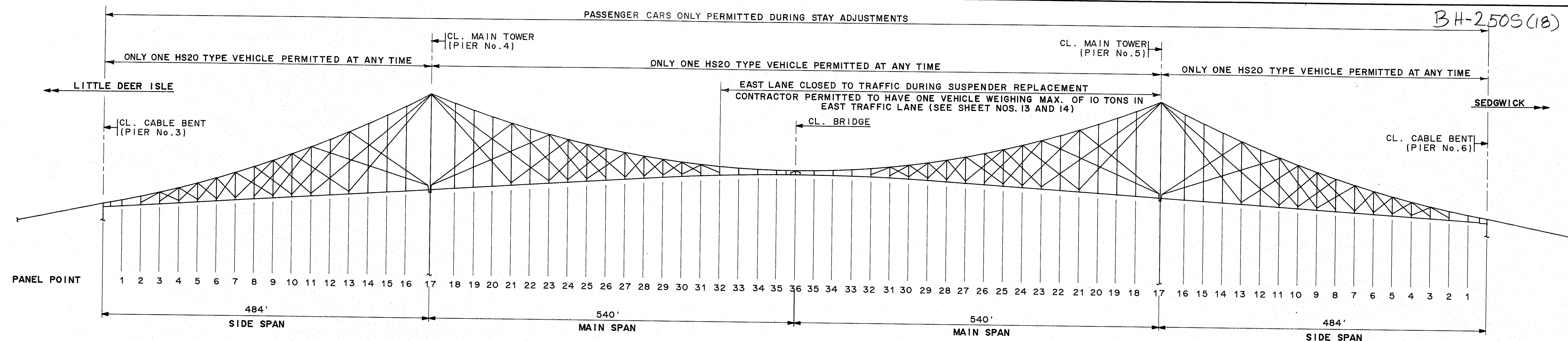
NOTE 'B': THE ANTICIPATED TOTAL FORCE (FOR ALL 4 JACKS) REQUIRED TO JACK THE GIRDER TO THE ZERO LOAD POSITION IN STEPS 3 AND 11, ABOVE, WITH NO LIVE LOAD ON THE BRIDGE IS 38.5 KIPS. THE ANTICIPATED MAXIMUM ADDITIONAL JACKING FORCE DUE TO LIVE LOAD ON THE BRIDGE (HS20 LANE LOADING IN THE FAR LANE AND R10 TRUCK LOADING IN THE ADJACENT LANE) IS 8.0 KIPS.

NOTE 'C': EXPOSED SURFACES OF THE MAIN CABLE UNDER THE CABLE BAND SHALL BE CLEANED AND PAINTED WITH 4 MILS OF ZINC DUST/ZINC OXIDE PAINT BEFORE REINSTALLING THE CABLE BAND.

109-17

"REVISED AS BUILT" - M. Pettle - 1/11/95

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|------------------------------------------------------------------------------------------|
| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS |
| DEER ISLE-SEGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEGWICK |
| INSTALLATION OF FAIRINGS |
| SUSPENDER REPLACEMENT II |
| STEINMAN, BOYNTON, GRONQUIST & BIRDSALL CONSULTING ENGINEERS NEW YORK, N.Y. |
| SCALE: _____ DATE: JUNE 1992 SHEET: 14 OF 28 |



STAY ADJUSTMENT TABLES

MAIN SPAN

| PASS I | | | PASS II | | | PASS III | | | REVISED STAY ADJUSTMENT FORCES | |
|------------------|---------------|-------------------------|------------------|---------------|-------------------------|------------------|---------------|-------------------------|--------------------------------|------------------|
| SEQUENCE OF ADJ. | STAY LOCATION | TENSIONING FORCE (KIPS) | SEQUENCE OF ADJ. | STAY LOCATION | TENSIONING FORCE (KIPS) | SEQUENCE OF ADJ. | STAY LOCATION | TENSIONING FORCE (KIPS) | PASS IIIA (KIPS) | PASS IIIB (KIPS) |
| 1 | G32-C31 | 14.9 | 1 | G17-C21 | 26.1 | 1 | G17-C21 | 11.7 | 12.0 | 12.1 |
| 2 | G31-C30 | 14.3 | 2 | G17-C23 | 22.5 | 2 | G17-C23 | 12.1 | 15.8 | 15.8 |
| 3 | G30-C31 | 10.9 | 3 | G21-C24 | 28.1 | 3 | G21-C24 | 11.9 | | |
| 4 | G30-C29 | 12.4 | 4 | G23-C25 | 27.8 | 4 | G23-C25 | 11.9 | | |
| 5 | G29-C30 | 9.9 | 5 | G24-C26 | 27.6 | 5 | G24-C26 | 11.9 | | |
| 6 | G29-C28 | 12.7 | 6 | G25-C27 | 25.2 | 6 | G25-C27 | 11.7 | | |
| 7 | G28-C29 | 8.9 | 7 | G21-T17 | 12.0 | 7 | G21-T17 | 11.7 | | |
| 8 | G28-C27 | 12.4 | 8 | G23-T17 | 12.4 | 8 | G23-T17 | 11.7 | | |
| 9 | G27-C28 | 7.7 | 9 | G24-C21 | 8.9 | 9 | G24-C21 | 11.9 | | |
| 10 | G27-C25 | 12.0 | 10 | G25-C23 | 7.4 | 10 | G25-C23 | 12.1 | | |
| 11 | G26-C24 | 10.9 | 11 | G26-C24 | 7.7 | 11 | G26-C24 | 12.1 | | |
| 12 | G25-C23 | 10.4 | 12 | G27-C25 | 6.9 | 12 | G27-C25 | 11.7 | | |
| 13 | G24-C21 | 11.3 | 13 | G27-C28 | 20.8 | 13 | G27-C28 | 11.7 | | |
| 14 | G23-T17 | 16.0 | 14 | G28-C27 | 4.9 | 14 | G28-C27 | 13.6 | | |
| 15 | G21-T17 | 16.9 | 15 | G28-C29 | 20.9 | 15 | G28-C29 | 13.4 | | |
| 16 | G25-C27 | 5.4 | 16 | G29-C28 | 4.9 | 16 | G29-C28 | 11.9 | | |
| | | | 17 | G29-C30 | 20.4 | 17 | G29-C30 | 12.6 | | |
| | | | 18 | G30-C29 | 5.9 | 18 | G30-C29 | 11.7 | | |
| | | | 19 | G30-C31 | 18.0 | 19 | G30-C31 | 12.6 | | |
| | | | 20 | G31-C30 | 9.2 | 20 | G31-C30 | 11.7 | | |
| | | | 21 | G32-C31 | 11.7 | 21 | G32-C31 | 11.7 | | |

SIDE SPAN

| PASS I | | | PASS II | | | PASS III | | | REVISED STAY ADJUSTMENT FORCES | |
|------------------|---------------|-------------------------|------------------|---------------|-------------------------|------------------|---------------|-------------------------|--------------------------------|------------------|
| SEQUENCE OF ADJ. | STAY LOCATION | TENSIONING FORCE (KIPS) | SEQUENCE OF ADJ. | STAY LOCATION | TENSIONING FORCE (KIPS) | SEQUENCE OF ADJ. | STAY LOCATION | TENSIONING FORCE (KIPS) | PASS IIIA (KIPS) | PASS IIIB (KIPS) |
| 1 | G 2-C 3 | 3.5 | 1 | G17-C13 | 22.6 | 1 | G17-C13 | 11.7 | 8.5 | 10.3 |
| 2 | G 3-C 4 | 2.6 | 2 | G17-C11 | 18.2 | 2 | G17-C11 | 11.7 | 14.3 | 14.3 |
| 3 | G 4-C 3 | 20.5 | 3 | G13-C10 | 20.6 | 3 | G13-C10 | 12.1 | | |
| 4 | G 4-C 5 | 2.9 | 4 | G11-C 9 | 20.7 | 4 | G11-C 9 | 11.7 | | |
| 5 | G 5-C 4 | 19.3 | 5 | G10-C 8 | 15.5 | 5 | G10-C 8 | 11.7 | | |
| 6 | G 5-C 6 | 3.8 | 6 | G13-T17 | 14.3 | 6 | G13-T17 | 12.1 | | |
| 7 | G 6-C 5 | 19.0 | 7 | G11-T17 | 14.5 | 7 | G11-T17 | 11.9 | | |
| 8 | G 6-C 7 | 4.8 | 8 | G10-C13 | 11.3 | 8 | G10-C13 | 11.9 | | |
| 9 | G 7-C 6 | 17.4 | 9 | G 9-C11 | 10.5 | 9 | G 9-C11 | 11.9 | | |
| 10 | G 7-C 9 | 3.1 | 10 | G 8-C10 | 11.0 | 10 | G 8-C10 | 11.9 | | |
| 11 | G 9-C 9 | 19.6 | 11 | G 9-C 7 | 14.2 | 11 | G 9-C 7 | 12.4 | | |
| 12 | G 8-C10 | 6.4 | 12 | G 7-C 9 | 11.1 | 12 | G 7-C 9 | 12.4 | | |
| 13 | G 9-C11 | 3.8 | 13 | G 7-C 6 | 13.4 | 13 | G 7-C 6 | 11.7 | | |
| 14 | G10-C13 | 4.0 | 14 | G 6-C 7 | 11.1 | 14 | G 6-C 7 | 11.7 | | |
| 15 | G11-T17 | 5.9 | 15 | G 6-C 5 | 13.4 | 15 | G 6-C 5 | 13.6 | | |
| 16 | G13-T17 | 5.4 | 16 | G 5-C 6 | 11.2 | 16 | G 5-C 6 | 13.4 | | |
| | | | 17 | G 5-C 4 | 13.1 | 17 | G 5-C 4 | 11.7 | | |
| | | | 18 | G 4-C 5 | 10.9 | 18 | G 4-C 5 | 12.4 | | |
| | | | 19 | G 4-C 3 | 12.9 | 19 | G 4-C 3 | 11.7 | | |
| | | | 20 | G 3-C 4 | 11.4 | 20 | G 3-C 4 | 11.7 | | |
| | | | 21 | G 2-C 3 | 11.4 | 21 | G 2-C 3 | 11.7 | | |

NOTES:

- FOR GENERAL NOTES SEE SHEET NO. 3.
- ADJUSTMENT OF THE STAYS SHALL BE DONE IMMEDIATELY AFTER INSTALLATION OF THE FAIRINGS AND REPLACEMENT OF THE 1 1/4" DIA. DIAGONAL STAYS INDICATED ON SHEET NO. 4.
- ADJUSTMENT FORCES WERE DETERMINED ON THE BASIS OF THE "DEAD LOAD" STAY FORCES REFLECTING ORIGINAL DESIGN TENSIONING FORCES IN STAYS AND THE FORCE INCREMENTS INDUCED BY THE ADDITIONAL WEIGHT OF THE ROADWAY AND THE FAIRINGS.
- ADJUSTMENTS TO SIDE SPAN STAYS AND EACH HALF OF MAIN SPAN MAY BE DONE SIMULTANEOUSLY.
- ADJUSTMENT SHALL START WITH PASS I AND PROCEED IN ASCENDING ORDER OF PASS NUMBERS.
- STAYS SHALL BE ADJUSTED IN THE SEQUENCE AND TO THE FORCES GIVEN IN THE STAY ADJUSTMENT TABLES ON THE PASS INDICATED.
- STAY ADJUSTMENT VALUES SHOWN ARE TYPICAL FOR DEER ISLE AND SEDGWICK MAIN AND SIDE SPANS.
- EACH ADJUSTMENT PASS SHALL BE COMPLETED ALONG BOTH CABLES PRIOR TO PROCEEDING TO THE NEXT ADJUSTMENT PASS.
- THE CONTRACTOR SHALL MEASURE AND RECORD THE STAY TENSION PRIOR TO EACH ADJUSTMENT AND THE ADJUSTMENT FORCE. THE FORCES SHALL BE MEASURED USING A HYDRAULIC GAGE CONNECTED TO THE PUMP FOR THE JACKING CYLINDERS (SEE SHEET NOS. 16 THRU 18 FOR SUGGESTED JACKING DETAILS).
- THE DATA OF THE FORCE MEASUREMENT SHALL BE SUBMITTED TO THE ENGINEER UPON THE COMPLETION OF EACH PASS.
- THE CONTRACTOR SHALL PERFORM PASSES I AND II AS INDICATED IN THE ADJUSTMENT TABLES. UPON THE COMPLETION OF PASS II, THE ENGINEER SHALL REVIEW AND EVALUATE THE DATA FROM PASSES I AND II AND PREPARE REVISED TENSIONING FORCES FOR PASS III. IF NECESSARY, THE CONTRACTOR SHALL BE PROVIDED WITH THE REVISED STAY ADJUSTMENT FORCES WITHIN 3 WEEKS OF SUBMITTING THE PASS I AND II DATA TO THE ENGINEER. THE CONTRACTOR SHALL COMMENCE PASS III UPON THE RECEIPT OF THE REVISED STAY ADJUSTMENT FORCES.
- THERE ARE EXISTING STAY CROSS CLAMPS AT STAY/STAY INTERSECTIONS AND EXISTING STAY SUPPORTS AT STAY/SUSPENDER INTERSECTIONS. THE CONTRACTOR SHALL LOOSEN THE EXISTING CROSS CLAMPS AND STAY SUPPORTS PRIOR TO PERFORMING THE STAY ADJUSTMENTS AND SHALL RE-TIGHTEN THEM AFTER COMPLETION OF THE ADJUSTMENTS.
- FOR DETAILS OF JACKING EQUIPMENT AND SHIMS FOR THE STAY ADJUSTMENTS, SEE SHEET NOS. 16 THRU 18.
- ALL WORK FOR THE ADJUSTMENT OF STAYS SHALL BE PAID UNDER ITEM 536.30.
- STAY ADJUSTMENT TABLES AS SHOWN ON THIS SHEET REPRESENTS ONLY HALF OF THE BRIDGE. ASSUME THE SAME NUMBER OF ADJUSTMENTS FOR THE OTHER HALF.

LEGEND:

- G₁₃—DEFINES STAYS ATTACHED TO THE GIRDER AT PANEL POINT 13
C₂₁—DEFINES STAYS ATTACHED TO THE CABLE AT PANEL POINT 21
T₁₇—DEFINES STAYS ATTACHED AT THE TOP OF THE TOWER

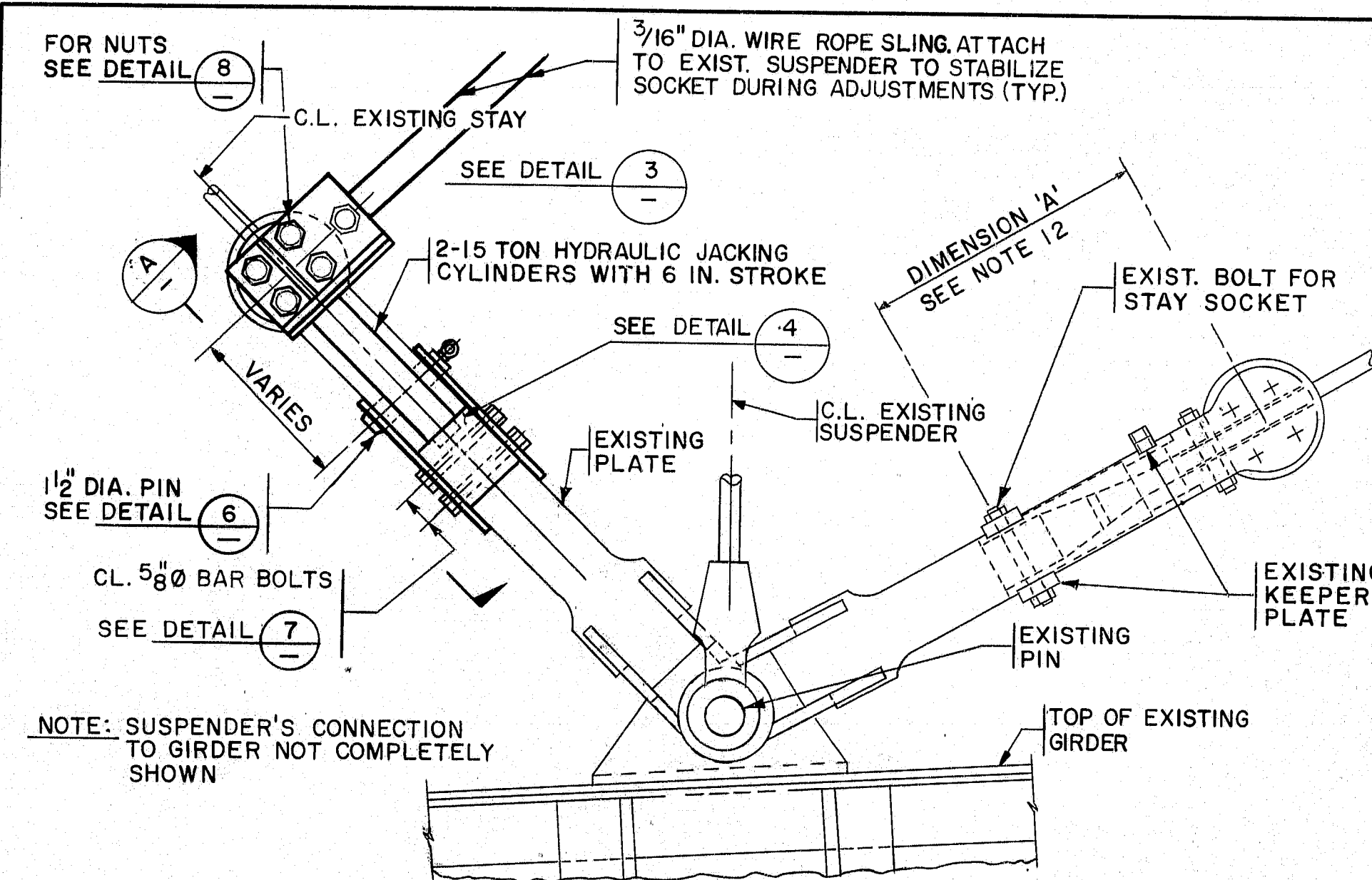
NOTE A: ADJUSTMENT OF STAYS WAIVED UNTIL AFTER WINTER SUSPENSION.

"REVISED AS BUILT" - M. Potter 1/1/95

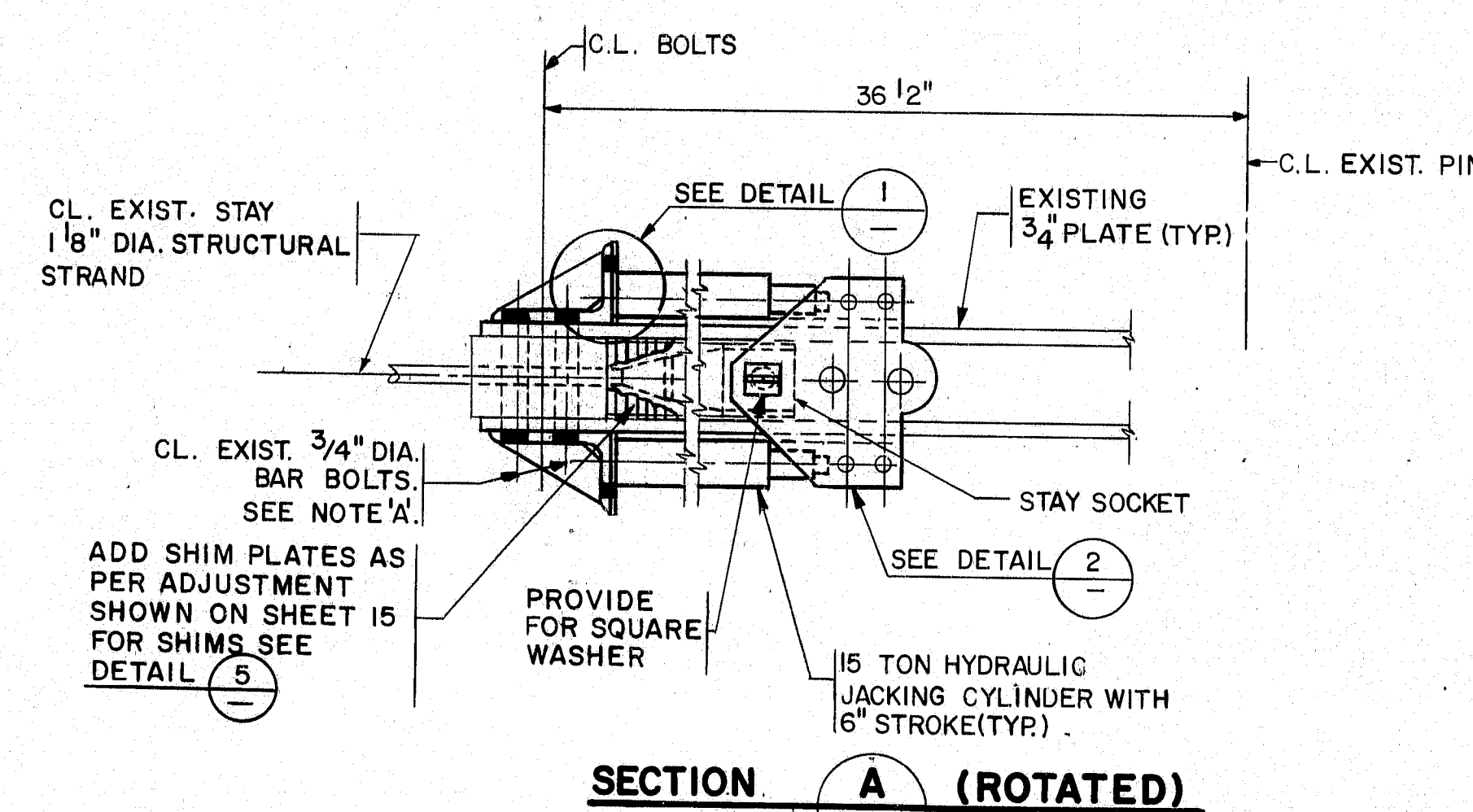
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|--------------------------------------------------------------------------------------------|----------------------------------------------|
| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS | |
| DEER ISLE-SEDGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEDGWICK | |
| INSTALLATION OF FAIRINGS | |
| ADJUSTMENT OF STAYS | |
| STEINMAN, BOYNTON, GRONQUIST & BIRDSALL CONSULTING ENGINEERS NEW YORK, N.Y. | SCALE: DATE: JUNE 1992 SHEET: 15 OF 28 |

Design: E. L. Clark, Jr.
Drawn: E. L. Clark, Jr.
K.P.S.
Engineer in Charge

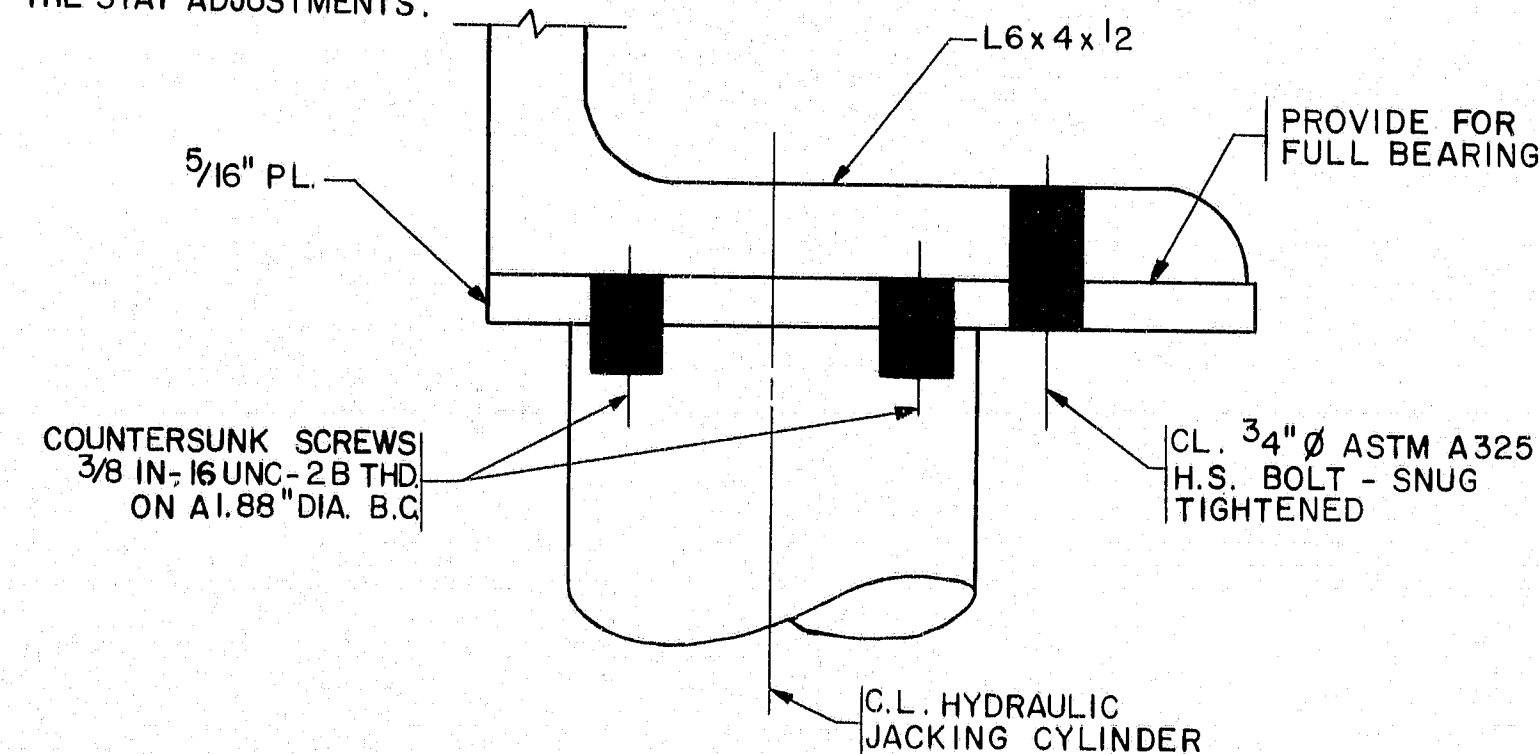
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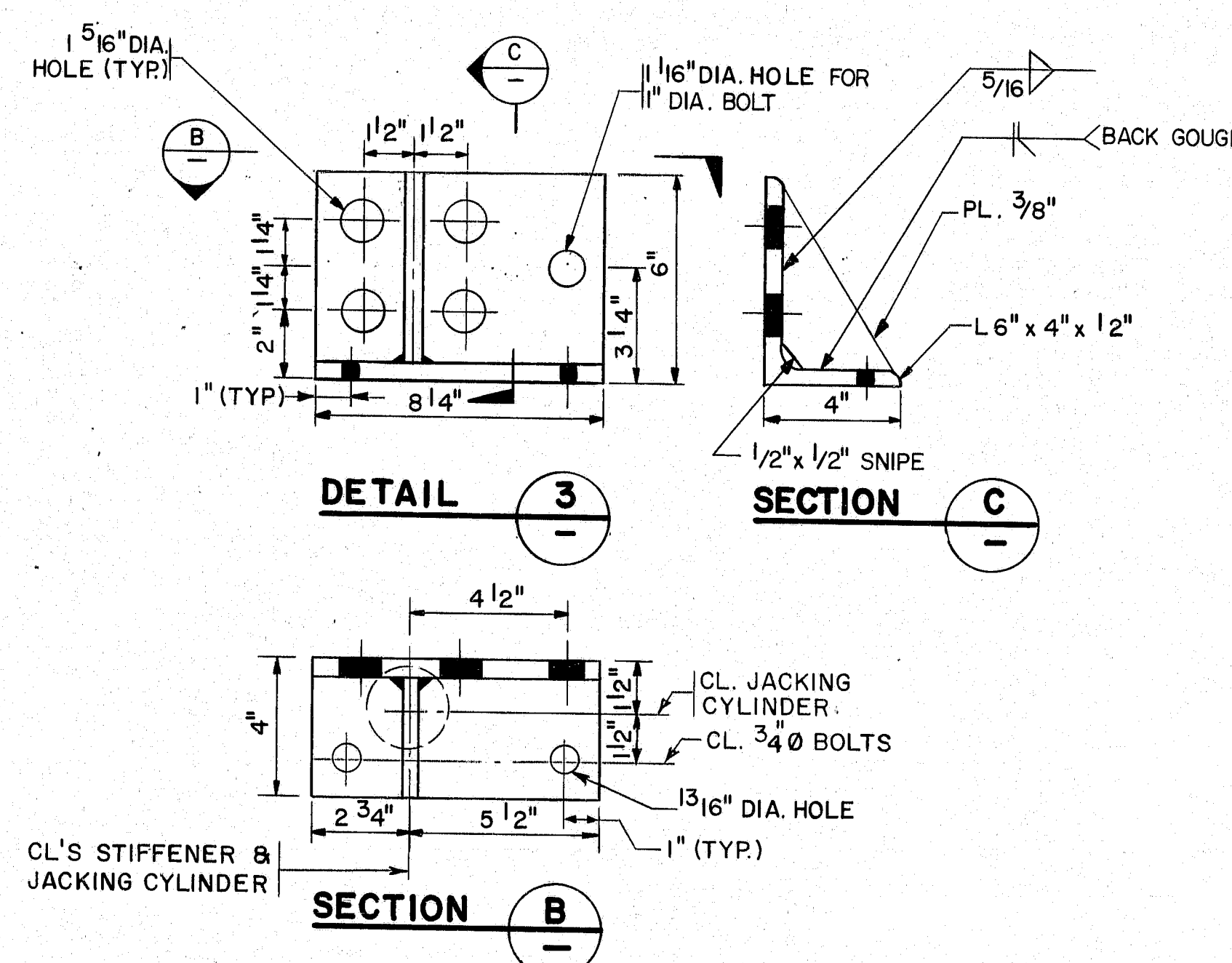
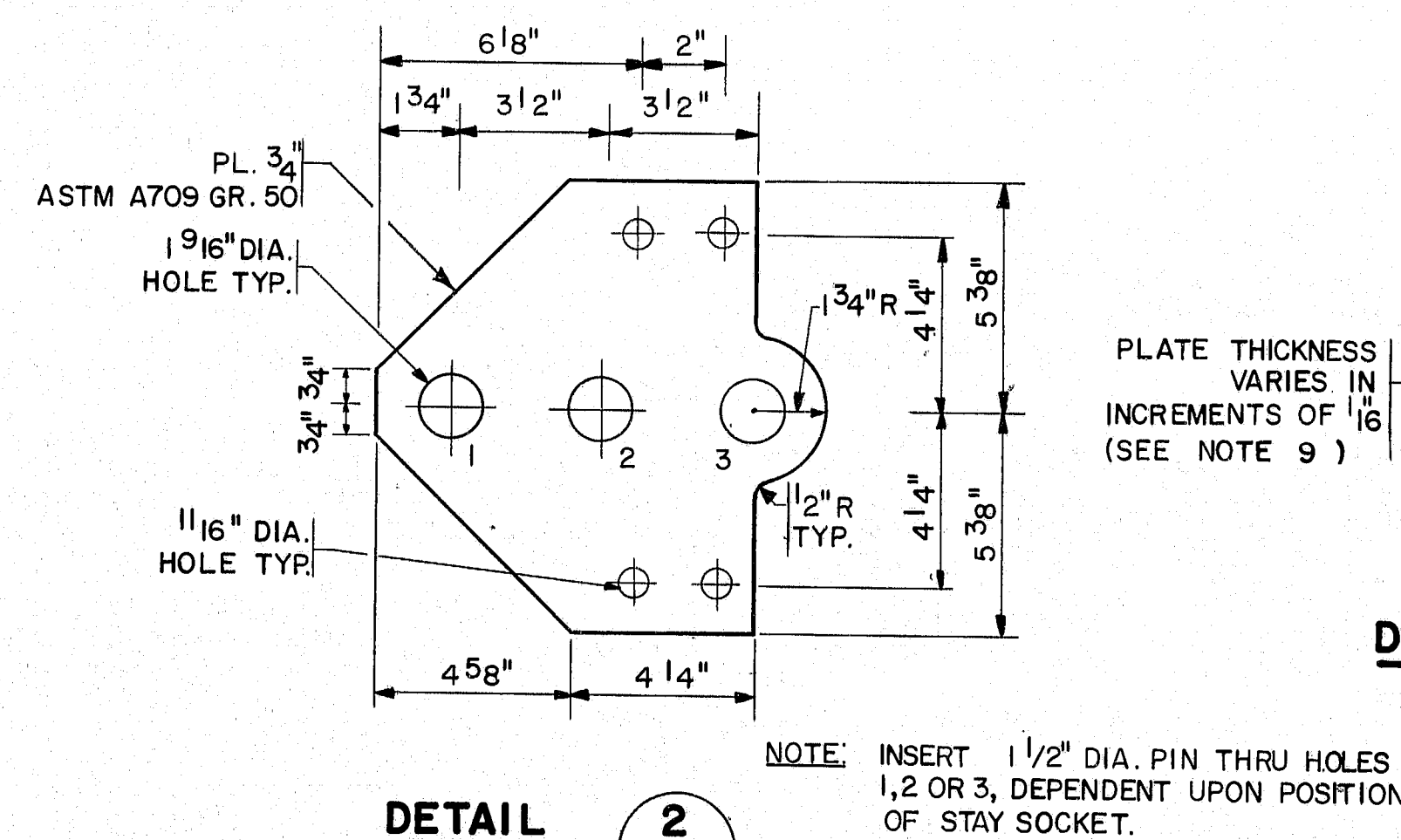
TYPICAL JACKING ASSEMBLY FOR DIAGONAL STAYS AT STIFFENING GIRDER



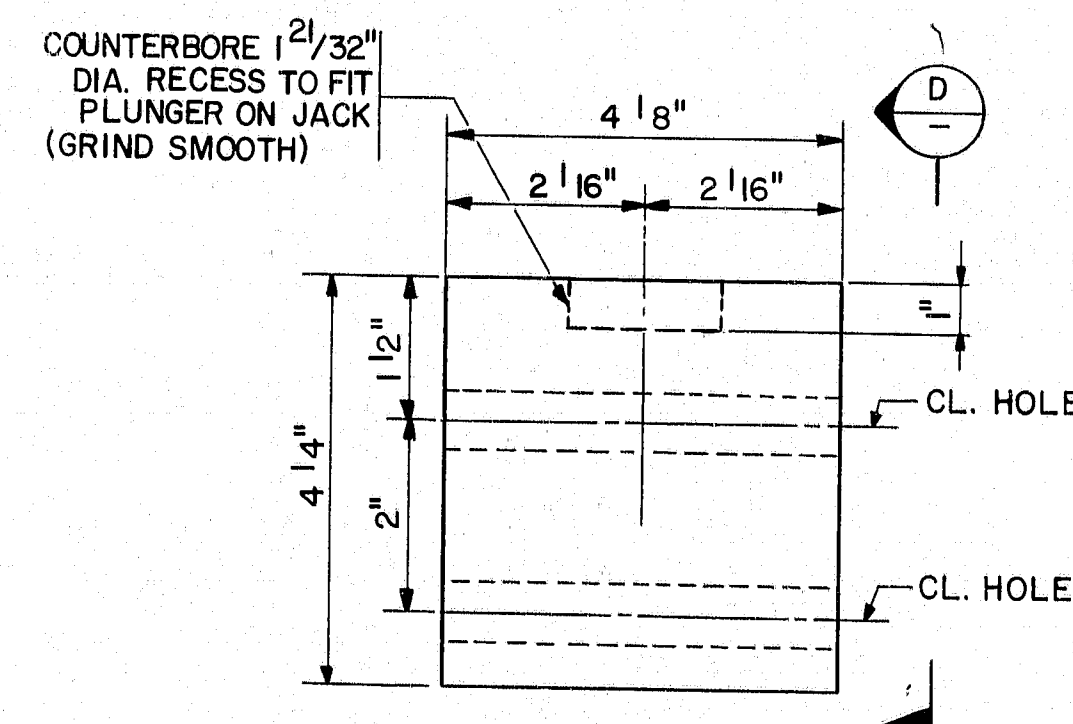
NOTE 'A': THE EXISTING 3/4" DIA. BAR BOLTS MUST REMAIN IN PLACE AT ALL TIMES. REMOVE EXISTING NUTS AND LOCKWASHERS AND INSTALL L-36x4x 1/2 ON ONE SIDE AT A TIME. REMOVE L'S 6x4x 1/2 AND REINSTALL EXISTING LOCKWASHERS AND NUTS IN THE SAME MANNER. THESE BOLTS SHALL BE TENSIONED TO 19,500 LB. MIN. AND 21,500 LB. MAX. AT THE COMPLETION OF THE STAY ADJUSTMENTS.



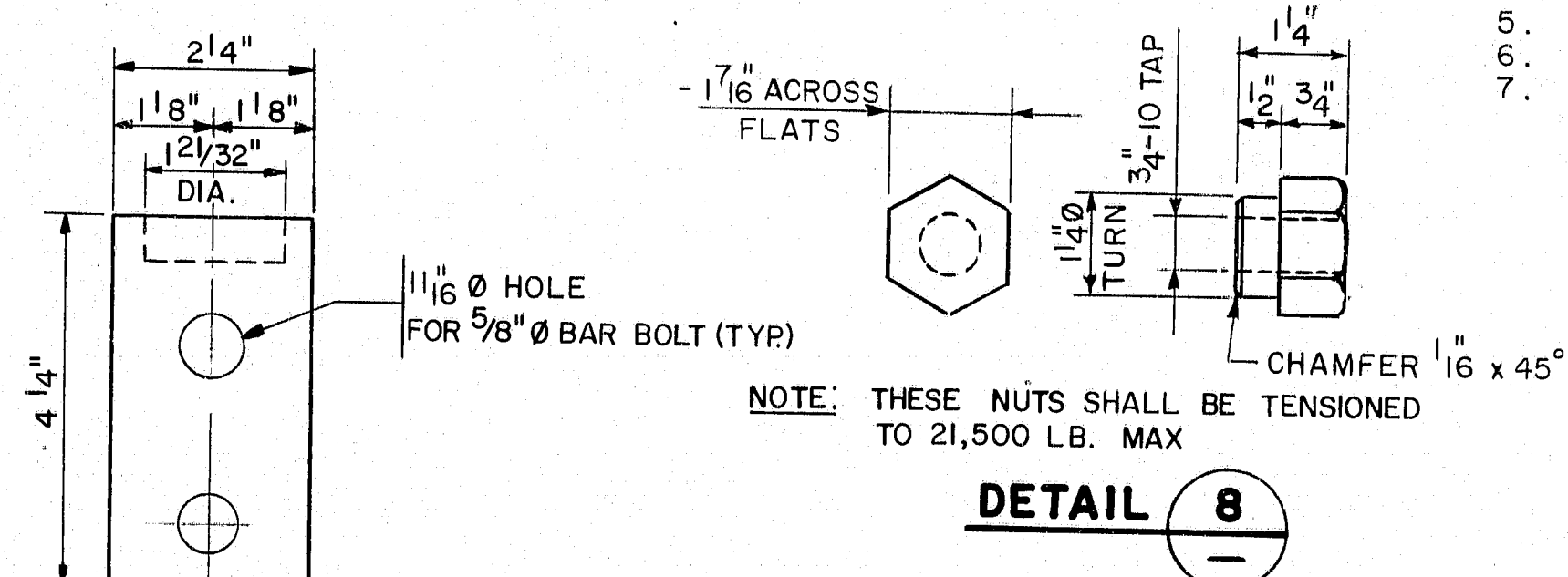
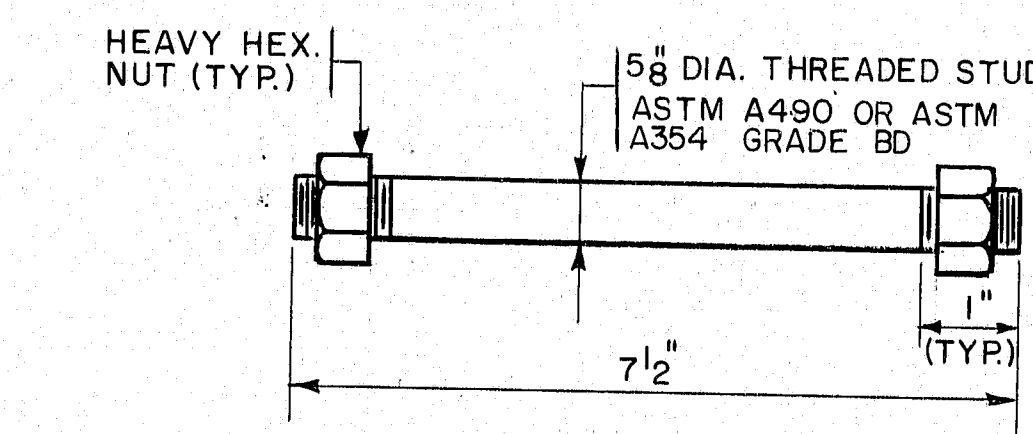
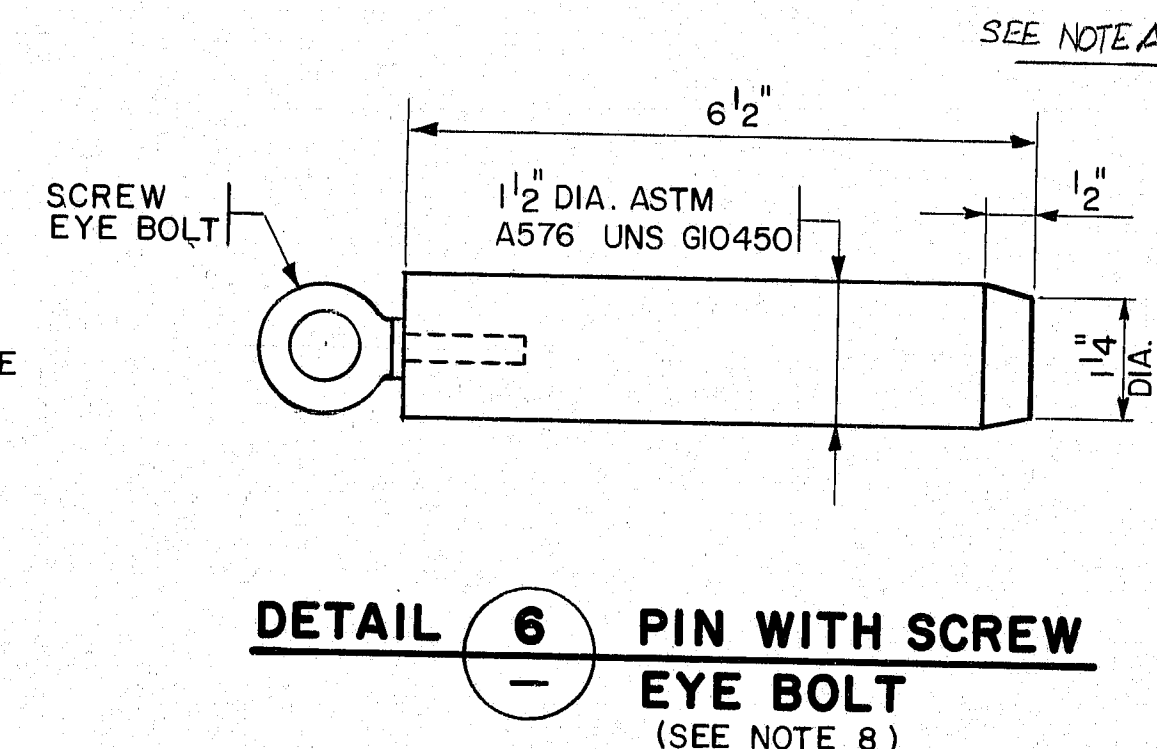
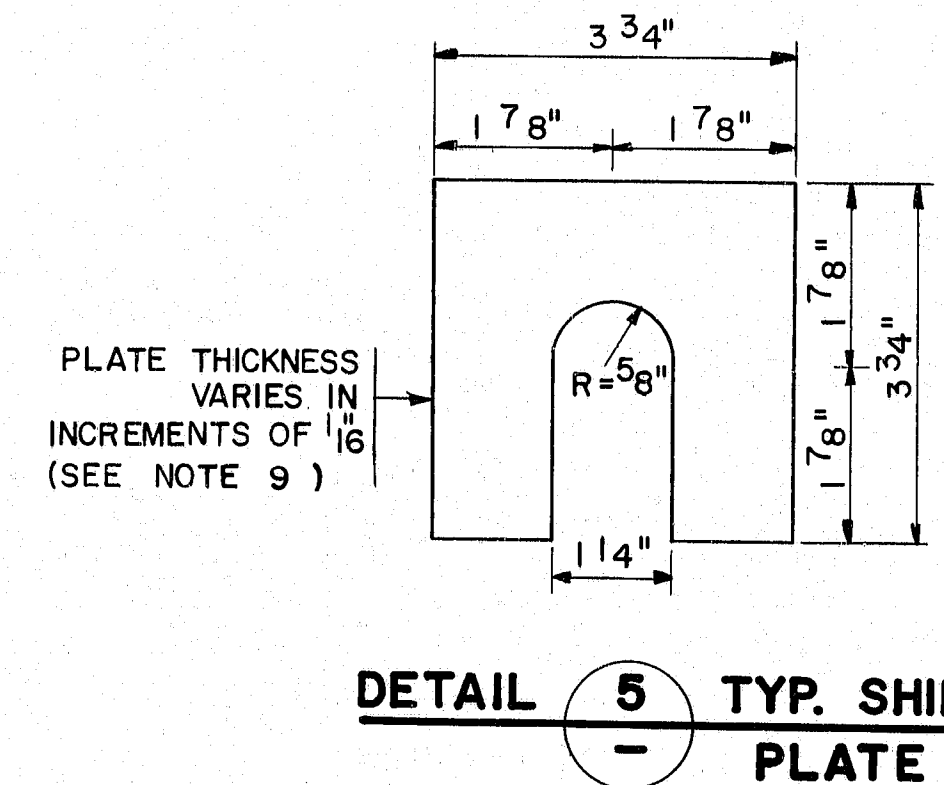
Design: R.N.ck'd M.A.P.
Drawn: W.R.ck'd R.N.
K.P.S.
Engineer in Charge



SECTION B



SECTION D



NOTES:

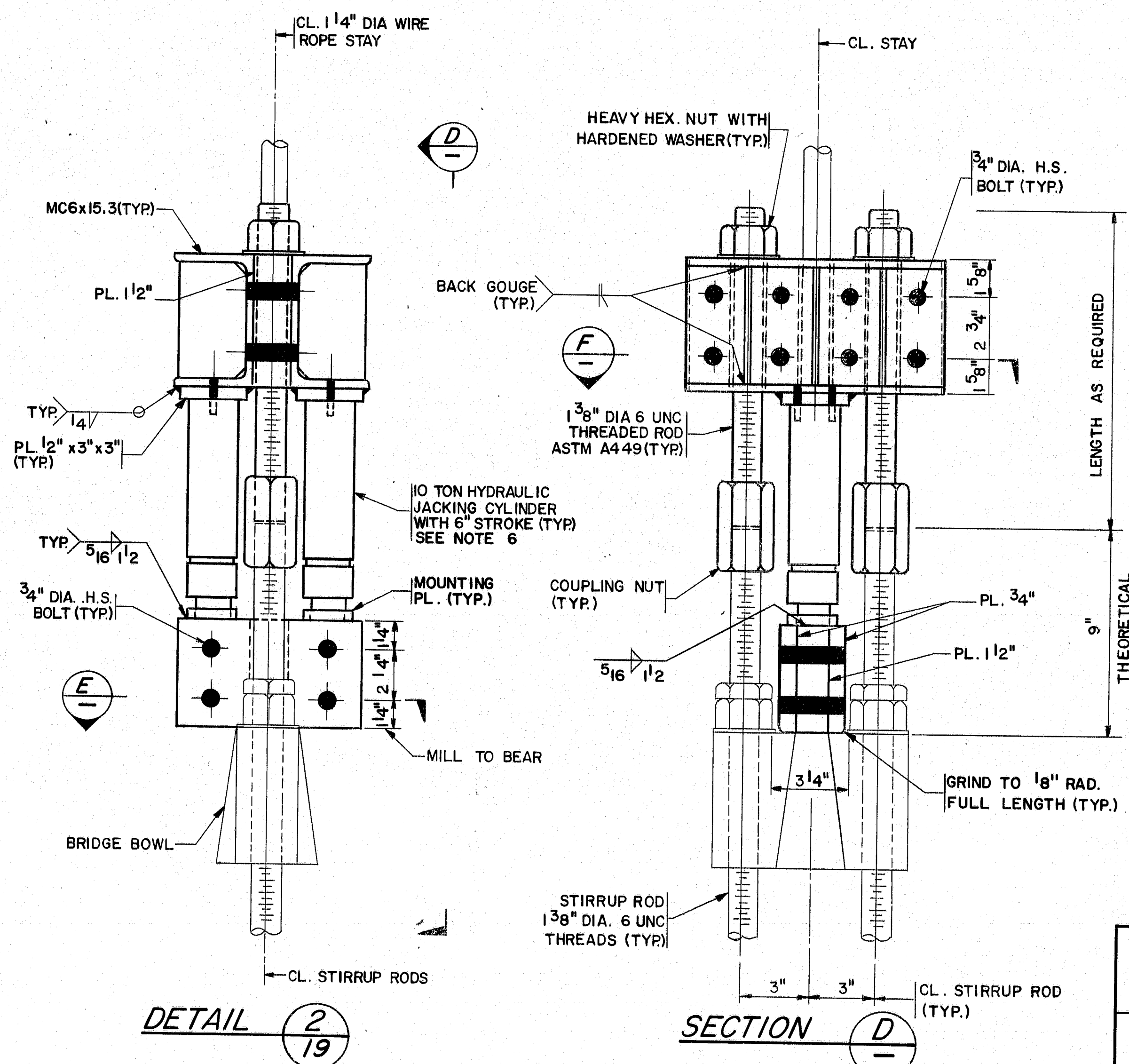
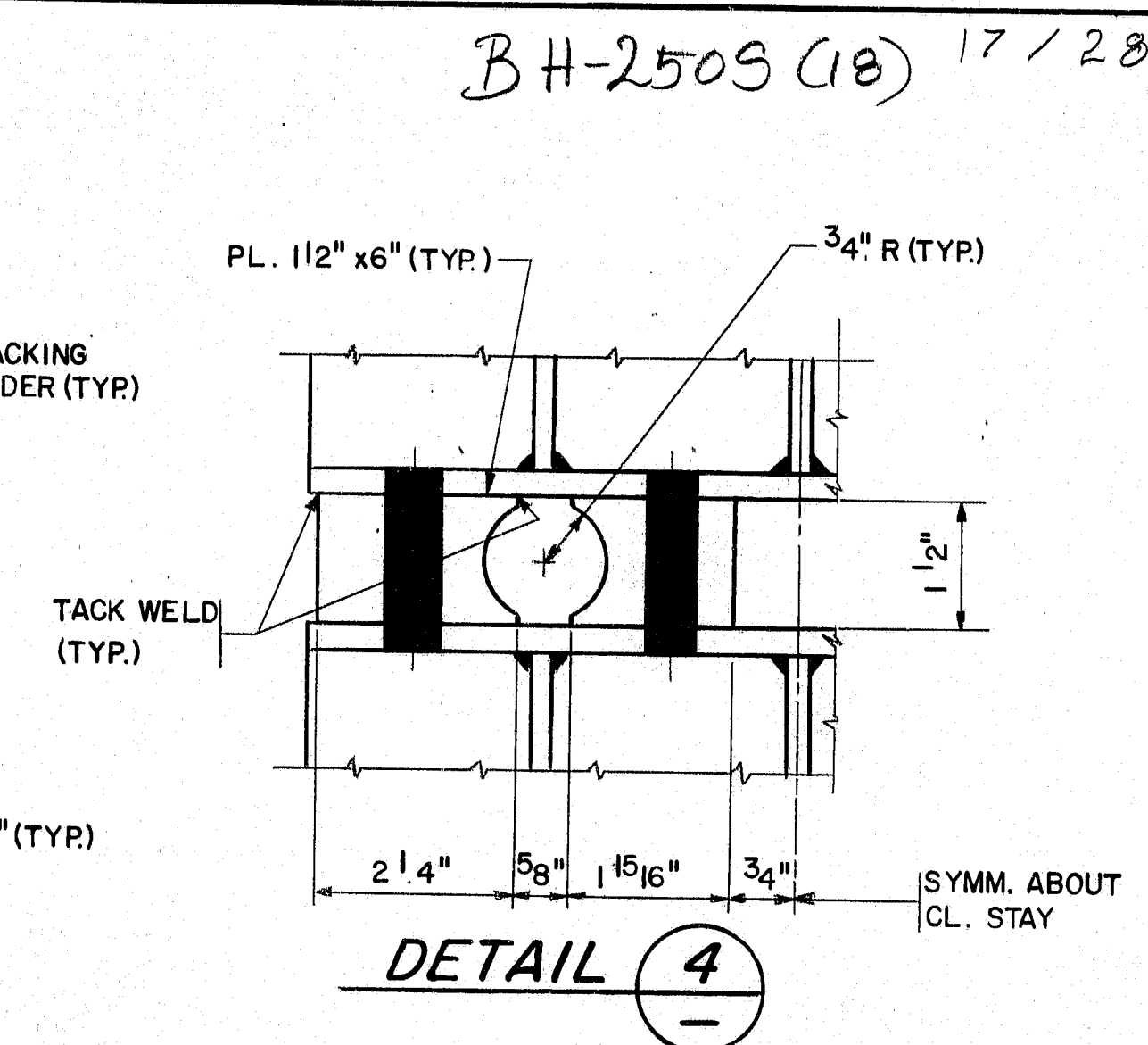
- FOR GENERAL NOTES SEE SHEET NO. 3.
- FOR ADJUSTMENT FORCES FOR DIAGONAL STAYS SEE SHEET NO. 15.
- MATERIALS:
STRUCTURAL STEEL PLATES AND SHAPES:
ASTM A709 GRADE 36 (UNLESS OTHERWISE NOTED)
STRUCTURAL BOLTS, NUTS AND WASHERS:
ASTM A325 HIGH STRENGTH (UNLESS OTHERWISE NOTED)
THREADED RODS: ASTM A449 (UNLESS OTHERWISE NOTED)
- JACKING EQUIPMENT:
EACH JACKING ASSEMBLY SHALL INCLUDE TWO JACKING CYLINDERS CONNECTED TO A SINGLE HYDRAULIC PUMP, AS FOLLOWS:
JACKING CYLINDERS: SINGLE-ACTING HYDRAULIC JACKING CYLINDER WITH 6" STROKE. JACKING CYLINDERS FOR DIAGONAL STAYS AT STIFFENING GIRDER SHALL BE 15 TON CAPACITY, ALL OTHERS SHALL BE 10 TON CAPACITY.
PUMPS: 0 TO 10,000 PSI MINIMUM, TWO STAGE, EQUIPPED WITH CALIBRATED HYDRAULIC GAGE.
THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL STEEL ITEMS AND CATALOG CUTS FOR ALL HYDRAULIC JACKING EQUIPMENT FOR THE STAY JACKING ASSEMBLIES TO THE ENGINEER FOR REVIEW AND APPROVAL.
THE STAY JACKING ASSEMBLIES SHOWN ON SHEET NOS. 16 THRU 18 SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL BECOME THE PROPERTY OF MAINE DOT AT THE COMPLETION OF THE WORK. ITEMS TO BE DELIVERED TO MAINE DOT SHALL INCLUDE ALL STRUCTURAL STEEL PLATES AND SHAPES, PINS, THREADED RODS, COUPLING NUTS, BOLTS AND HYDRAULIC JACKING EQUIPMENT USED TO PERFORM THE STAY ADJUSTMENTS.
THE FURNISHING, INSTALLATION AND REMOVAL OF STAY JACKING ASSEMBLIES AND THEIR DELIVERY TO MAINE DOT SHALL BE INCLUDED IN THE WORK UNDER ITEM 536.30.
- JACKING ASSEMBLY FOR DIAGONAL STAYS AT STIFFENING GIRDER:
8. THE CONTRACTOR MAY SUBSTITUTE AN AISC STANDARD CARBON STEEL PIN WITH HEAD AND COTTER PIN FOR THE PIN SHOWN IN DETAIL 6.
9. THE MINIMUM NUMBER OF SHIM PLATES TO BE FURNISHED SHALL BE AS FOLLOWS:
1/16" THICK - 608 EACH
1/8" THICK - 304 EACH
1/4" THICK - 152 EACH
1/2" THICK - 152 EACH
1" THICK - 38 EACH
2" THICK - 38 EACH
ANY UNUSED SHIM PLATES AND ANY EXISTING SHIM PLATES WHICH ARE REMOVED FROM THE STAY CONNECTIONS AND NOT RE-USED DURING THE ADJUSTMENTS SHALL BE DELIVERED TO MAINE DOT AT THE COMPLETION OF THE WORK.
11. DURING THE STAY ADJUSTMENTS THE ENGINEER WILL INSPECT THE LOWER CONNECTIONS FOR THE 1-1/8" DIAMETER STRUCTURAL STRAND STAYS. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE ENGINEER TO PERFORM THIS INSPECTION AT A MINIMUM OF 25% OF THE LOWER CONNECTIONS. THE CONTRACTOR MAY BE REQUIRED TO TEMPORARILY REMOVE AND REINSTALL ADDITIONAL SHIM PLATES AT SOME LOCATIONS TO FACILITATE THE ENGINEER'S INSPECTION. THIS WORK SHALL BE INCIDENTAL TO PAY ITEM 536.30.
12. TO ENSURE THAT THE EXISTING STAYS HAVE SUFFICIENT ADJUSTMENT CAPACITY, THE CONTRACTOR SHALL MEASURE AND RECORD DIMENSION 'A' AT EACH LOCATION, AND SHALL SUBMIT THESE MEASUREMENTS TO THE ENGINEER FOR REVIEW AT LEAST 30 DAYS PRIOR TO ORDERING WIRE ROPE FOR THE NEW DIAGONAL STAY ASSEMBLIES. THIS WORK SHALL BE INCIDENTAL TO PAY ITEM 536.30.
- PROCEDURE FOR JACKING OF DIAGONAL STAYS AT STIFFENING GIRDER:
1. REMOVE EXISTING KEEPER PLATE(S) AND BOLT WHICH SECURES THE STAY SOCKET.
2. INSTALL STAY JACKING ASSEMBLY.
3. DETERMINE STAY TENSION PRIOR TO ADJUSTMENT BY JACKING TO THE POINT AT WHICH THERE IS INITIAL SEPARATION OF THE STAY SOCKET AND SHIM PLATES.
4. JACK TO PROPER ADJUSTMENT FORCE AS INDICATED FOR EACH PASS ON SHEET NO. 15.
5. INSTALL AND/OR REMOVE SHIM PLATES AS REQUIRED.
6. REMOVE STAY JACKING ASSEMBLY.
7. REINSTALL EXISTING KEEPER PLATE(S) AND BOLT FOR STAY SOCKET.

NOTE A: "PROPERTY OF DOT" DELIVERED TO DEPARTMENT OF TRANSPORTATION BRIDGE MAINTENANCE LOT AT HANCOCK, MAINE.

"REVISED AS BUILT" - M. Pettit - 11/11/95.

| |
|--------------------------------------------------------------------------------------------|
| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS |
| DEER ISLE-SEDGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEDGWICK |
| INSTALLATION OF FAIRINGS |
| STAY JACKING EQUIPMENT - I |
| STEINMAN, BOYNTON, GRONQUIST & BIRDSALL CONSULTING ENGINEERS NEW YORK, N.Y. |
| SCALE: _____ DATE: JUNE 1992 SHEET: 16 OF 28 |

109-19



1. THE STAY JACKING ASSEMBLIES SHOWN ON THIS SHEET ARE SUGGESTED AND THE CONTRACTOR MAY SUBMIT AN ALTERNATE DESIGN TO THE ENGINEER FOR APPROVAL.
2. THE STAY JACKING ASSEMBLIES SHALL BE CAPABLE OF SUSTAINING A LOAD OF 40,000 POUNDS.
3. COUPLING NUTS SHALL CONFORM TO THE MATERIAL REQUIREMENTS OF ASTM A563 GRADE C, D OR DH OR ASTM A194 GRADE 2 OR 2H.
4. THE CONTRACTOR SHALL INSTALL A NEW 1-1/4" ANVIL JAM NUT OVER THE EXISTING HEAVY HEX. NUT ON EACH FIBERGLASS ROD FOLLOWING COMPLETION OF THE STAY ADJUSTMENTS.
5. TO ENSURE THAT THE EXISTING STAYS HAVE SUFFICIENT ADJUSTMENT CAPACITY, THE CONTRACTOR SHALL MEASURE AND RECORD THE AMOUNT OF TAKE-UP AVAILABLE AT EACH LOCATION, AND SHALL SUBMIT THESE MEASUREMENTS TO THE ENGINEER FOR REVIEW AT LEAST 30 DAYS PRIOR TO ORDERING WIRE ROPE FOR THE NEW DIAGONAL STAY ASSEMBLIES. THIS WORK SHALL BE INCIDENTAL TO PAY ITEM 536.30.
6. DEPENDING ON THE LENGTH OF THREADED RODS EXTENDING BEYOND THE BRIDGE BOWL, THE CONTRACTOR MAY OPT TO SUBSTITUTE A 10-TON JACK WITH A SHORTER STROKE FOR THE JACK SHOWN, POSSIBLY ELIMINATING THE NEED FOR COUPLING NUTS AND THREADED ROD EXTENSIONS.
7. CLEAN THE SURFACE OF THE EXISTING BRIDGE BOWL TO BARE METAL TO PROVIDE PROPER BEARING.
8. FOR ADDITIONAL NOTES SEE SHEET NO. 16.

TYPICAL JACKING ASSEMBLY FOR NEW
DIAGONAL STAY AT MAIN TOWERS

109-20

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

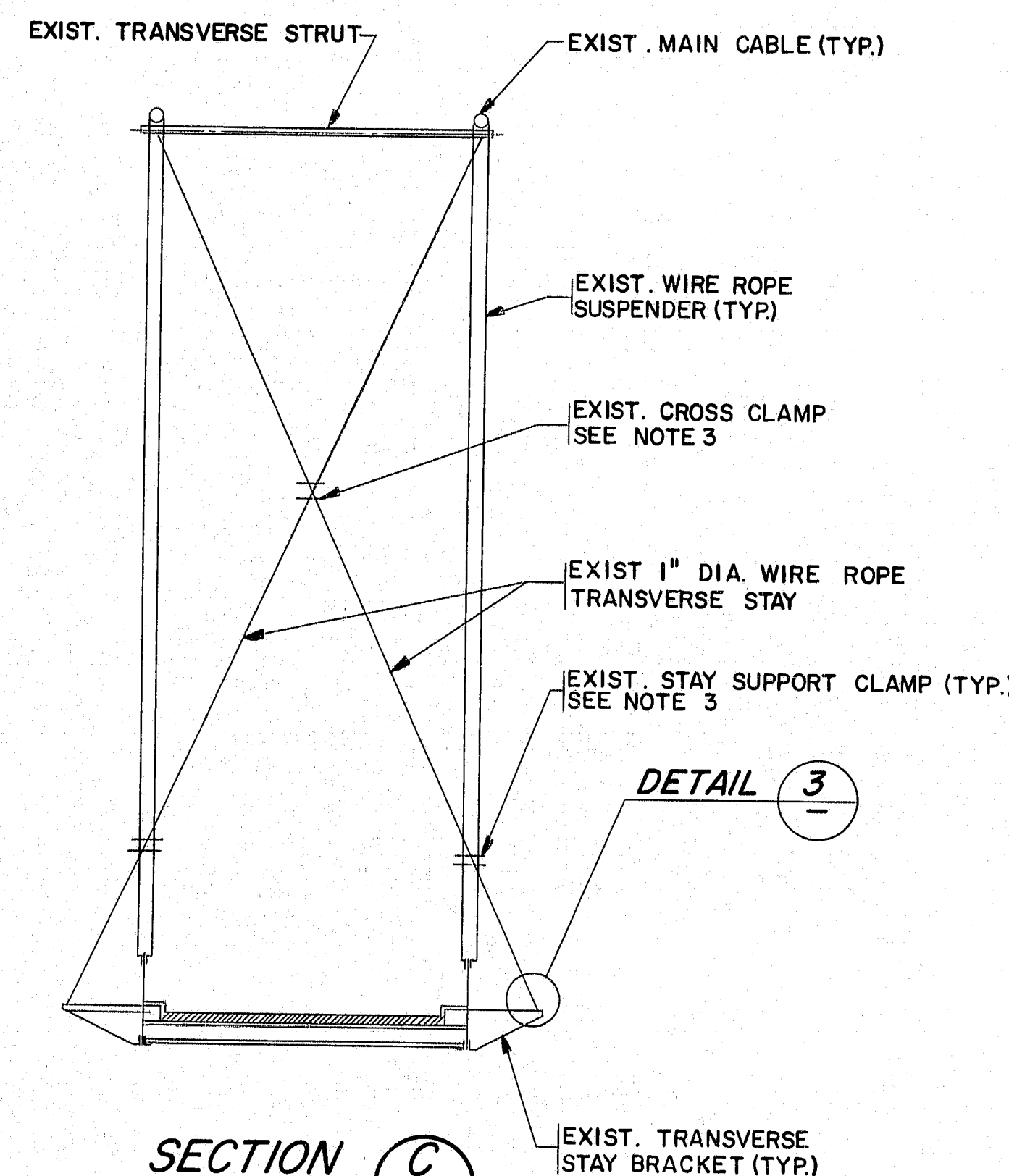
DEER ISLE-SEDGWICK BRIDGE
OVER
EGGEMOGGIN REACH
FROM LITTLE DEER ISLE TO SEDGWICK

INSTALLATION OF FAIRINGS

STAY JACKING EQUIPMENT - II

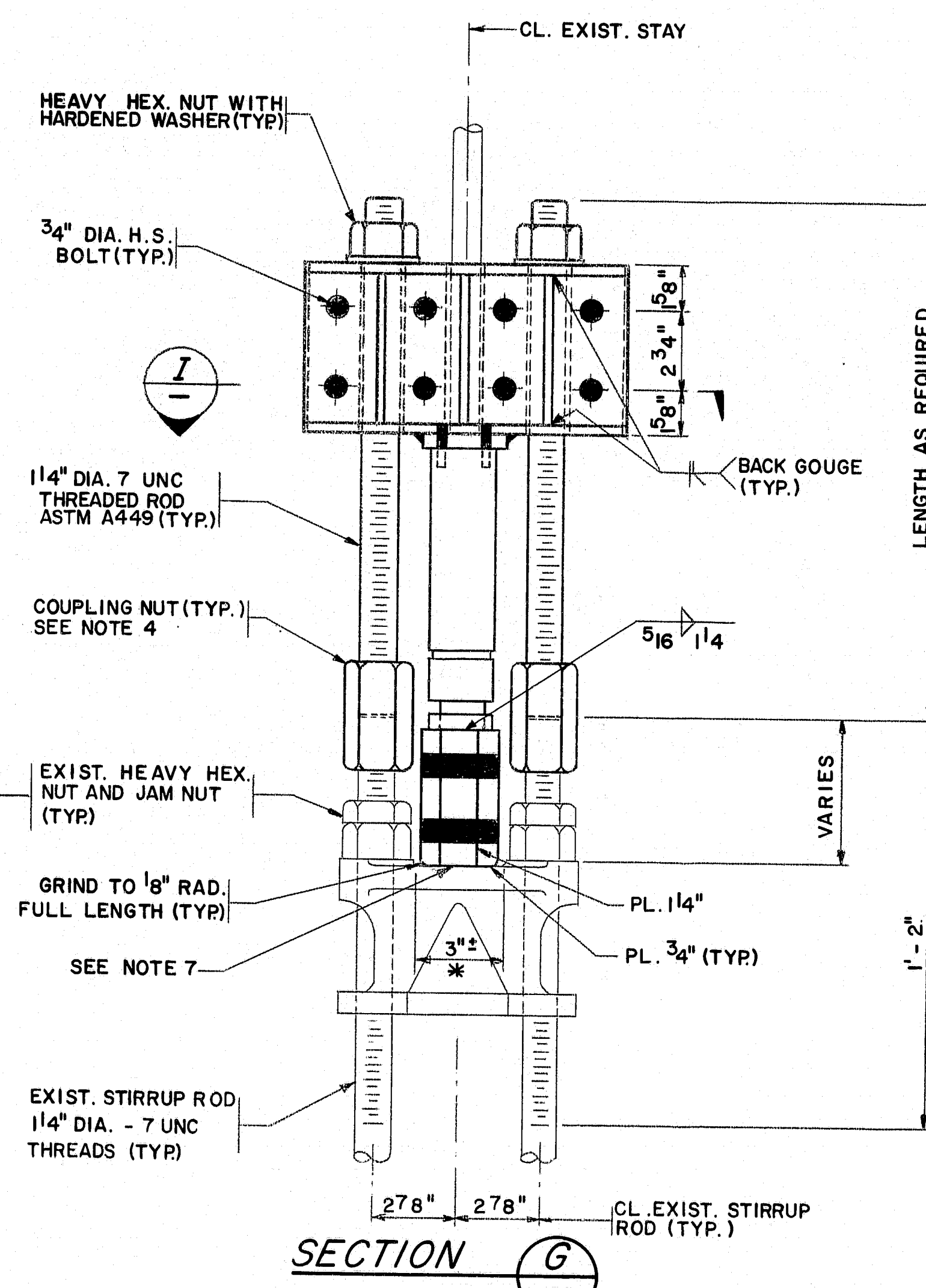
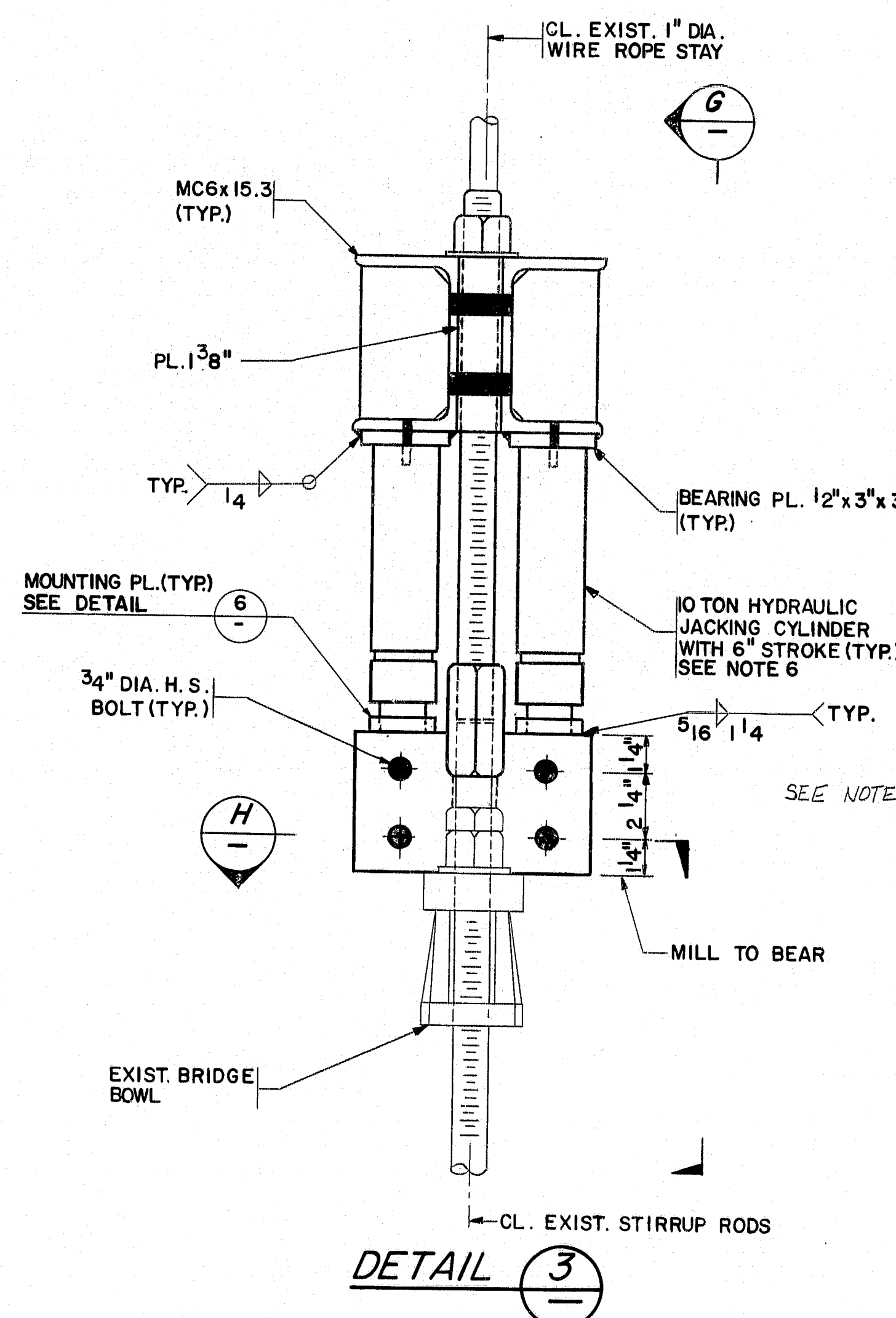
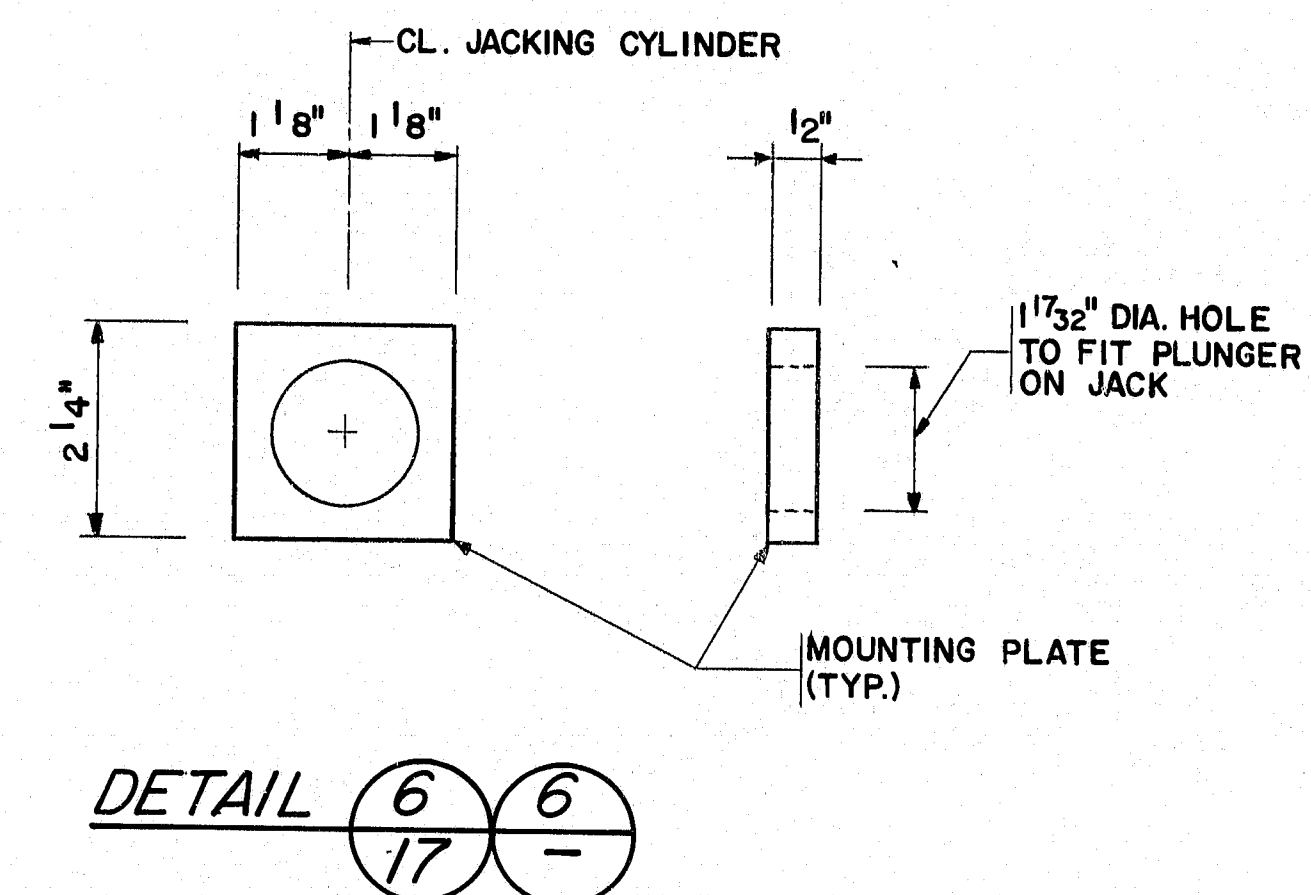
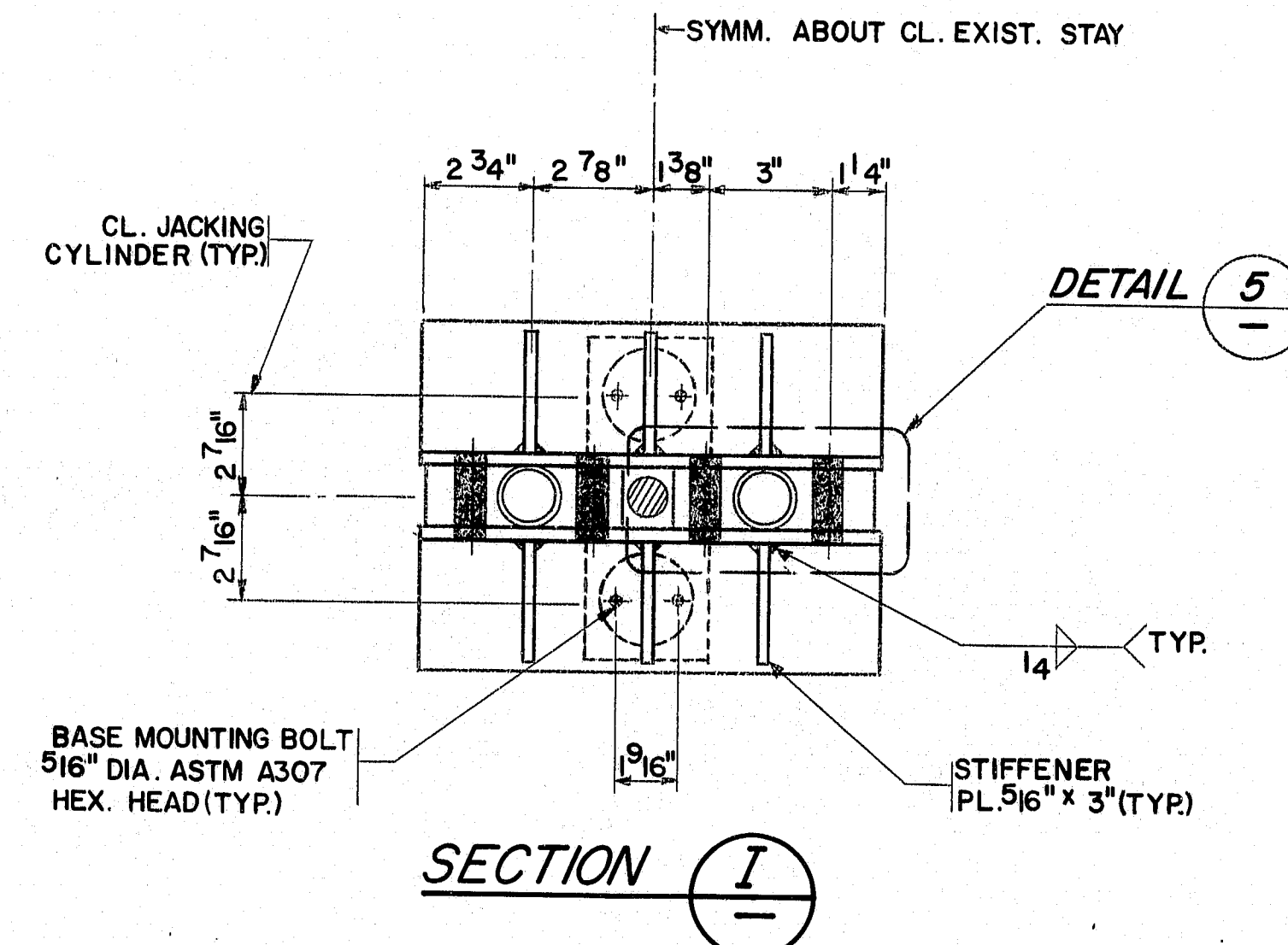
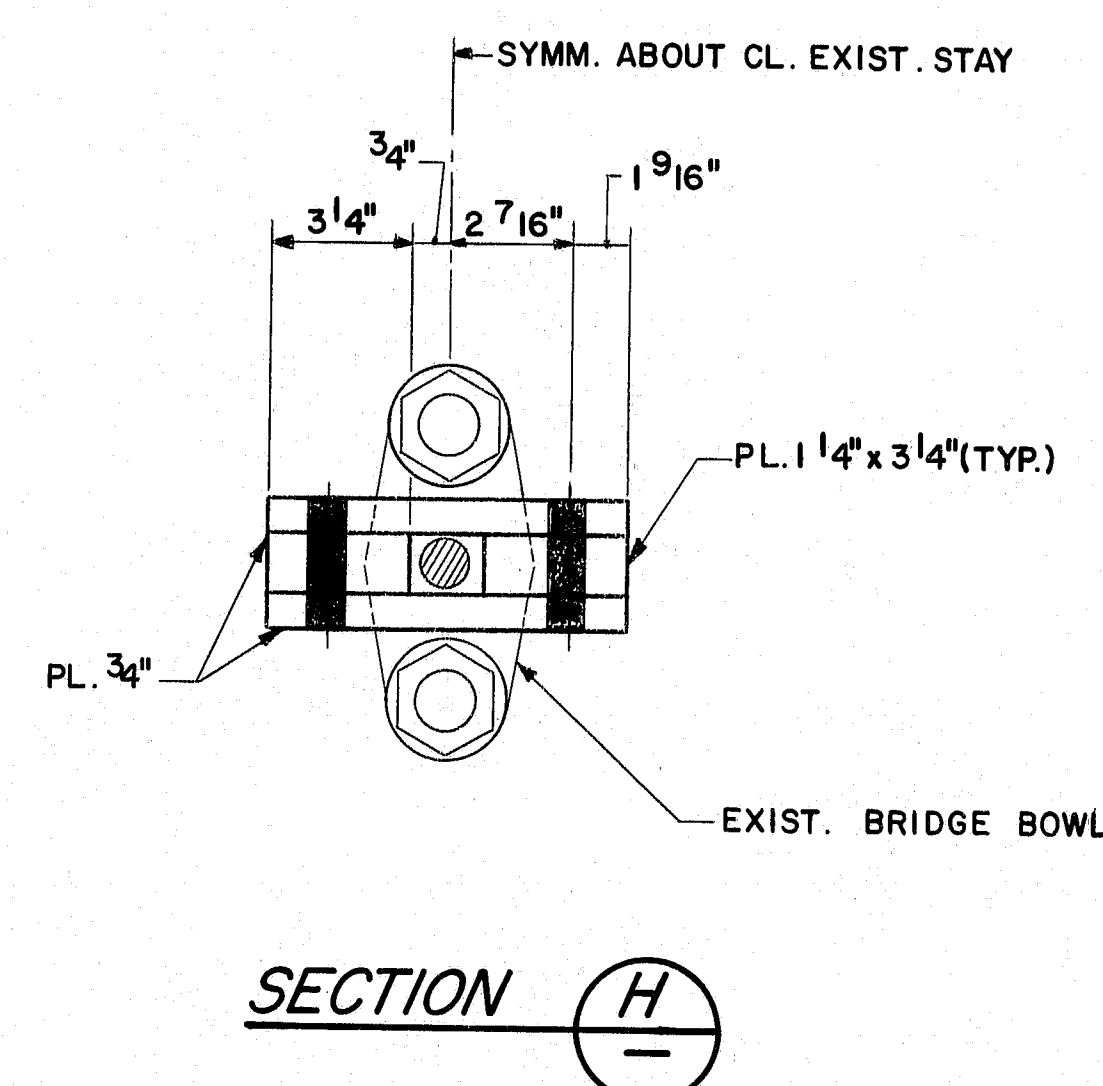
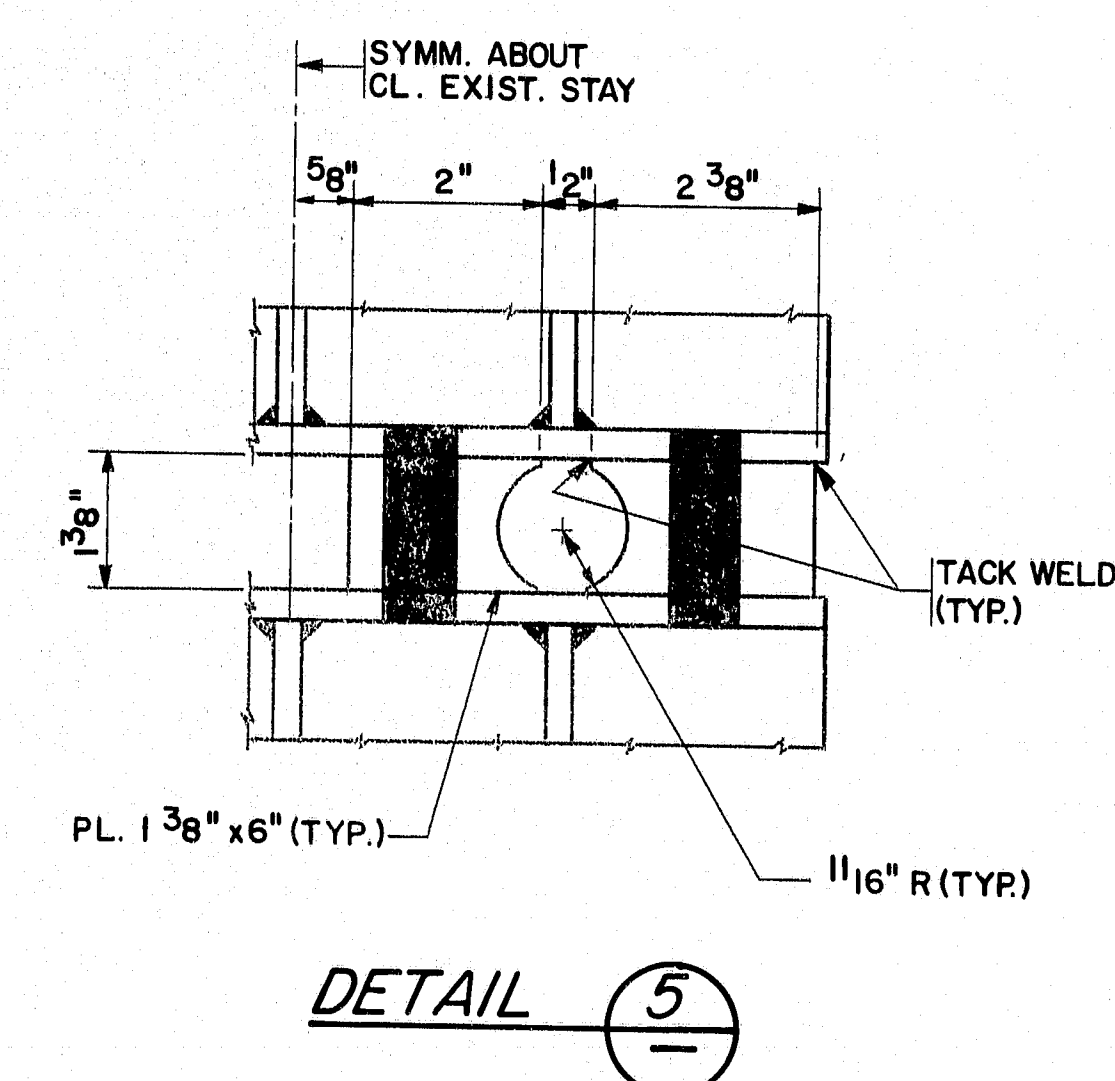
STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

SCALE: _____
DATE: JUNE 1992
SHEET: 17 OF 28



SECTION C
NOTE: THIS SECTION IS TYPICAL AT PANEL POINTS 10, 11, 23, 24 AND 25 ON DEER ISLE AND SEDGWICK SPANS

SECTION C CROSS SECTION AT TRANSVERSE STAYS



* - THE CONTRACTOR SHALL FIELD VERIFY THIS DIMENSION PRIOR TO FABRICATION OF THE STAY JACKING ASSEMBLY.

TYPICAL JACKING ASSEMBLY FOR TRANSVERSE STAYS

NOTES:

- THE EXISTING TRANSVERSE STAYS SHALL BE ADJUSTED TO A MINIMUM 10,000 LBS. AND A MAXIMUM 10,500 LBS. TENSION. THIS WORK SHALL BE DONE AFTER COMPLETING ADJUSTMENT OF THE DIAGONAL STAYS AS INDICATED ON SHEET NO. 15.
- THE STAY JACKING ASSEMBLY SHOWN ON THIS SHEET IS SUGGESTED AND THE CONTRACTOR MAY SUBMIT AN ALTERNATE DESIGN TO THE ENGINEER FOR APPROVAL.
- THERE ARE EXISTING CROSS CLAMPS AT THE TRANSVERSE STAY INTERSECTIONS AND STAY SUPPORT CLAMPS AT THE SUSPENDERS. THE CONTRACTOR SHALL LOOSEN THESE EXISTING CLAMPS PRIOR TO ADJUSTING THE TRANSVERSE STAYS AND RE-TIGHTEN THEM AFTER COMPLETION OF THE ADJUSTMENTS.
- COUPLING NUTS SHALL CONFORM TO THE MATERIAL REQUIREMENTS OF ASTM A563 GRADE C, D OR DH OR ASTM A194 GRADE 2 OR 2H.
- ALL WORK FOR ADJUSTMENT OF THE TRANSVERSE STAYS SHALL BE PAID FOR UNDER ITEM 534.30.
- DEPENDING ON THE LENGTH OF THREADED RODS EXTENDING BEYOND THE BRIDGE BOWL, THE CONTRACTOR MAY OPT TO SUBSTITUTE A 10-TON JACK WITH A SHORTER STROKE FOR THE JACK SHOWN, POSSIBLY ELIMINATING THE NEED FOR COUPLING NUTS AND THREADED ROD EXTENSIONS.
- CLEAN THE SURFACE OF THE EXISTING BRIDGE BOWL TO BARE METAL TO PROVIDE PROPER BEARING.
- FOR ADDITIONAL NOTES SEE SHEET NO. 16.

NOTE A: DOUBLE HEAVY HEX NUTS USED IN PLACE OF HEAVY HEX NUT & HEAVY JAM NUT.

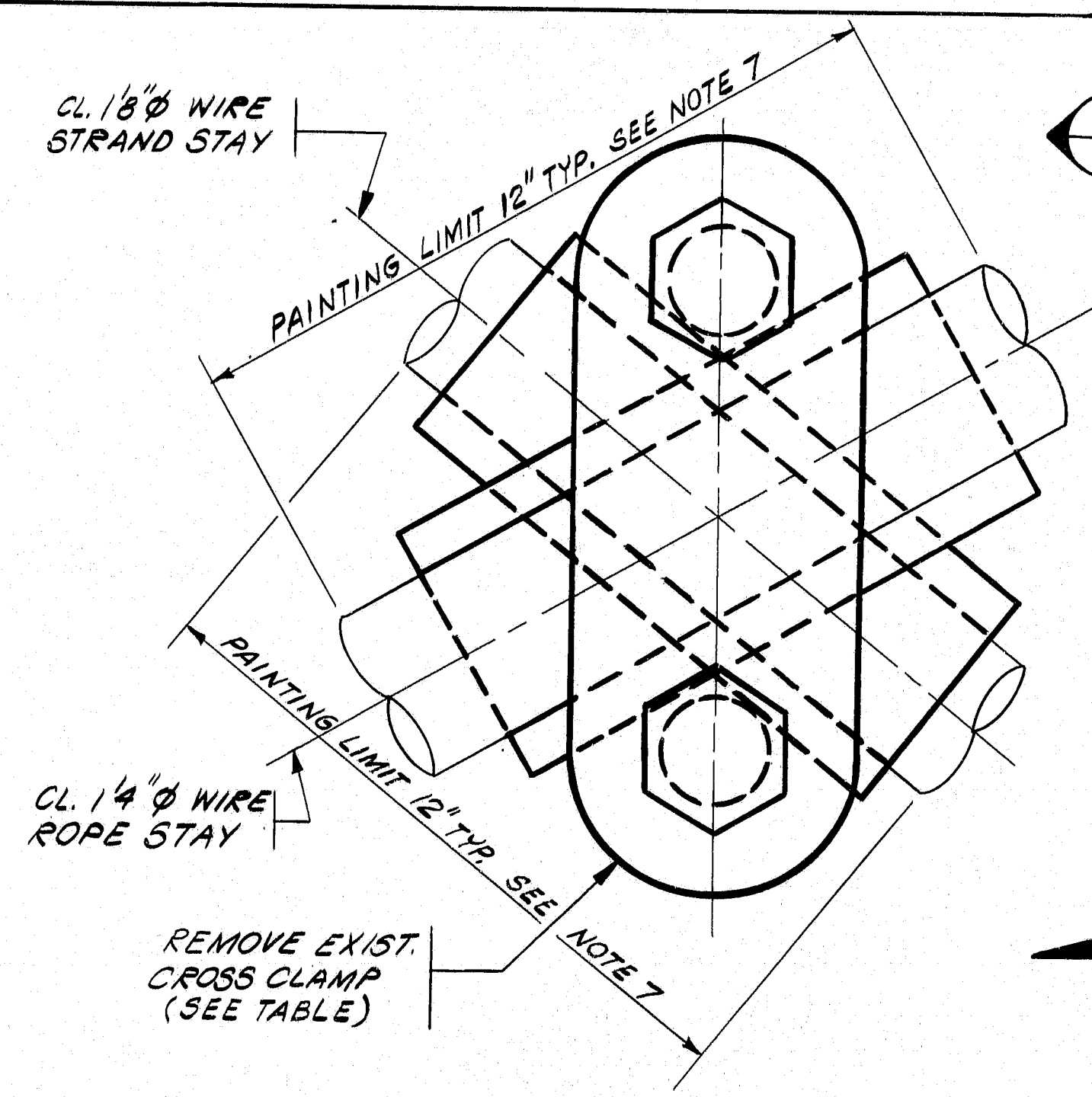
109-21

"REVISED AS BUILT" - M. P. 11/2/95

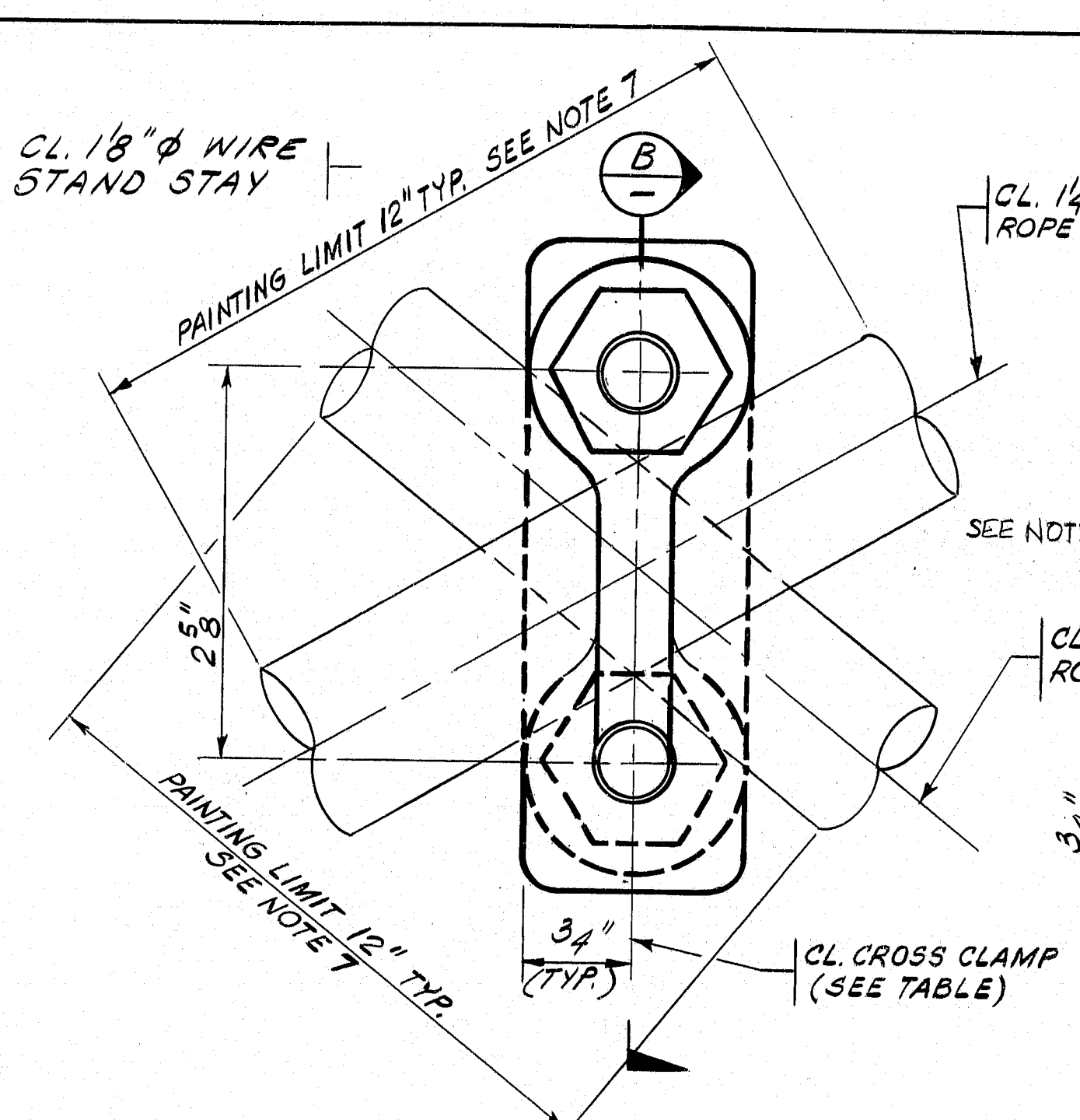
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| STATE OF MAINE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS |
| DEER ISLE-SEDGWICK BRIDGE OVER EGGEMOGGIN REACH FROM LITTLE DEER ISLE TO SEDGWICK |
| INSTALLATION OF FAIRINGS STAY JACKING EQUIPMENT - III |
| STEINMAN, BOYNTON, GRONQUIST & BIRDSALL CONSULTING ENGINEERS NEW YORK, N.Y. |
| SCALE: DATE: JUNE 1992 SHEET: 18 OF 28 |

Design: J.B., C.K., D.K.,
Drawn: W.R., C.K., J.B.,
K.P.S.
Engineer in Charge

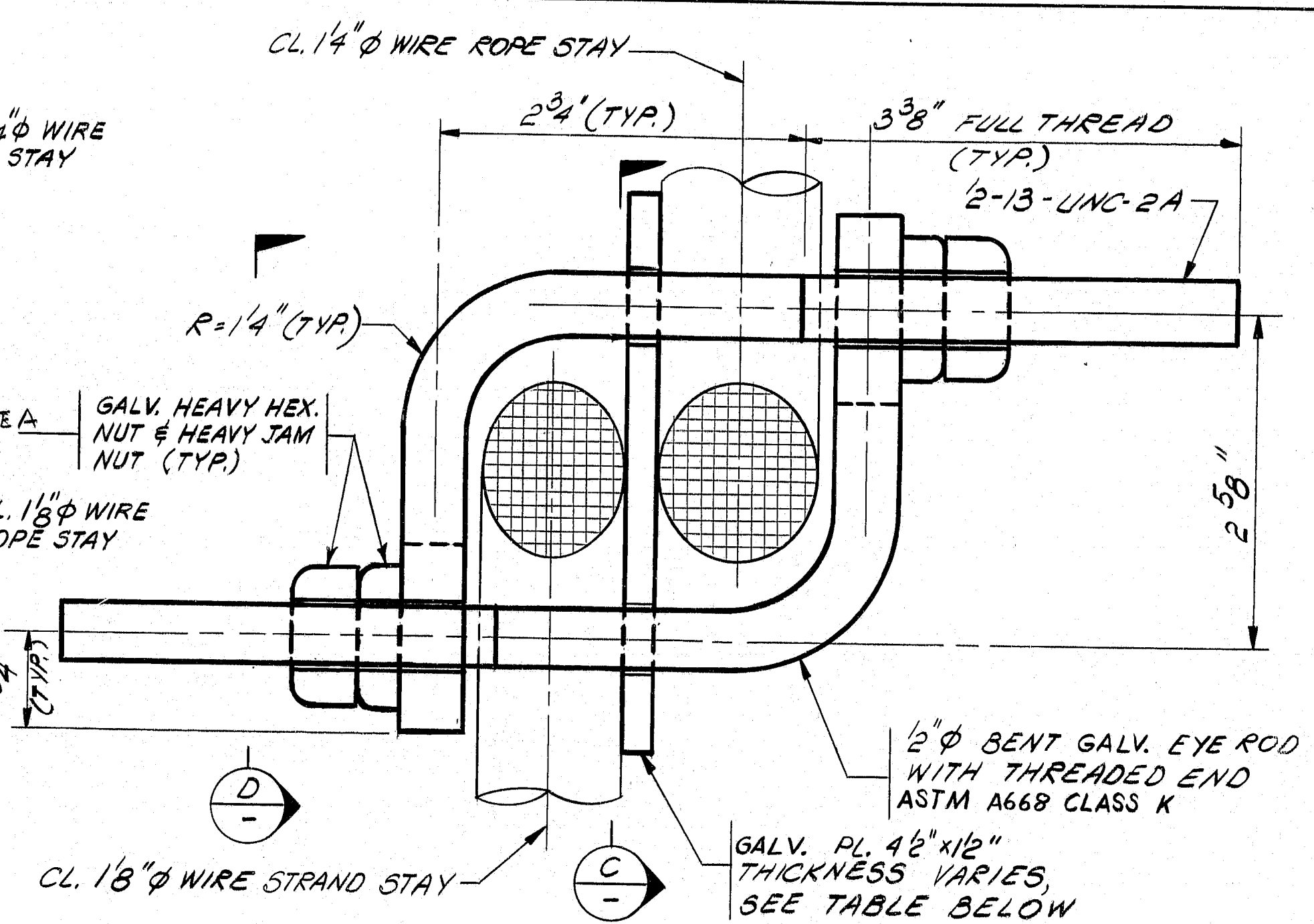
BH-2503(18) 19/28



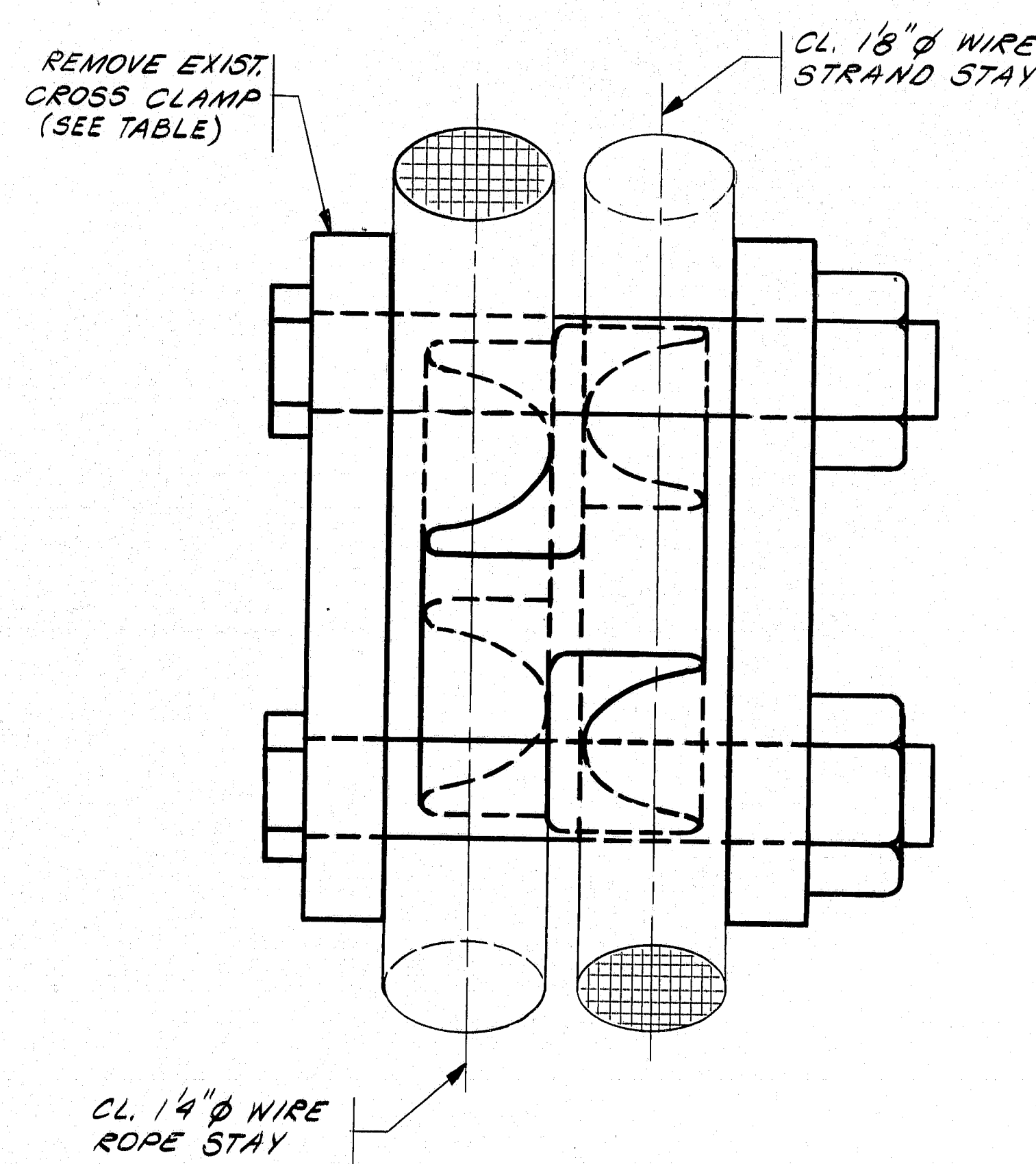
DETAIL 1 EXIST. CROSS CLAMP REMOVAL (TYP.)



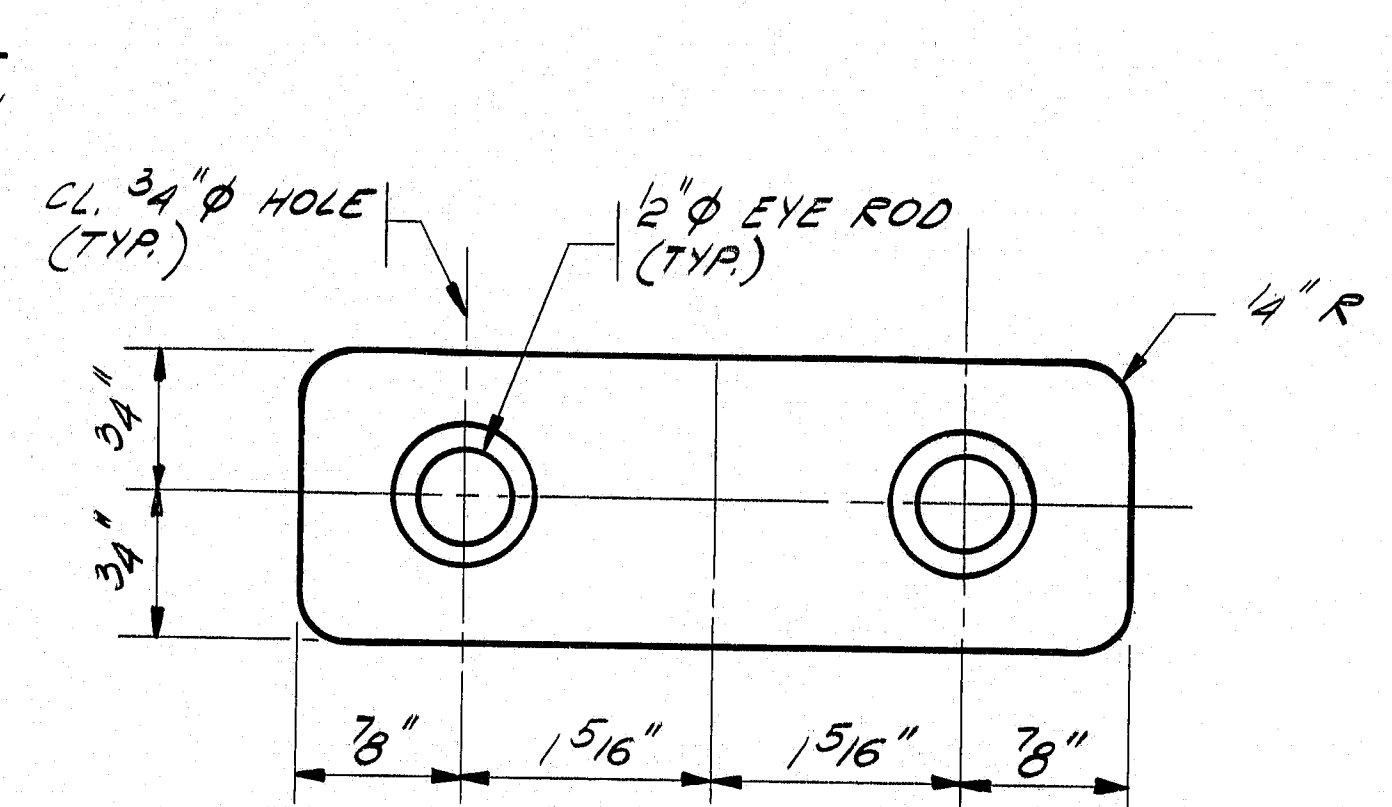
DETAIL 2 NEW CROSS CLAMP



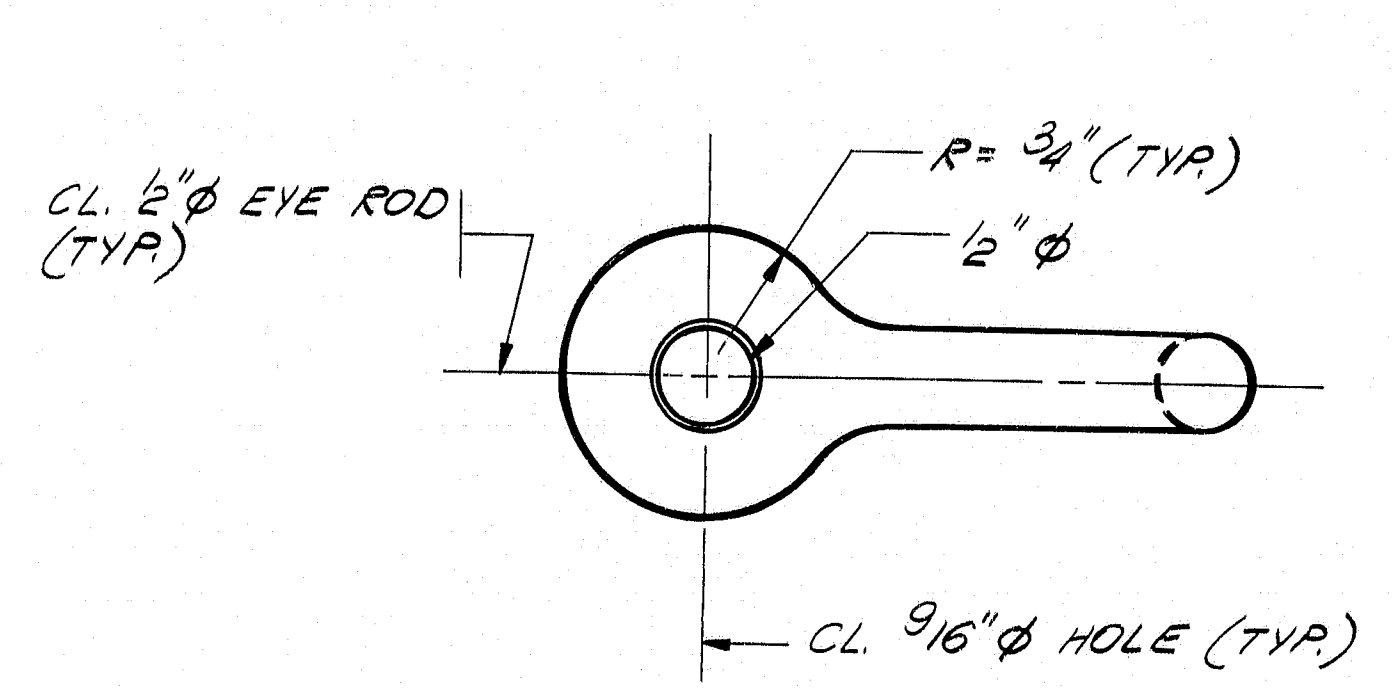
SECTION B SHOWN WITH 1/4" SEPARATOR PLATE



SECTION A TYPICAL

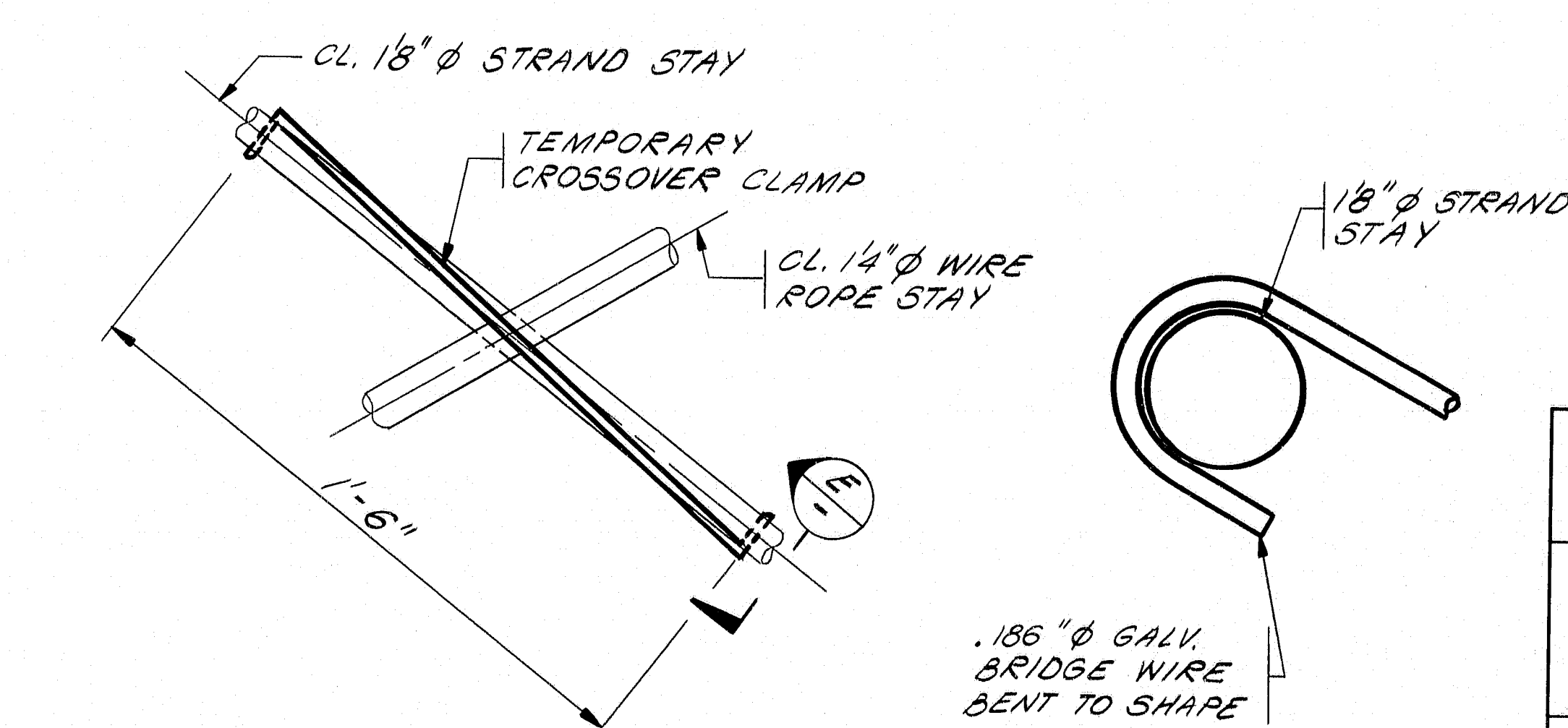


SECTION C

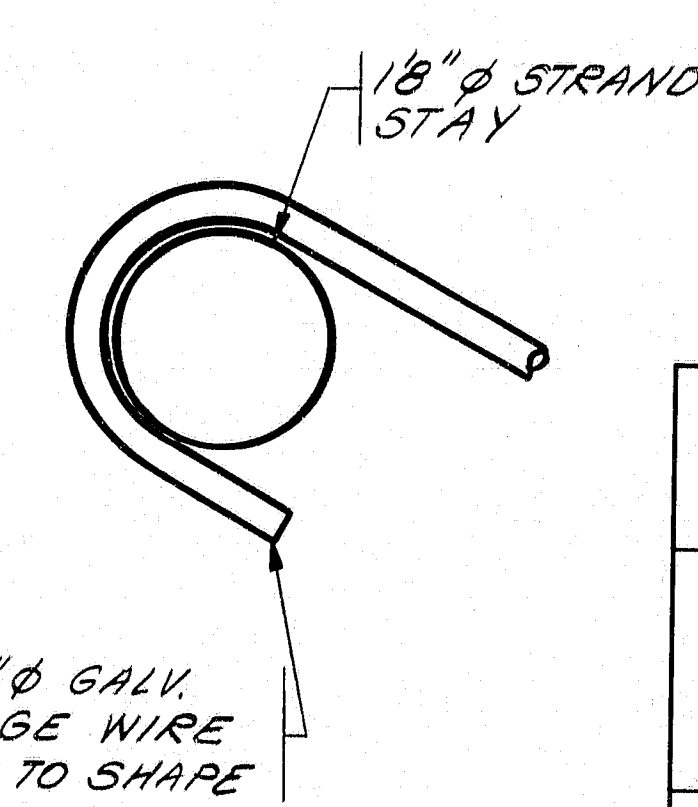


SECTION D

| LOCATION TABLE OF LOOSE STAY CLAMPS TO BE REPLACED | | | |
|----------------------------------------------------|------------|--------------------|---------------------------|
| BRIDGE HALF | MAIN CABLE | INTERSECTING STAYS | SEPARATOR PLATE THICKNESS |
| NORTH | EAST | L17-U11 & U17-L13 | 1/4" |
| SOUTH | EAST | L17-U13 & U17-L13 | 1/8" |
| SOUTH | EAST | L17-U21 & U17-L21 | 1/8" |
| NORTH | WEST | L17-U23 & U17-L23 | 1/16" |
| NORTH | WEST | L17-U23 & U21-L24 | 1/4" |
| NORTH | WEST | L17-U21 & U17-L21 | 1/8" |
| NORTH | WEST | L17-U21 & U17-L23 | 1/8" |



DETAIL 3 SUGGESTED TEMPORARY CROSS CLAMP
NOTE: NOT USED



SECTION E

NOTES:

- FOR GENERAL NOTES, SEE SHEET NO. 3.
- FOR GENERAL BRIDGE ELEVATION, SEE SHEET NO. 4.
- LOCATIONS OF CROSS CLAMPS TO BE REMOVED AND REPLACED ARE INDICATED IN THE TABLE.
- ALL PARTS OF THE NEW PERMANENT CROSS CLAMPS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153.
- ALL NEW PERMANENT CROSS CLAMPS SHALL BE INSTALLED AFTER THE DIAGONAL STAY ADJUSTMENTS ARE COMPLETED. SEE SHEET NO. 15 FOR STAY ADJUSTMENTS.
- ALL WORK SHOWN ON THIS DRAWING SHALL BE PAID FOR UNDER ITEMS 536.34 AND 536.35, UNLESS OTHERWISE NOTED.
- THE EXISTING DIAGONAL STAYS AND CROSS CLAMPS TO REMAIN SHALL BE CLEANED AND PAINTED WITHIN THE LIMITS SHOWN IN DETAIL 1/4. ALL NEW CROSS CLAMPS AND DIAGONAL STAYS SHALL BE COMPLETELY PAINTED. ALL PAINTING SHALL BE PAID FOR UNDER ITEM NO. 506.32.

NOTE A: DOUBLE HEAVY HEX NUTS USED IN PLACE OF HEAVY HEX NUT & HEAVY TAM NUTS.

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"REVISED AS BUILT" - M. Pottel - 1/12/95

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

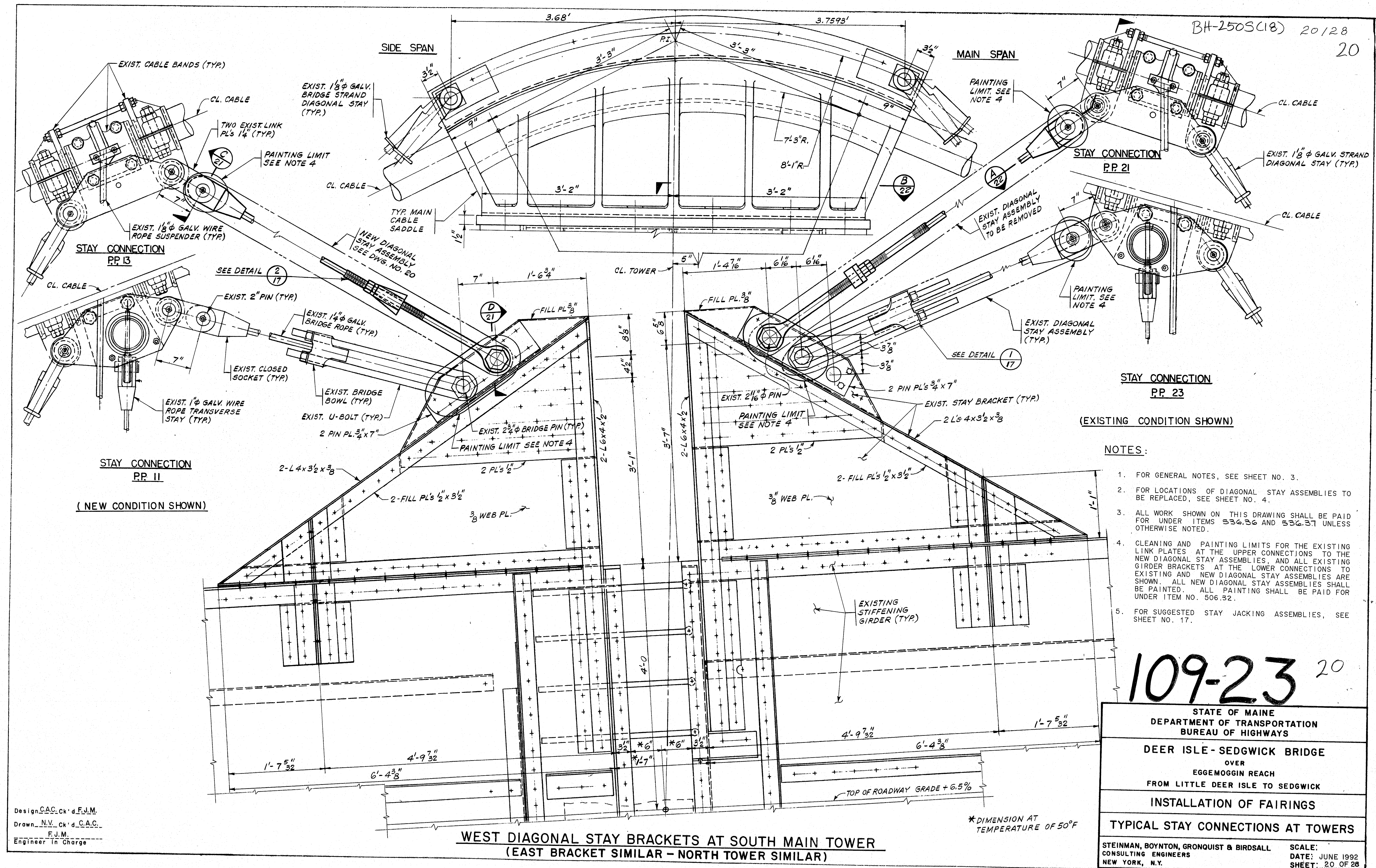
DEER ISLE-SEDGWICK BRIDGE
OVER
EGGEMOGGIN REACH
FROM LITTLE DEER ISLE TO SEDGWICK

INSTALLATION OF FAIRINGS
CROSS CLAMP DETAILS

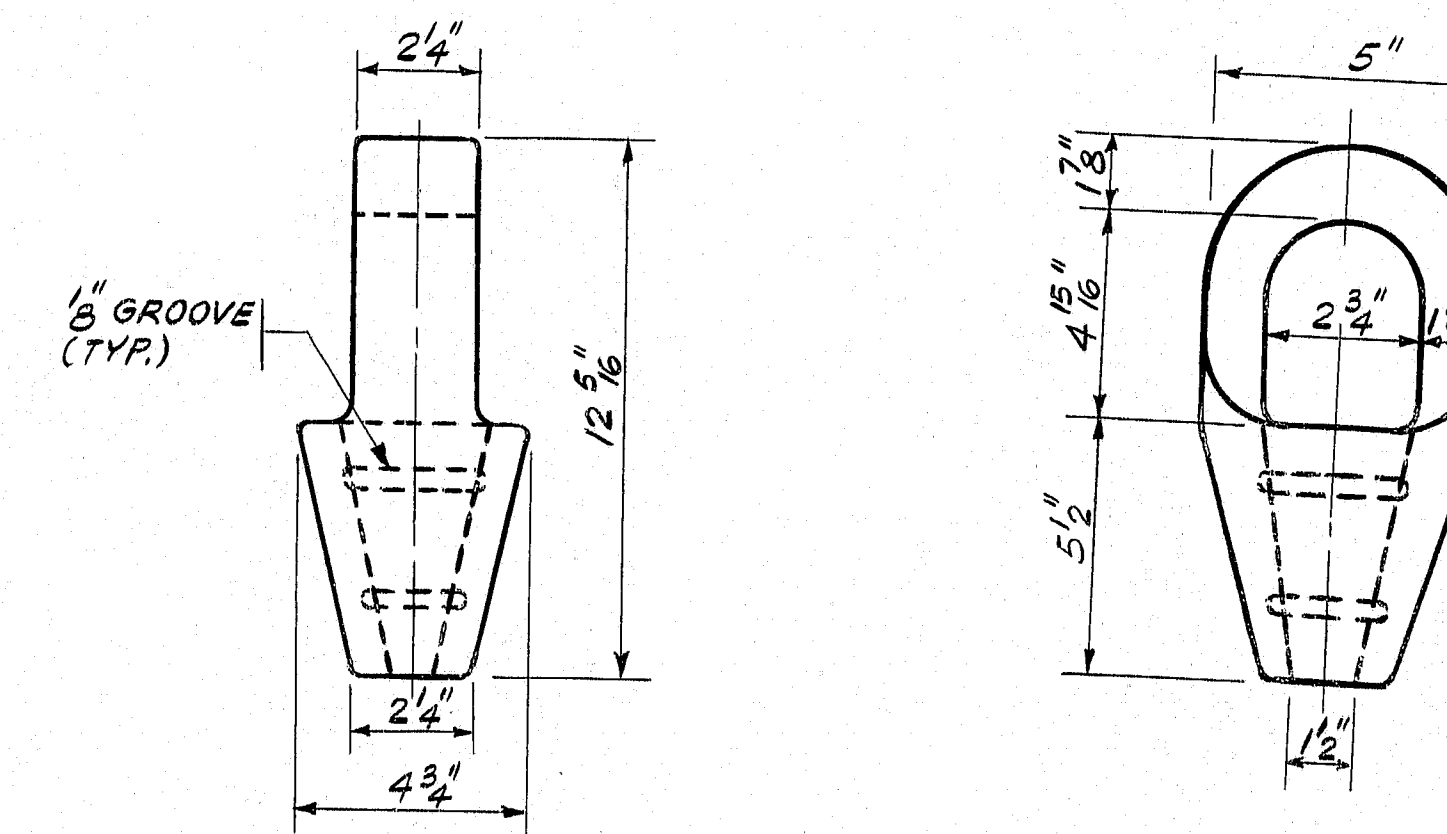
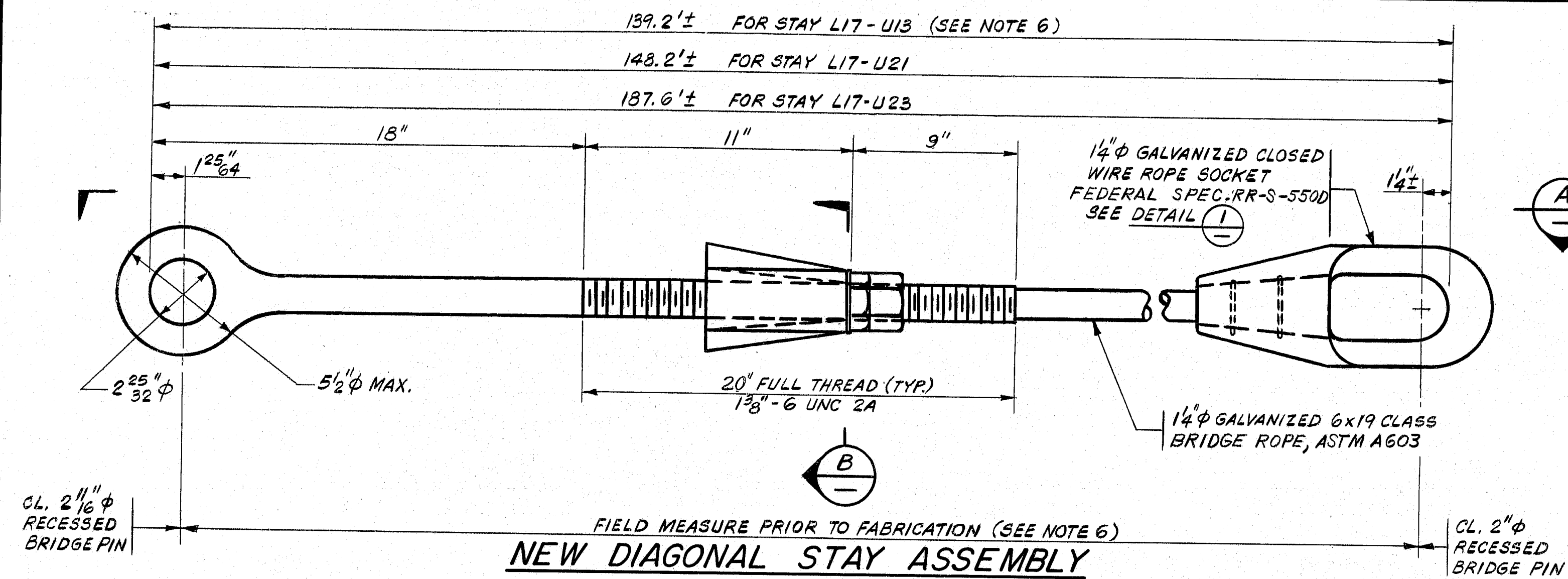
STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

SCALE:
DATE: JUNE, 1992
SHEET: 19 OF 28

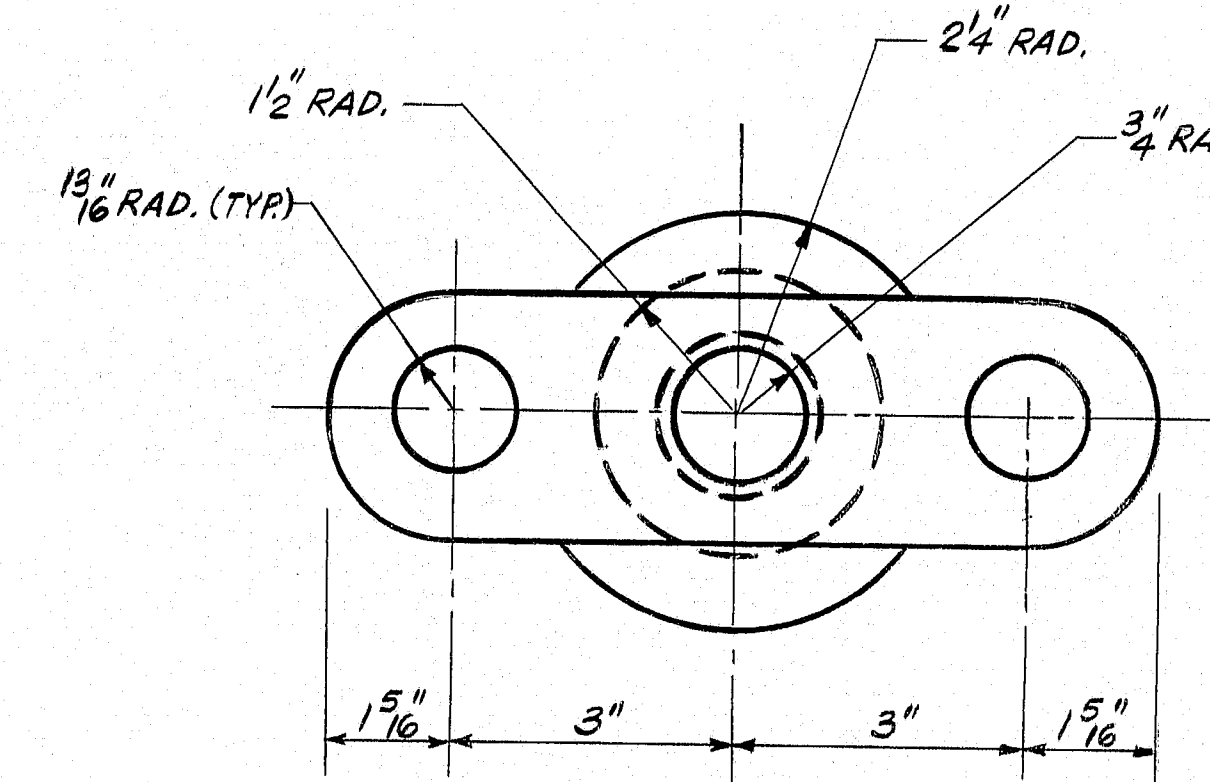
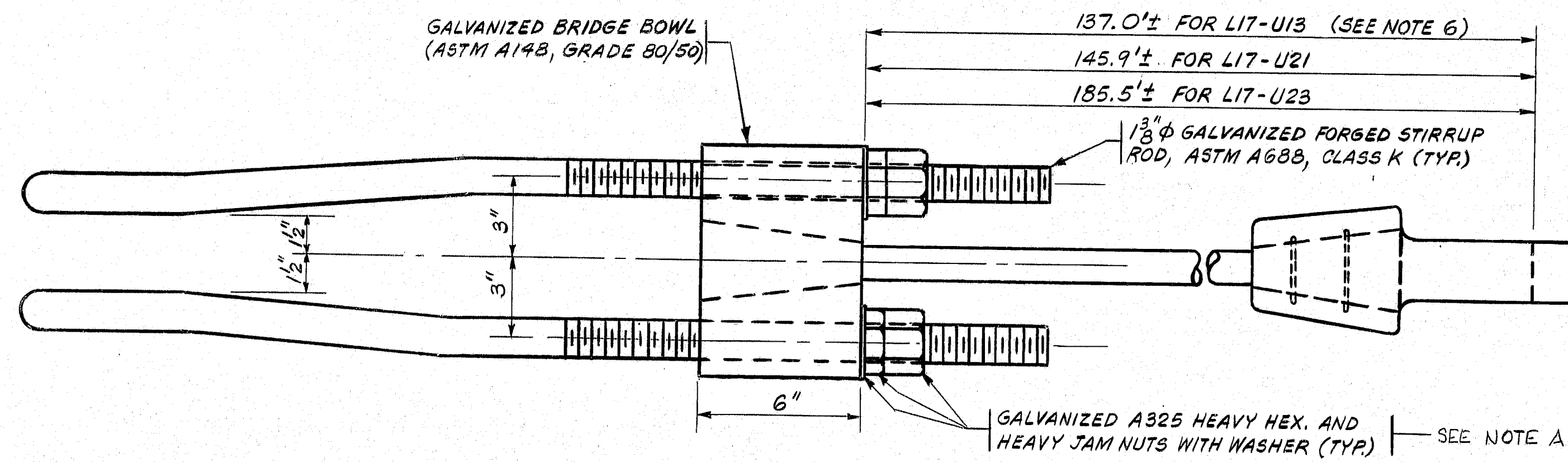
Design GAG, ck'd F.J.M.
Drawn J.B., ck'd C.A.C.
F.J.M.
Engineer In Charge



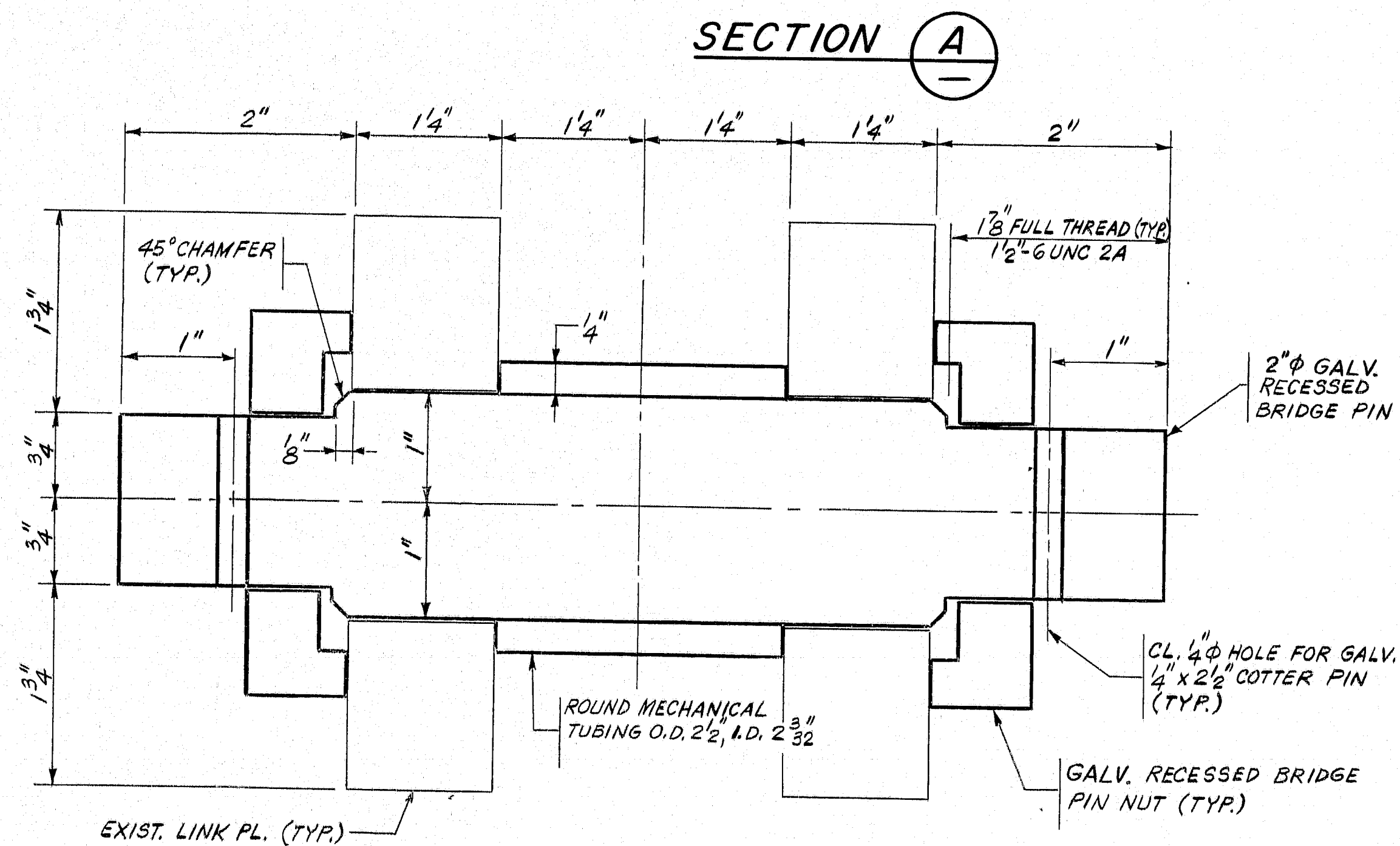
BH-2505(18) 21/28



DETAIL (1) TYPICAL CLOSED BRIDGE SOCKET



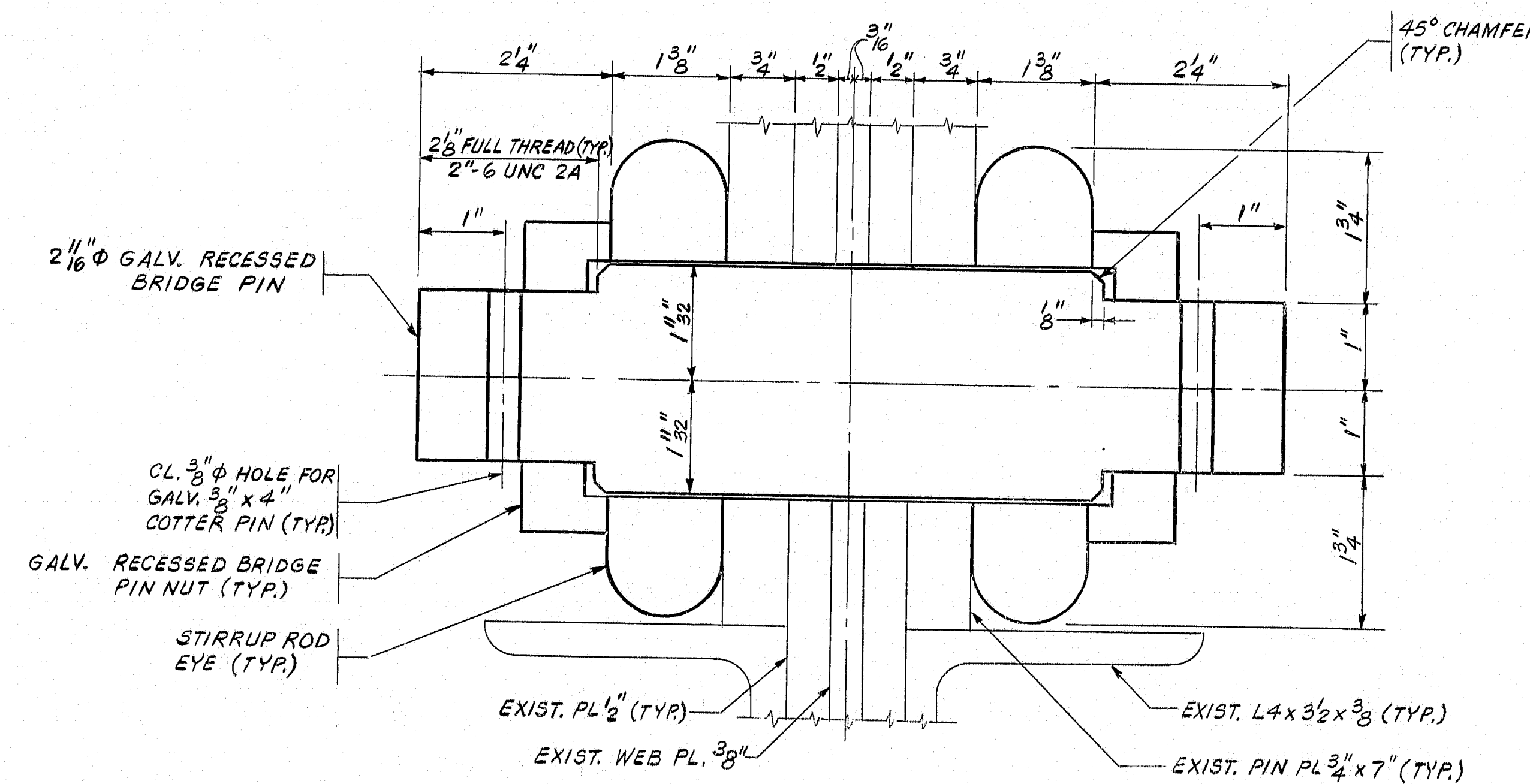
SECTION (B)



SECTION (C) TYP. NEW 2 INCH DIA. GALV. RECESSED BRIDGE PIN *
 20 (FOR EXISTING PIN DETAIL, SEE SECTION (A))

Design C.A.C. Ck'd F.J.M.
Drawn N.V. Ck'd C.A.C.
F.J.M.
Engineer in Charge

*NOTE: CLOSED BRIDGE SOCKET NOT SHOWN FOR CLARITY



SECTION (D) TYP. NEW 2" ¹⁶ INCH DIA. GALV. RECESSED BRIDGE PIN
(20) (EXISTING PIN SIMILAR)

- NOTES:

1. FOR GENERAL NOTES, SEE SHEET NO.3.
2. ALL WORK SHOWN ON THIS DRAWING SHALL BE PAID FOR UNDER ITEMS 536.34 AND 536.37 UNLESS OTHERWISE NOTED.
3. ALL PARTS OF THE NEW DIAGONAL STAY ASSEMBLIES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 EXCEPT FOR THE WIRE ROPE WHICH SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A603.
4. THE NEW DIAGONAL STAY ASSEMBLIES SHALL BE PAINTED. PAYMENT SHALL BE MADE UNDER ITEM 506.32.
5. THE CONTRACTOR SHALL SHOP FIT ALL PARTS OF THE DIAGONAL STAY SUPPORTS PRIOR TO INSTALLATION ON THE STRUCTURE.
6. THE STAY LENGTHS SHOWN ON THIS SHEET ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD MEASURE THE DISTANCE BETWEEN CL. OF EXISTING STAY PINS FOR EACH STAY TO BE REPLACED AND SHALL SUBMIT THESE MEASUREMENTS TO THE ENGINEER FOR EVALUATION. THE FIELD MEASUREMENTS SHALL BE TAKEN BEFORE PLACING ADDITIONAL DEAD LOAD ON THE BRIDGE (I.E. SCAFFOLDING OR FAIRING PANELS). THE CONTRACTOR WILL BE FURNISHED THE FINAL DIMENSIONS FOR FABRICATION WITHIN 30 DAYS AFTER RECEIPT OF THE FIELD MEASUREMENTS.
7. THE NEW DIAGONAL STAY ASSEMBLIES SHALL BE PRESTRETCHED AND PROOFOLOADED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

NOTE A: DOUBLE HEAVY HEX NUTS USED IN PLACE OF HEAVY HEX NUT & HEAVY JAM NUT.

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"REVISED AS BUILT" - M. POTH - 1/12/95

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

DEER ISLE-SEDGWICK BRIDGE

OVER
EGGEMOGGIN REACH
FROM LITTLE DEER ISLE TO S

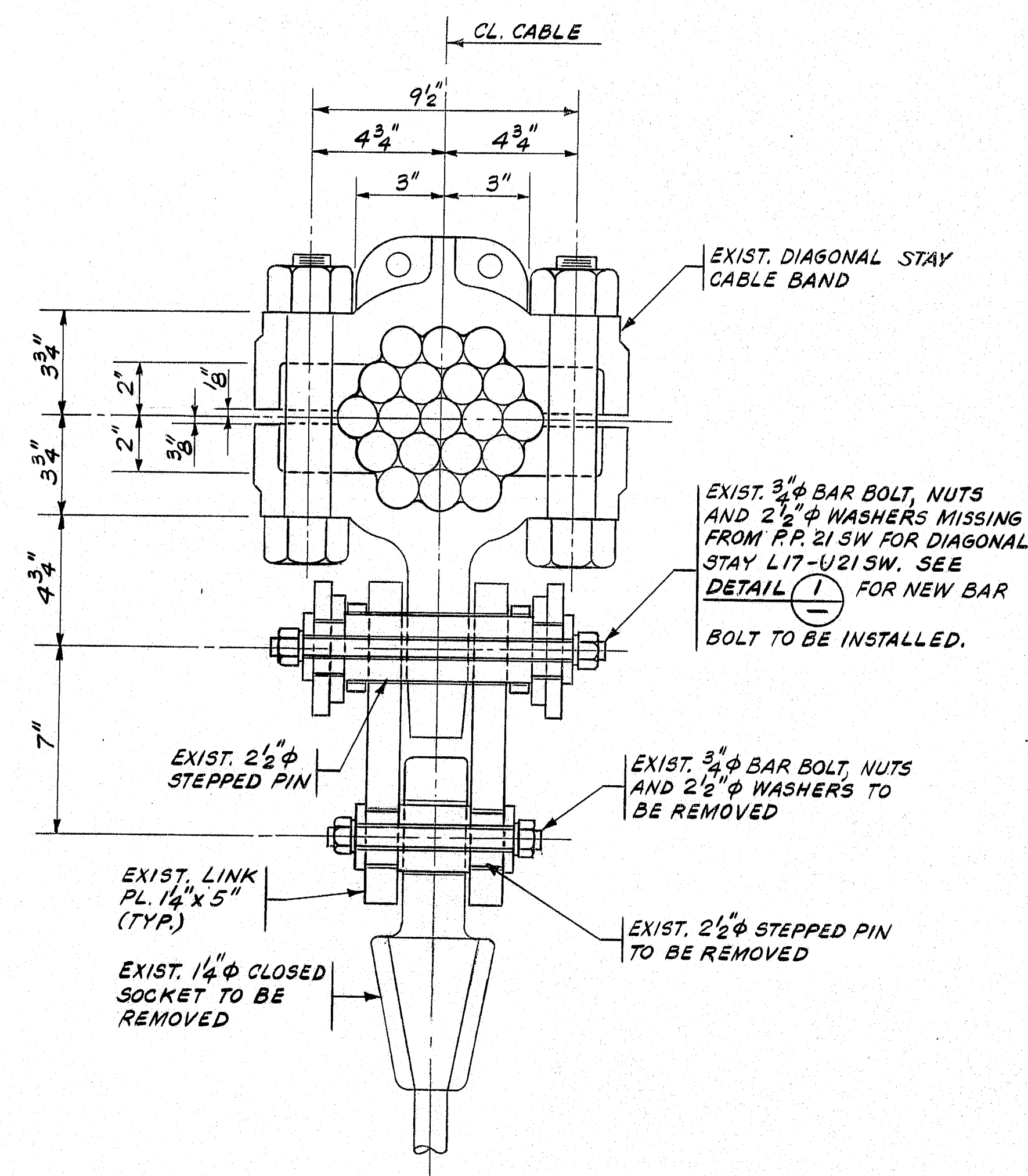
INSTALLATION OF FAIRINGS

DIAGONAL STAY ASSEMBLY DETAILS

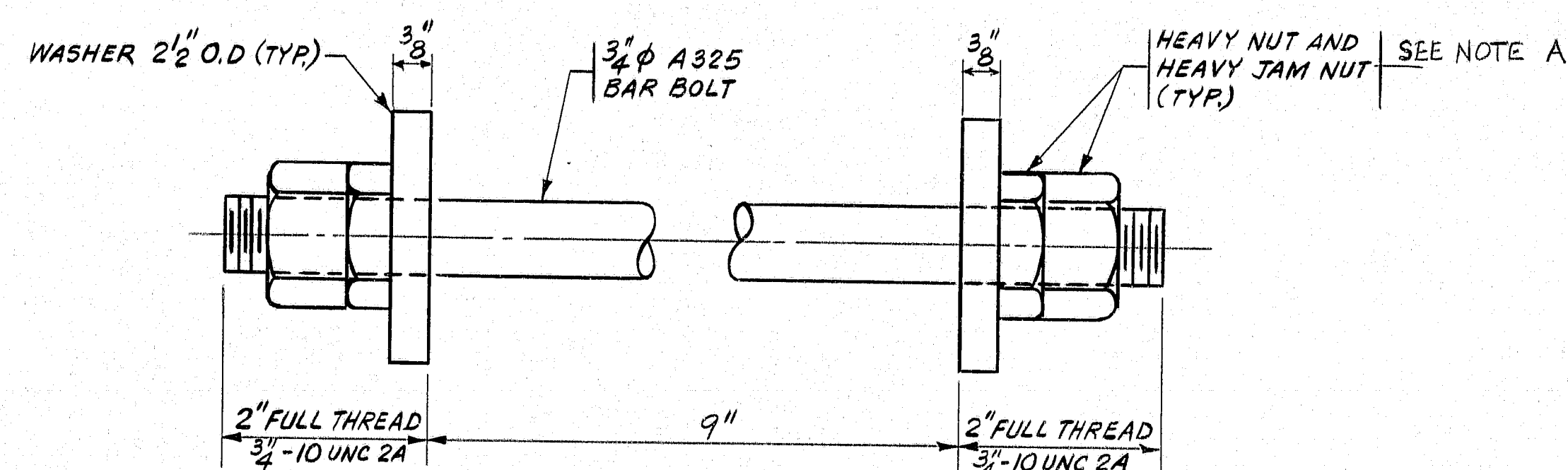
STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

SCALE: _____
DATE: JUNE, 1992
SHEET: 21 OF 28

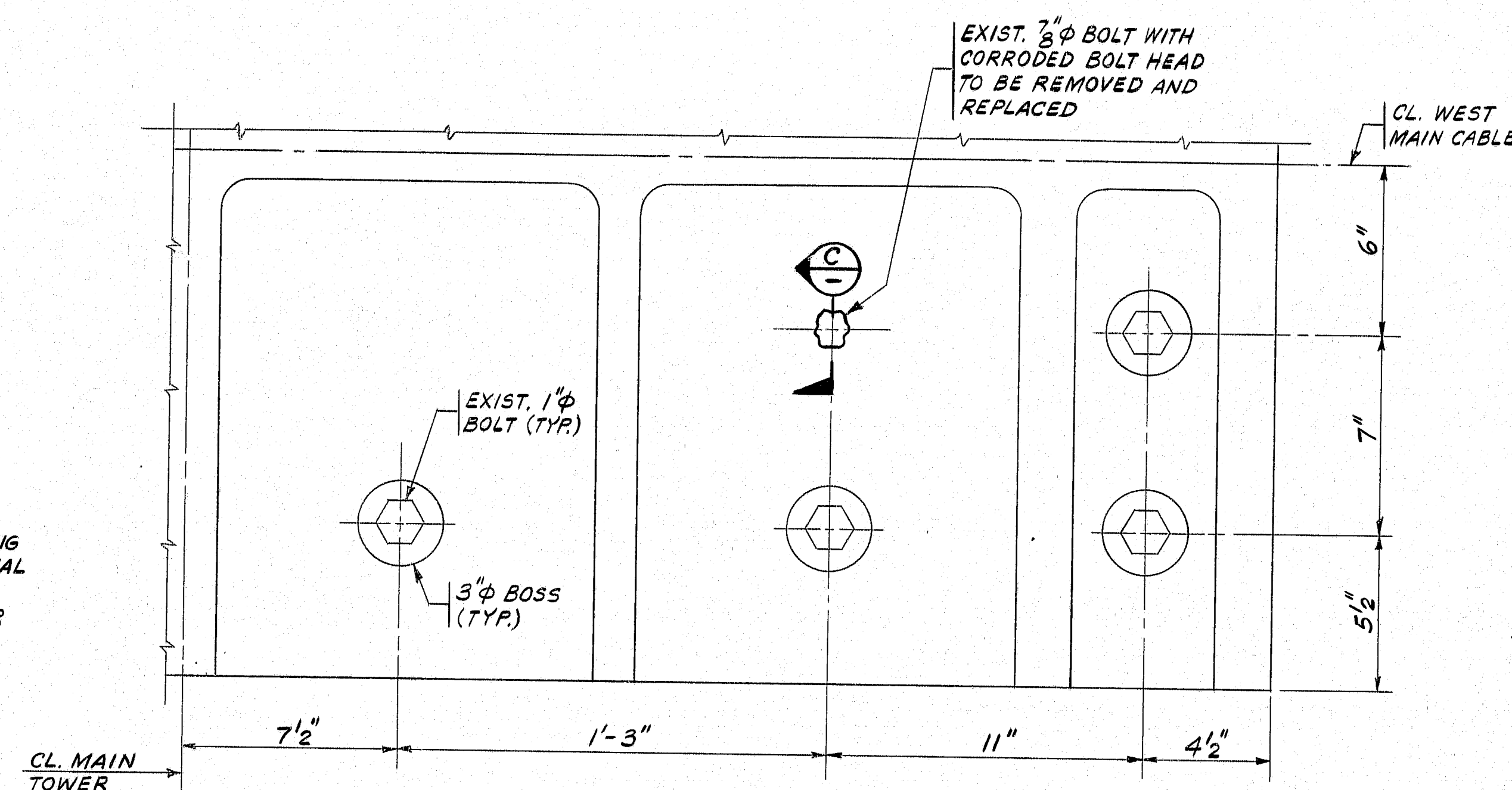
BH-250S(10) 22/28



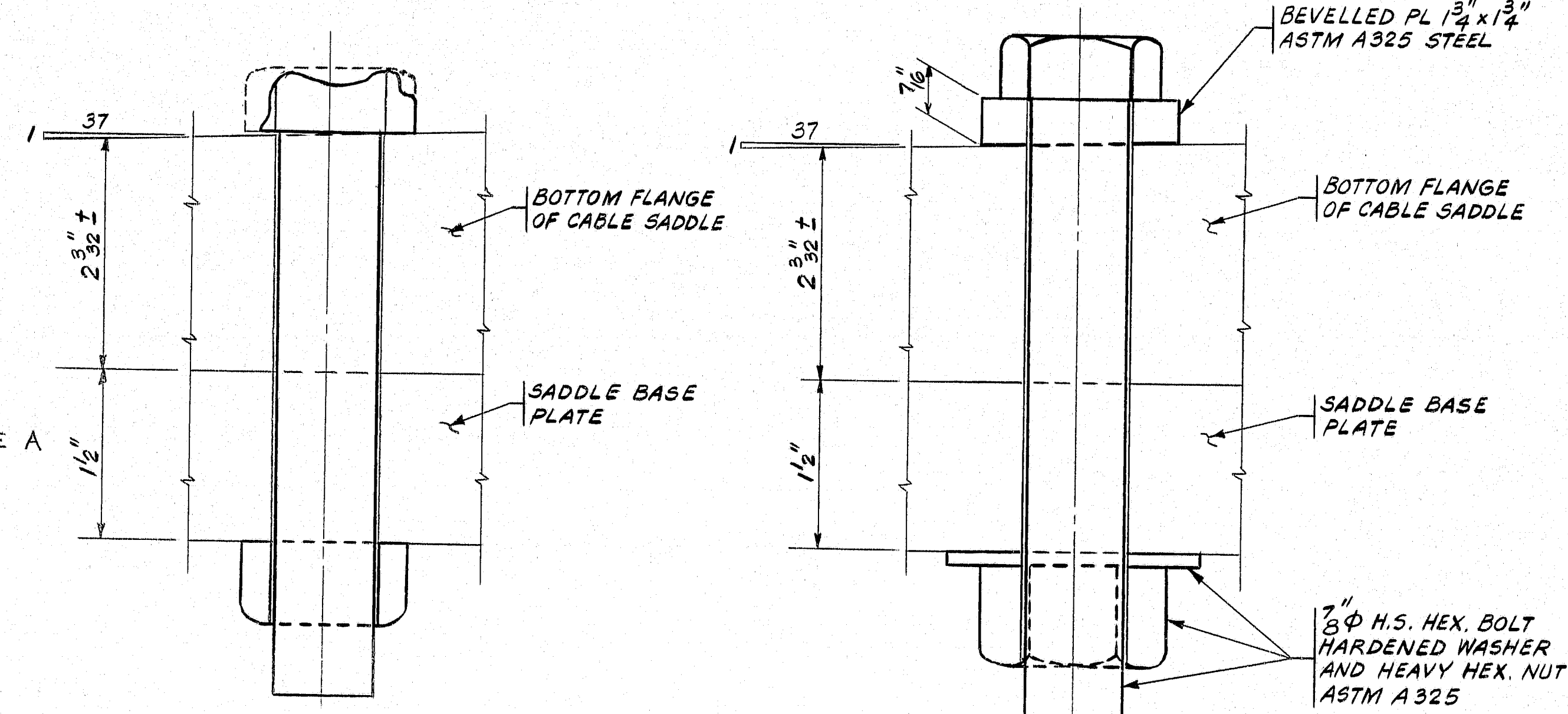
SECTION A TYP. EXIST. DIAGONAL STAY
20 CONNECTION AT MAIN CABLE
(P.P. 23 SHOWN, P.P.'s 13 AND 21 SIMILAR)



DETAIL 1 NEW 3/4" DIA. BAR BOLT
- (DIAGONAL STAY L17-U21 SW ONLY)



SECTION B SOUTHWEST CABLE SADDLE (ONLY)
20



EXIST. BOLT TO BE REMOVED

NEW BOLT WITH BEVELLED PLATE

SECTION C
-

NOTES:

- SEE NOTES 1, 2 AND 3 ON SHEET NO. 21.
 - THE SADDLE SHALL BE PAINTED WITHIN A 3 INCH DIAMETER CIRCULAR AREA CENTERED AROUND THE NEW SADDLE BOLT. THE NEW SADDLE BOLT, BEVELLED PLATE AND BAR BOLT SHALL BE COMPLETELY PAINTED. PAINTING SHALL BE PAID FOR UNDER ITEM 506.32.
- NOTE A: DOUBLE HEAVY HEX NUTS USED IN PLACE OF HEAVY HEX NUT & HEAVY JAM NUT.

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"REVISED AS BUILT" - M. ABLE - 1/12/95.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

DEER ISLE-SEDGWICK BRIDGE
OVER
EGGEMOGGIN REACH
FROM LITTLE DEER ISLE TO SEDGWICK

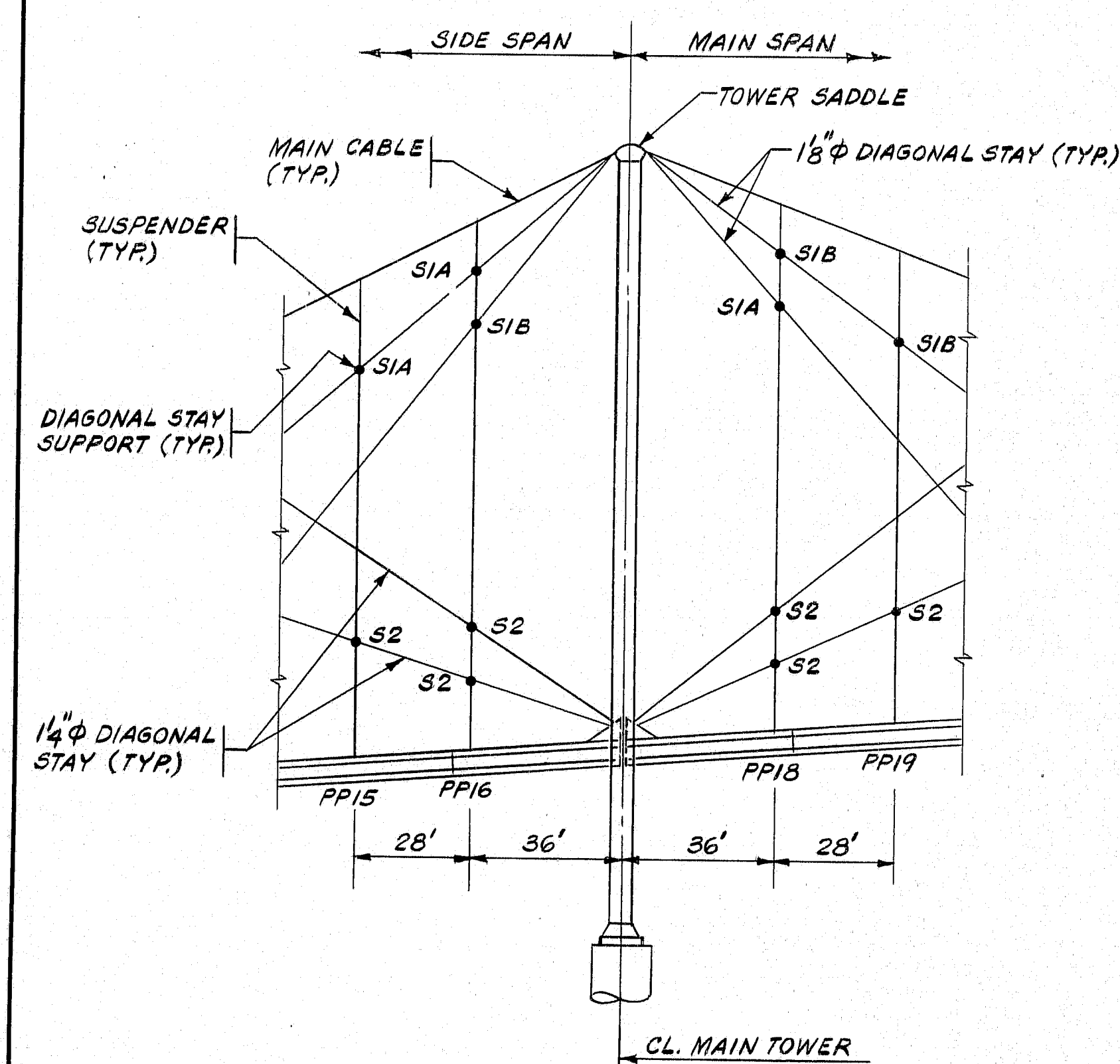
INSTALLATION OF FAIRINGS

BAR BOLT AND SADDLE BOLT DETAILS

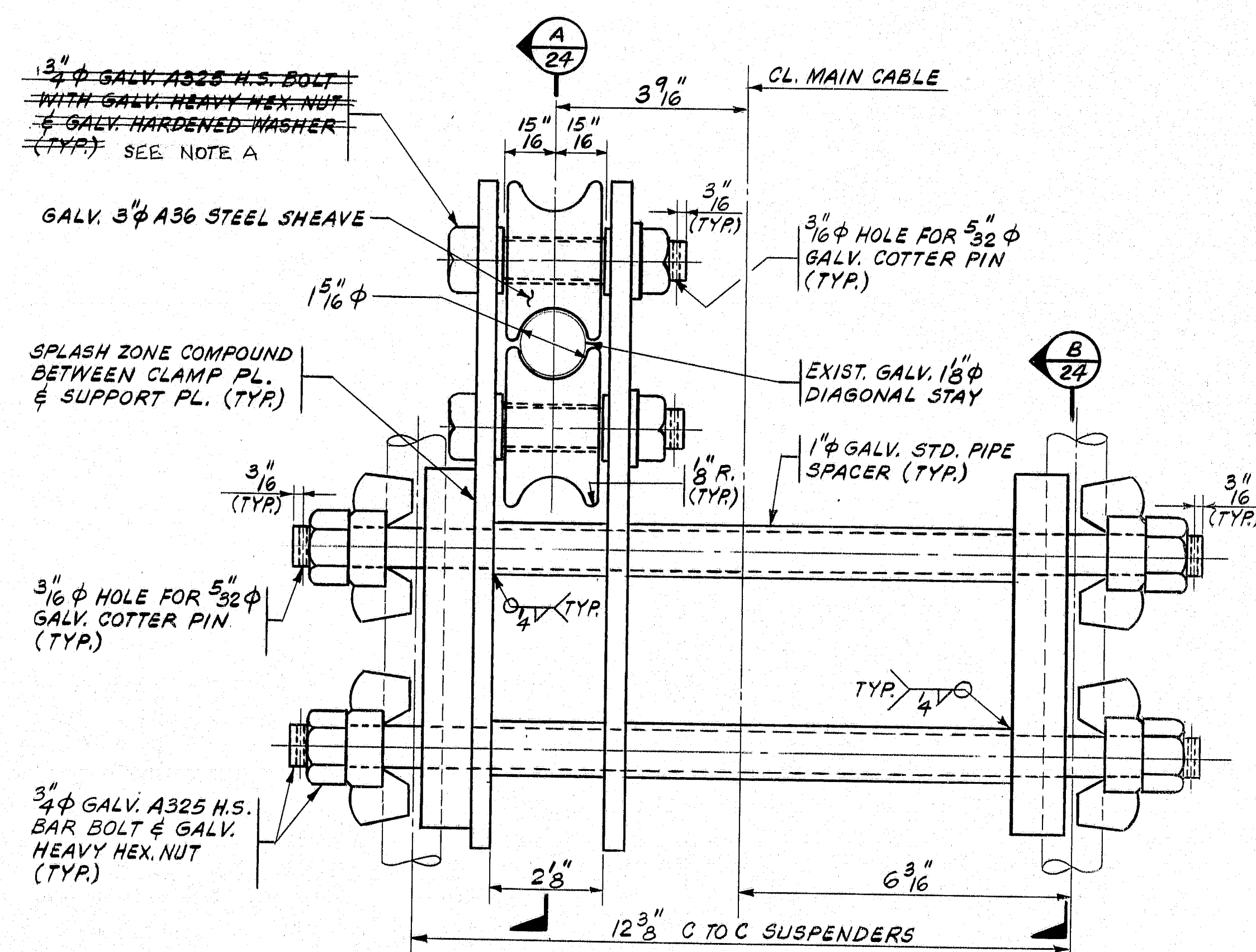
STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

SCALE:
DATE: JUNE, 1992
SHEET: 22 OF 28

Design CAC ok'd F.J.M.
Drawn N.V. ok'd C.A.C.
F.J.M.
Engineer in Charge

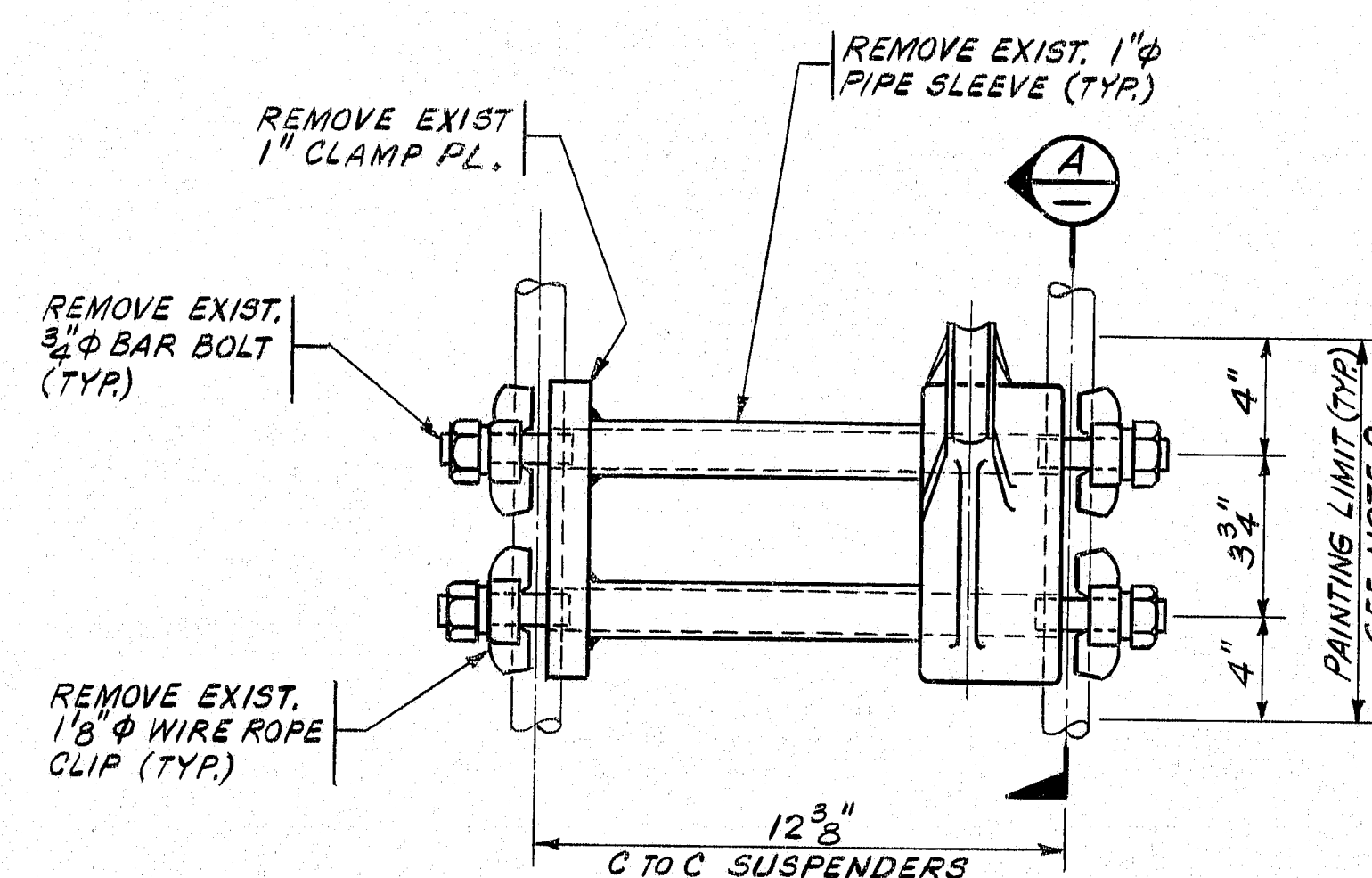


PARTIAL BRIDGE ELEVATION AT MAIN TOWER
TYP. DIAGONAL STAY SUPPORT LOCATIONS

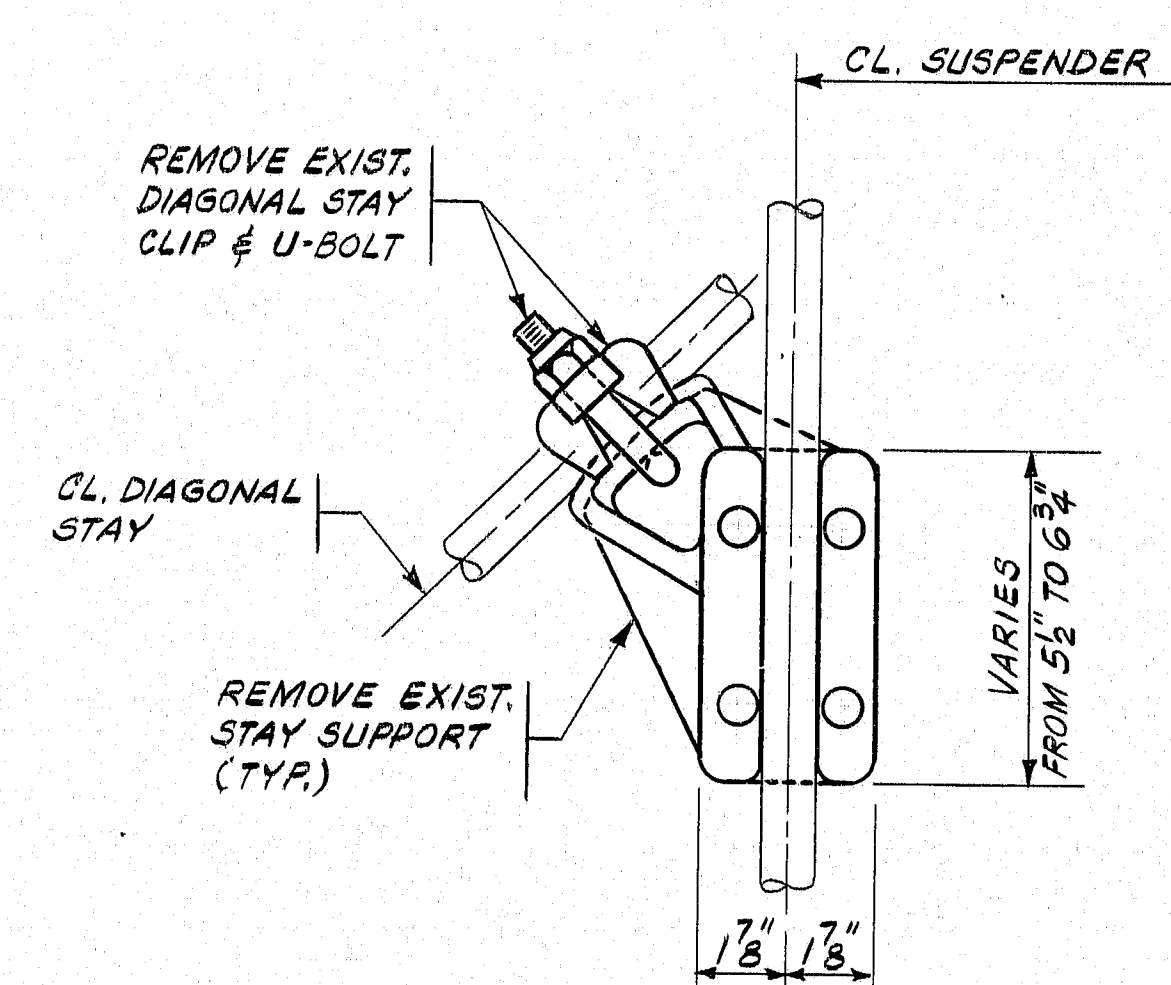


TYPE S1A (SHOWN)
TYPE S1B (OPP. HAND)

ELEVATIONS OF NEW DIAGONAL STAY SUPPORTS (TYP.)

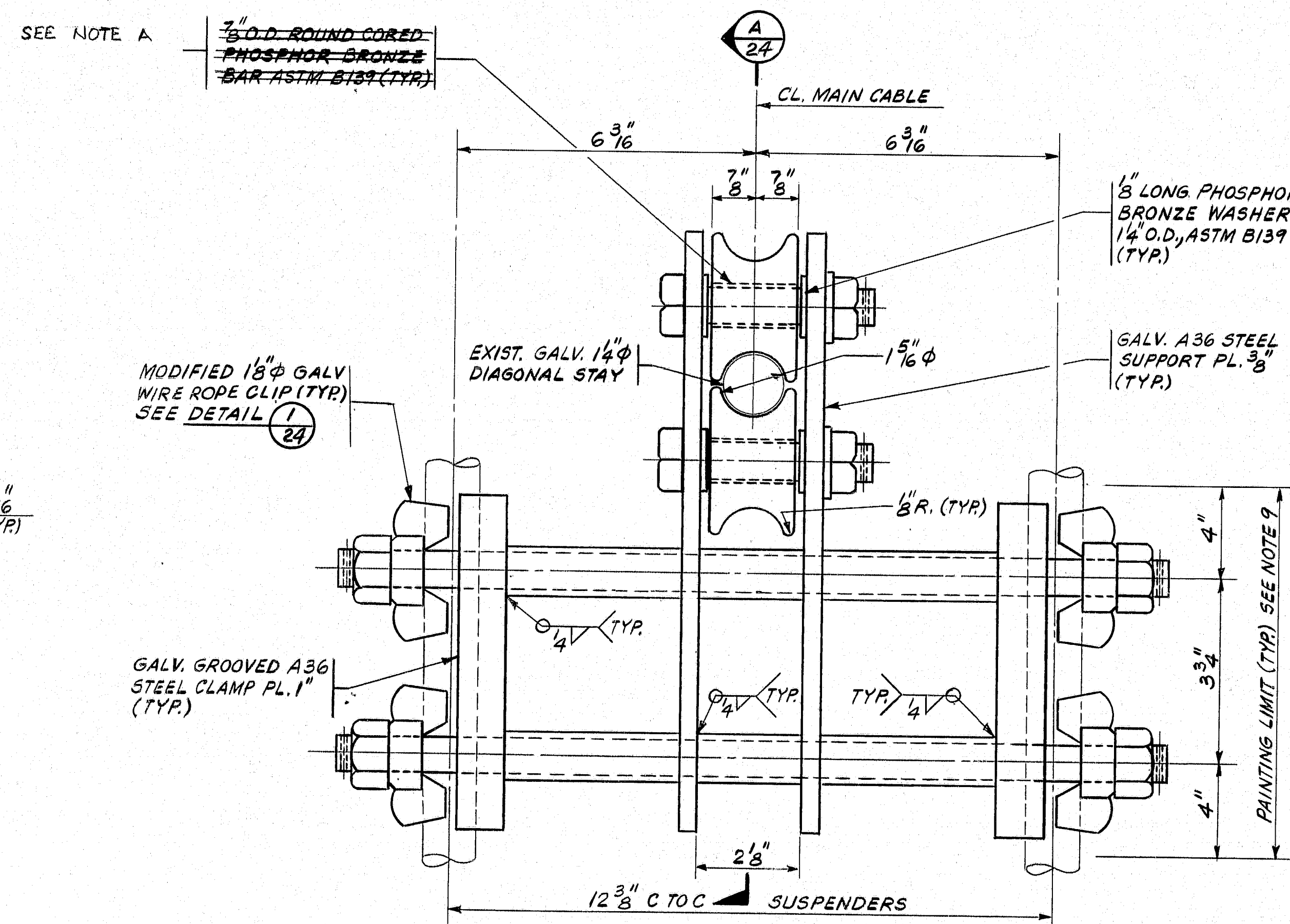


ELEVATION



SECTION A

REMOVAL OF EXISTING DIAGONAL STAY SUPPORT (TYP.)



TYPE S2

NOTES:

1. FOR GENERAL NOTES, SEE SHEET NO. 3.
 2. FOR GENERAL BRIDGE ELEVATION, SEE SHEET NO. 4.
 3. ALL WORK SHOWN ON THIS DRAWING SHALL BE PAID FOR UNDER ITEMS 536.39 AND 536.40 UNLESS OTHERWISE NOTED.
 4. ALL STEEL PARTS OF THE DIAGONAL STAY SUPPORTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
 5. SPLASH ZONE COMPOUND SHALL BE PLACED BETWEEN THE CLAMP PLATE AND SUPPORT PLATE AS SHOWN FOR ALL TYPE S1A AND S1B SUPPORTS, AT THE TIME OF INSTALLATION.
 6. THE NEW SUPPORTS SHALL BE INSTALLED AFTER ALL STAY ADJUSTMENTS ARE COMPLETED. SEE SHEET NO. 15 FOR STAY ADJUSTMENTS.
 7. THE BOLT HEADS FOR THE SHEAVE BOLTS SHALL BE ORIENTED AS SHOWN.
 8. THE CONTRACTOR SHALL SHOP FIT ALL PARTS OF THE DIAGONAL STAY SUPPORTS PRIOR TO INSTALLATION ON THE STRUCTURE.
 9. CLEANING AND PAINTING OF THE EXISTING SUSPENDERS WITHIN THE LIMITS SHOWN, AND PAINTING OF THE NEW DIAGONAL STAY SUPPORTS SHALL BE PAID FOR UNDER ITEM 506.32.
 10. THE PHOSPHOR BRONZE WASHERS AND BARS SHALL NOT BE PAINTED.
- NOTE A: 7/8" TO 3/4" STAINLESS STEEL STEPPED BOLT SUBSTITUTED FOR 3/4" GALV. BOLT & PHOSPHOR BRONZE BAR.

Design CAC, CK'd F.J.M.
 Drawn NV, CK'd C.A.C.
 F.J.M.
 Engineer in Charge

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 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS

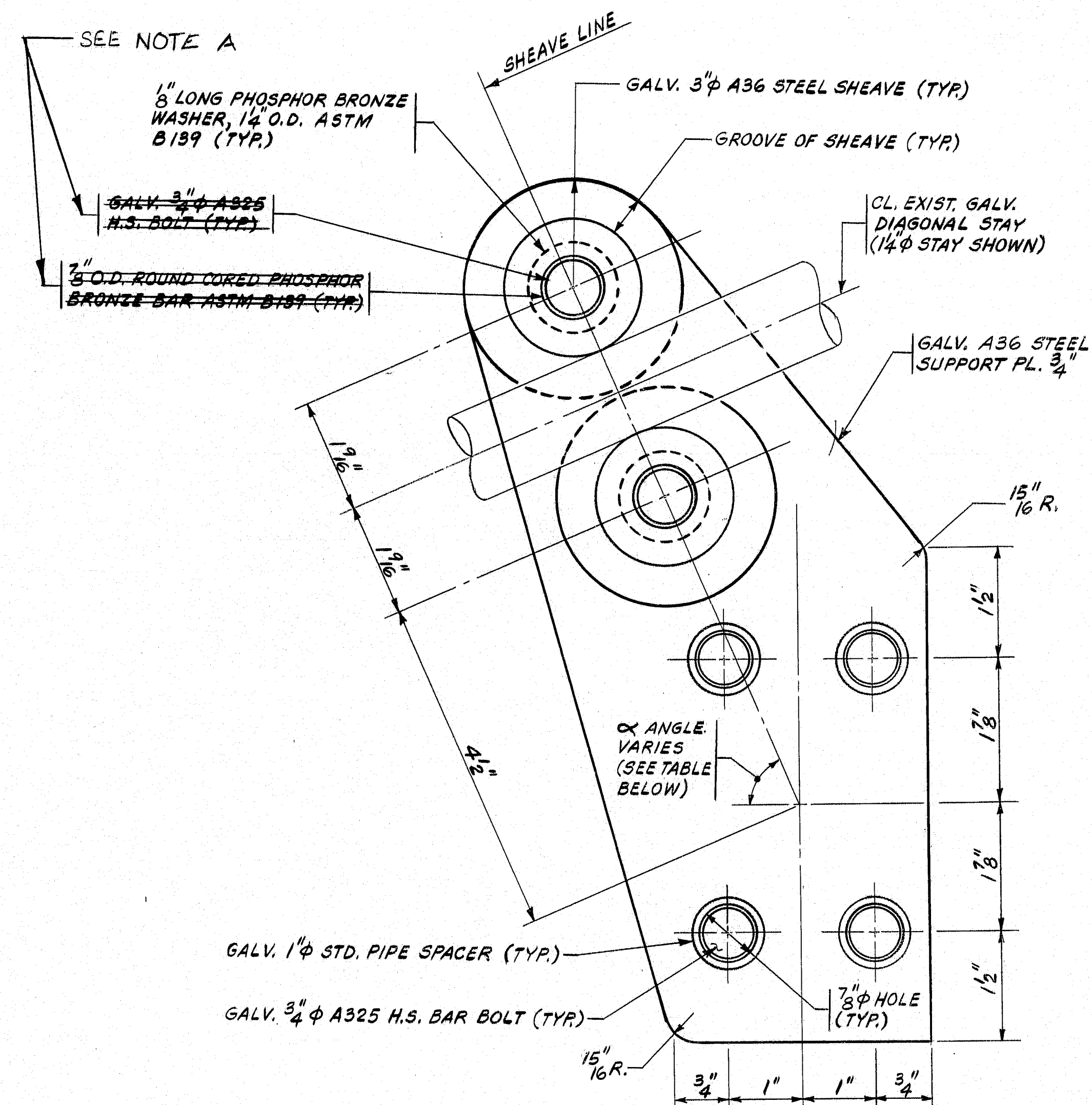
DEER ISLE-SEDGWICK BRIDGE
 OVER
 EGGMOGGIN REACH
 FROM LITTLE DEER ISLE TO SEDGWICK

INSTALLATION OF FAIRINGS

DIAGONAL STAY SUPPORT DETAILS - I

STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
 CONSULTING ENGINEERS
 NEW YORK, N.Y.

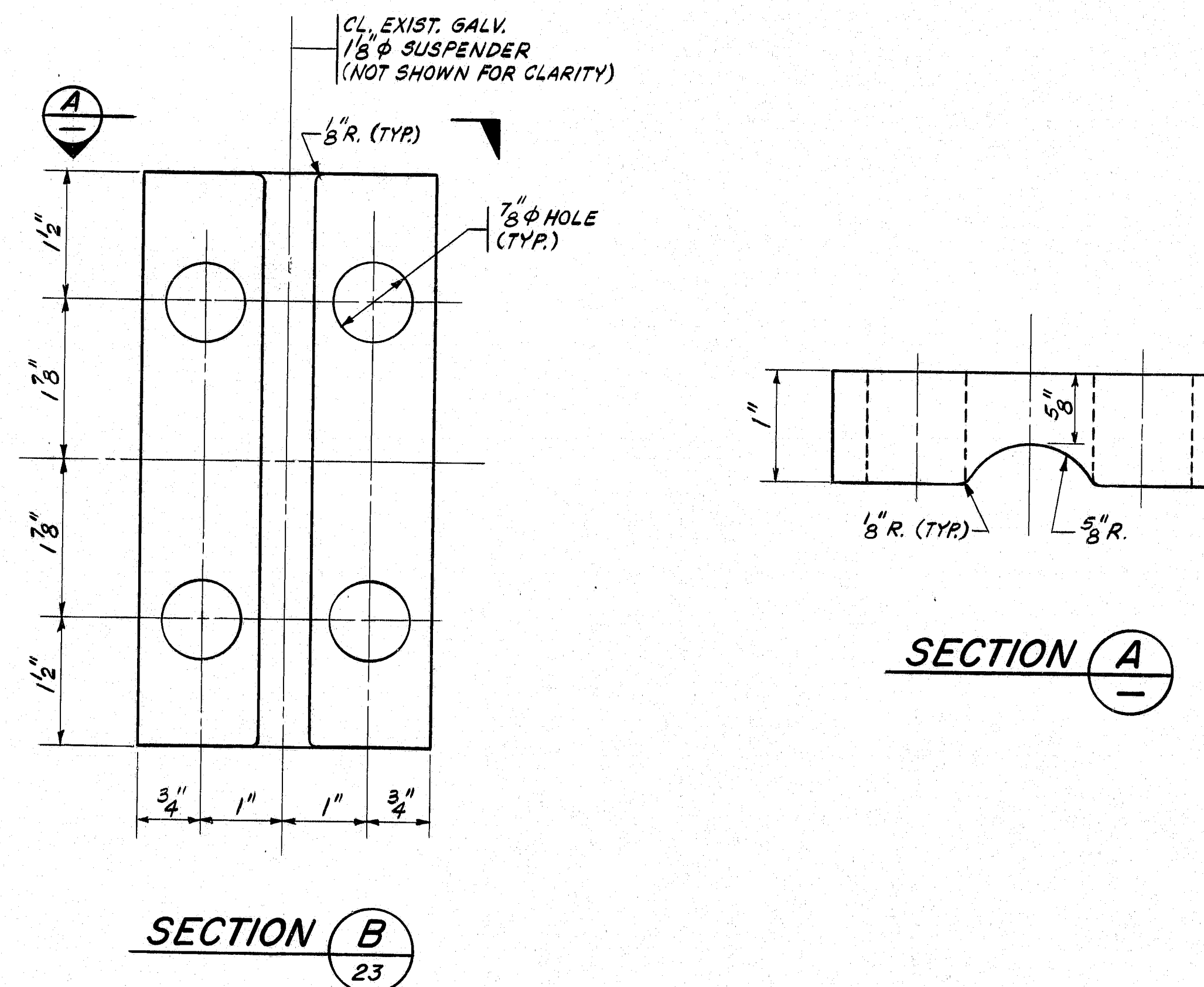
SCALE:
 DATE: JUNE 1992
 SHEET: 23 OF 28



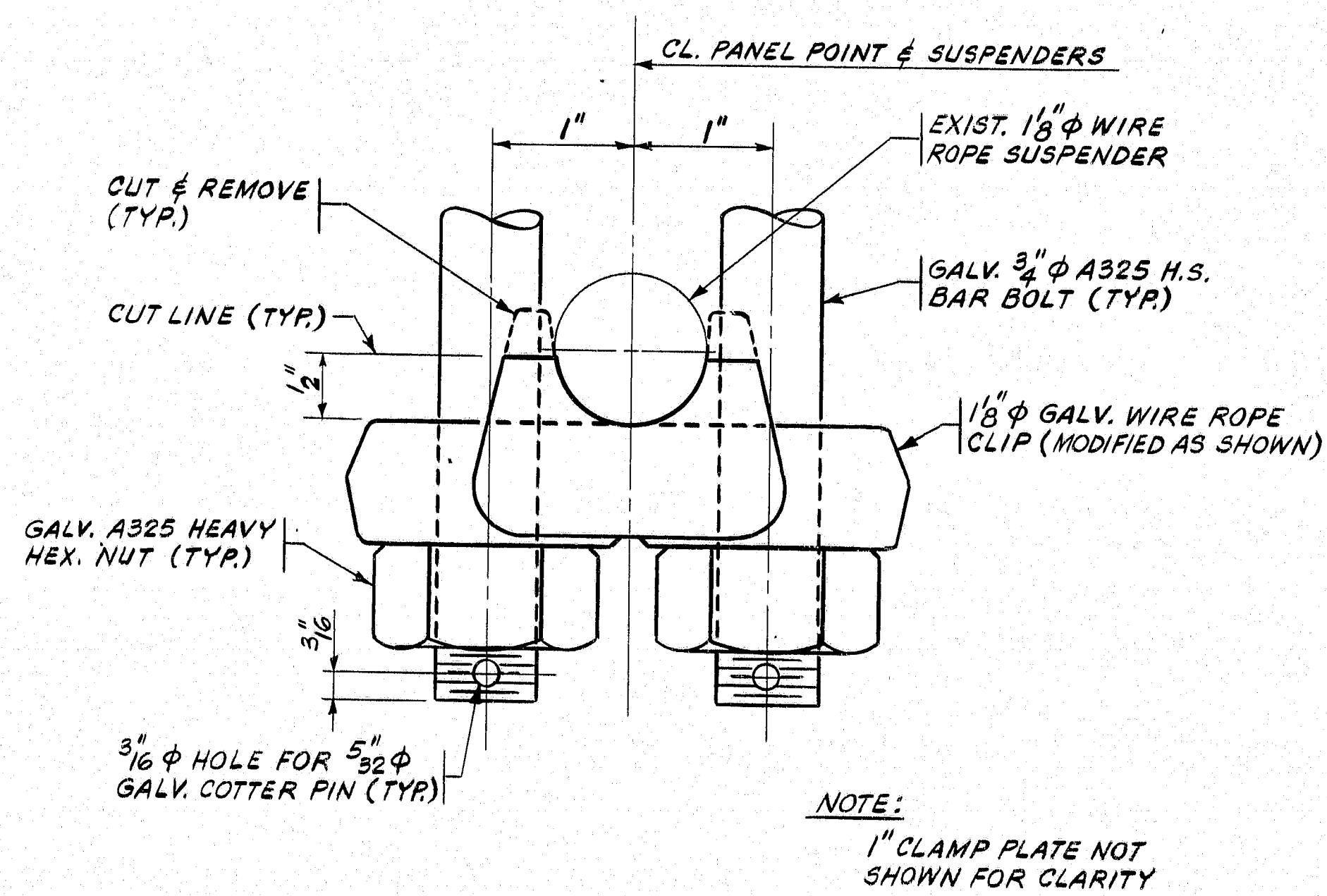
SECTION (A) DIAGONAL STAY SUPPORT
23 (TYP.)

| TABLE OF STAY SHEAVE LINE SLOPES | | |
|----------------------------------|---------------|----------------|
| SUPPORT TYPE | DIAGONAL STAY | ANGLE α |
| S1A | U17 - L11 | 49.539° ± |
| | U17 - L21 | 42.534° ± |
| S1B | U17 - L13 | 39.342° ± |
| | U17 - L23 | 53.739° ± |
| S2 | U11 - L17 | 72.173° ± |
| | U13 - L17 | 56.028° ± |
| | U21 - L17 | 51.981° ± |
| | U23 - L17 | 66.419° ± |

Design. C.A.C ck'd F.J.M.
 Drawn N.V. ck'd C.A.C.
F.J.M.
 Engineer in Charge



1" CLAMP PLATE DETAILS



DETAIL 1 PLAN OF MODIFIED WIREROPE CLIP
23 (TYP.)

NOTES:

1. FOR GENERAL NOTES, SEE SHEET NO. 3.
 2. ALL WORK SHOWN ON THIS DRAWING SHALL BE PAID FOR UNDER ITEMS 336.39 AND 336.40 UNLESS OTHERWISE NOTED.
 3. THE CONTRACTOR SHALL ENSURE THAT THE SHEAVE LINES OF THE SUPPORTS SHALL BE PERPENDICULAR TO THE CENTERLINES OF THE DIAGONAL STAYS.
 4. THE SUPPORTS SHALL BE INSTALLED SUCH THAT THE DIAGONAL STAYS REST UPON THE LOWER SHEAVE.
- NOTE A: 7/8" TO 3/4" STAINLESS STEEL STEPPED BOLT SUBSTITUTED FOR 3/4" GALV. BOLT & PHOSPHOR BRONZE BAR.

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DEER ISLE-SEDGWICK BRIDGE
OVER
EGGEMOGGIN REACH
FROM LITTLE DEER ISLE TO SEDGWICK

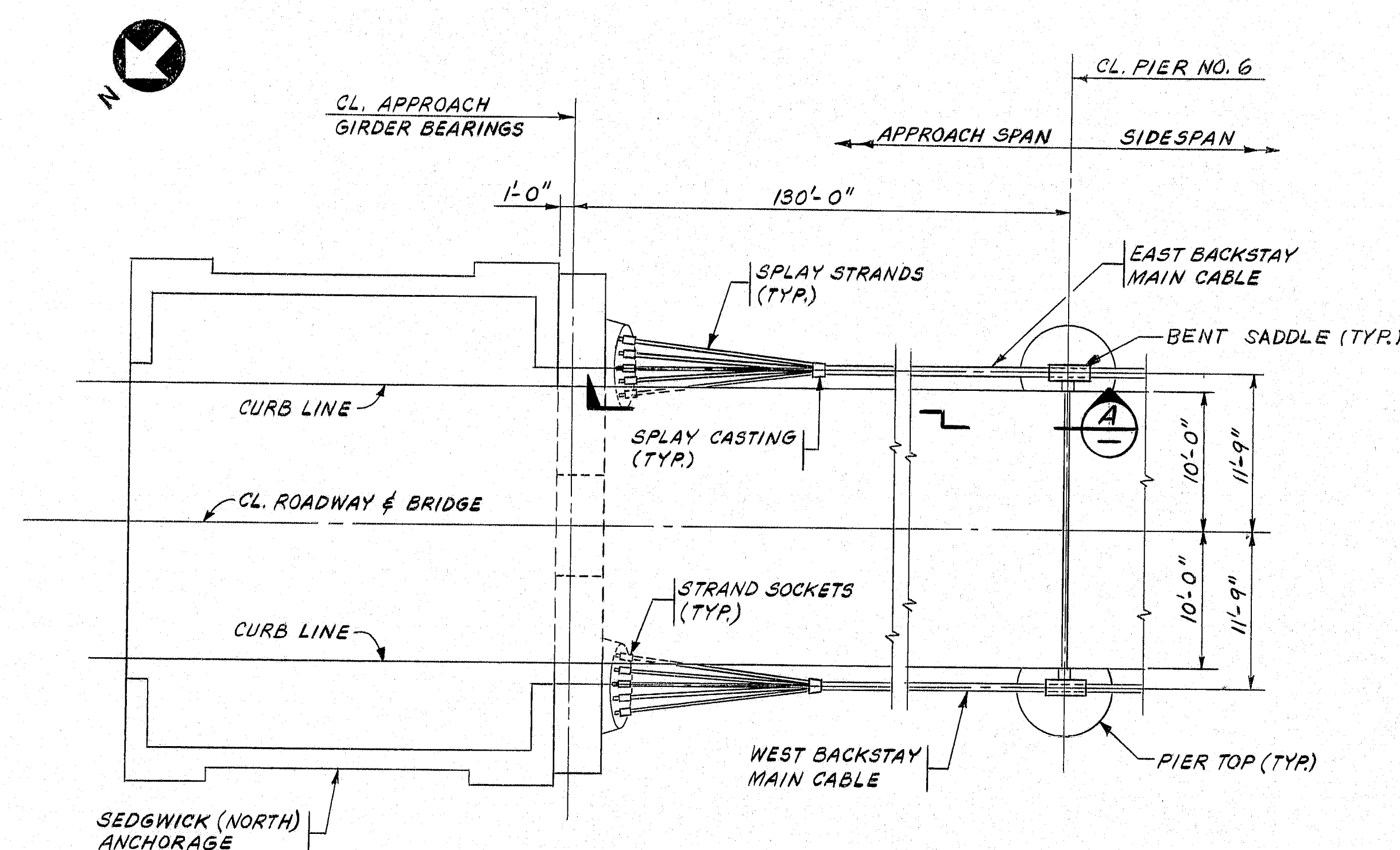
INSTALLATION OF FAIRINGS

DIAGONAL STAY SUPPORT DETAILS - II

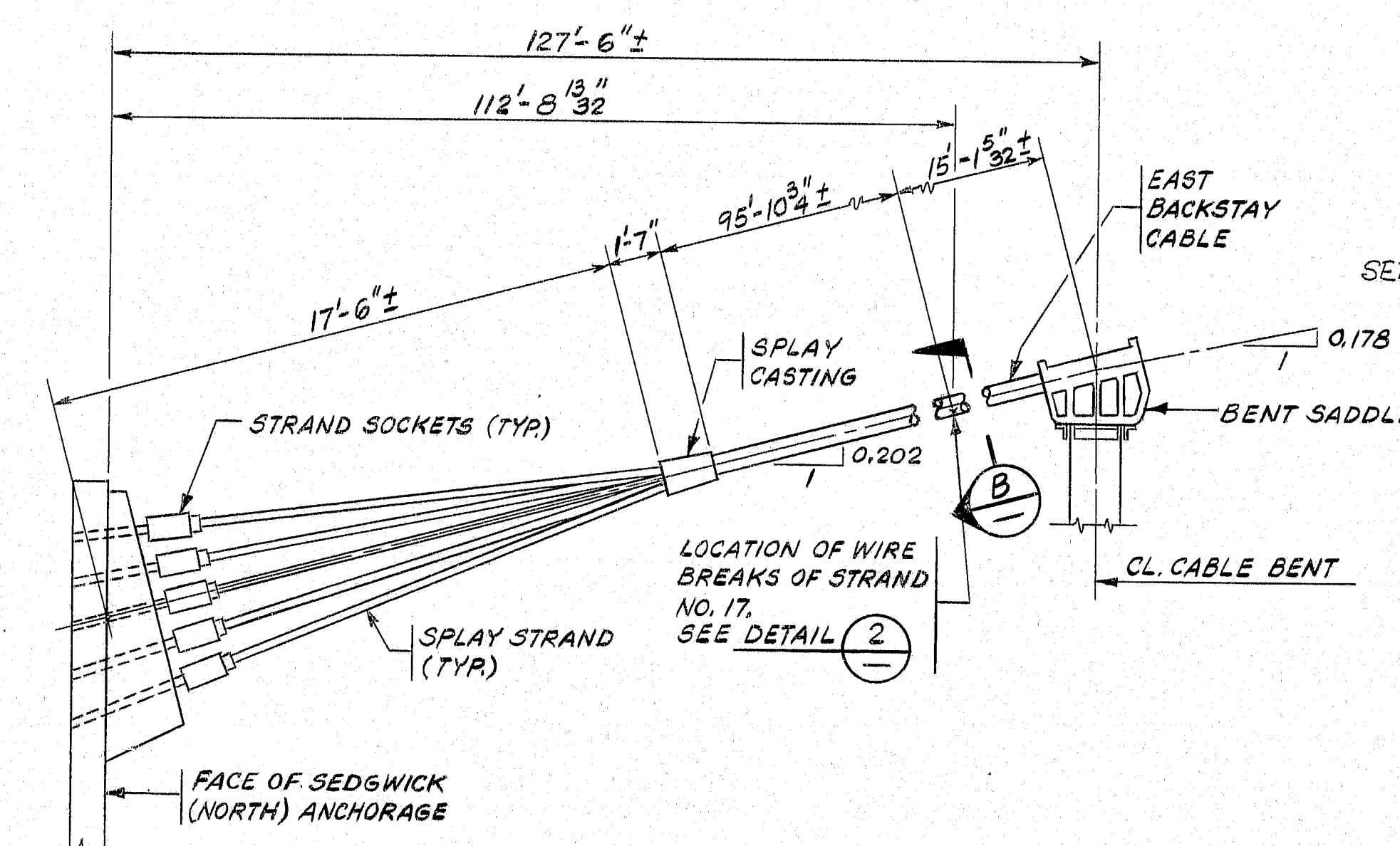
STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

SCALE: _____
DATE: JUNE 1992
SHEET: 24 OF 28

BH-2505(18) 25/28



PLAN OF SEDGWICK (NORTH) ANCHORAGE AND MAIN CABLE BACKSTAYS



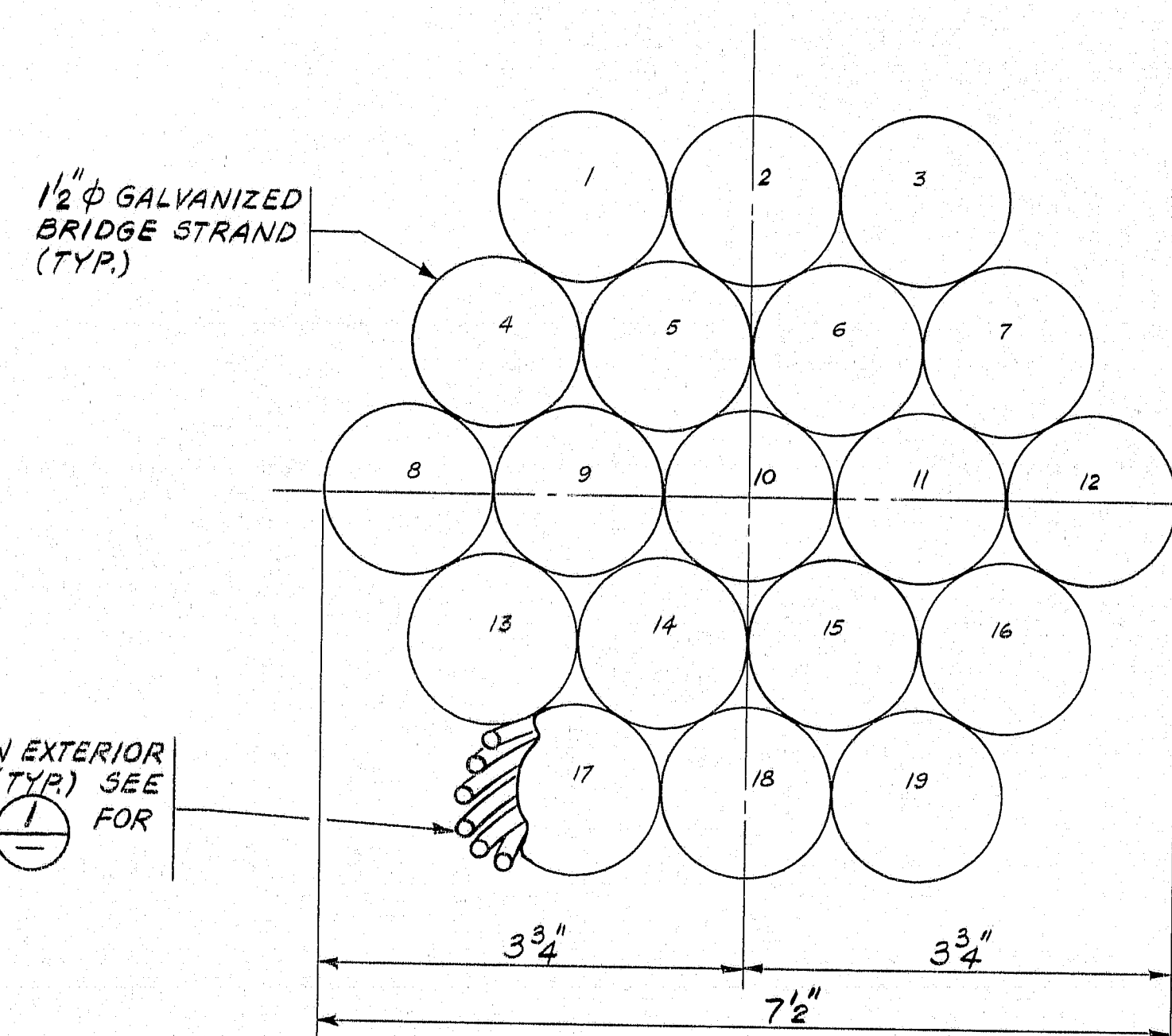
SECTION A ELEVATION OF NORTHEAST BACKSTAY

NOTES:

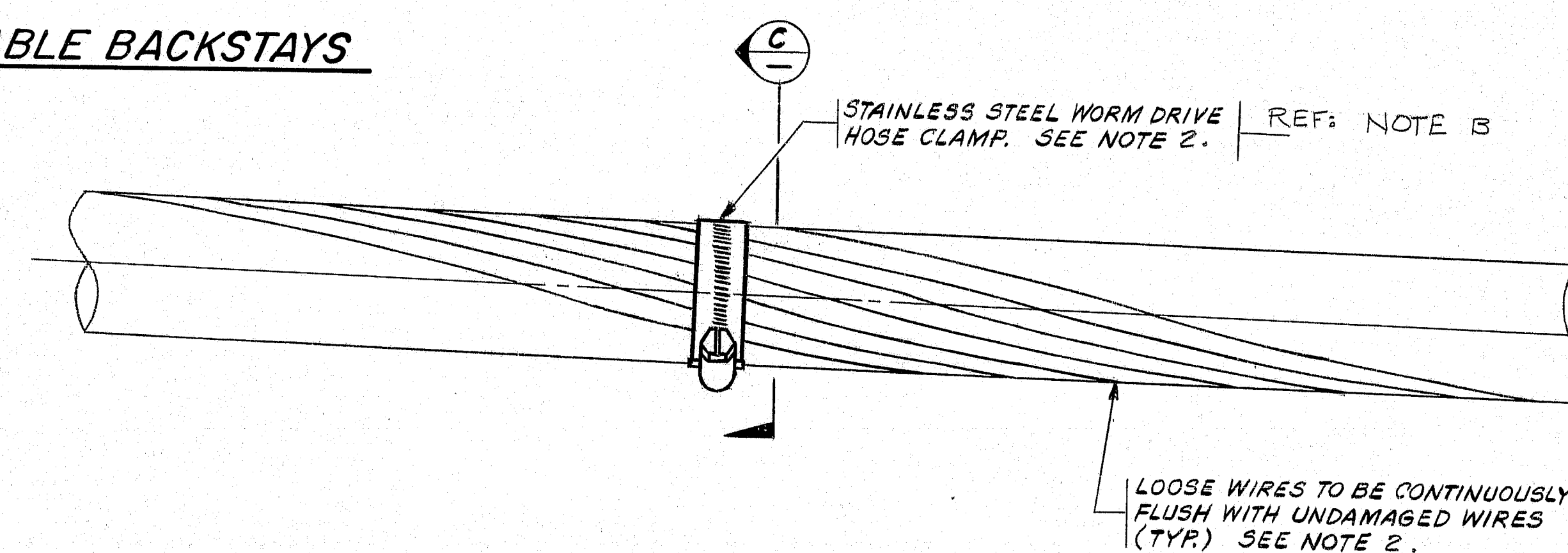
1. FOR GENERAL NOTES, SEE SHEET NO. 3.
2. CLAMPS ARE TO BE INSTALLED AT 5 FOOT INTERVALS AS MEASURED FROM THE SOUTH EDGE OF THE SPLAY CASTING AND THE NORTH EDGE OF THE CABLE BENT SADDLE. ALL LOOSE STRAND WIRES SHALL BE KEPT TAUT DURING INSTALLATION OF CLAMPS.
3. ALL WORK SHOWN ON THIS DRAWING SHALL BE PAID FOR UNDER ITEM 536.38 UNLESS OTHERWISE NOTED.

NOTE A: CLAMPS INSTALLED @ 12" TO 18"± INTERVALS, 10' TO 15'± EACH SIDE OF BROKEN STRANDS.

NOTE B: MECHANICALLY TIGHTENED STAINLESS STEEL BANDS & LOCKING BUCKLES SUBSTITUTED FOR WORM DRIVE HOSE CLAMPS, BANDS, BUCKLES, AND WIRES PAINTED AFTER INSTALLATION.

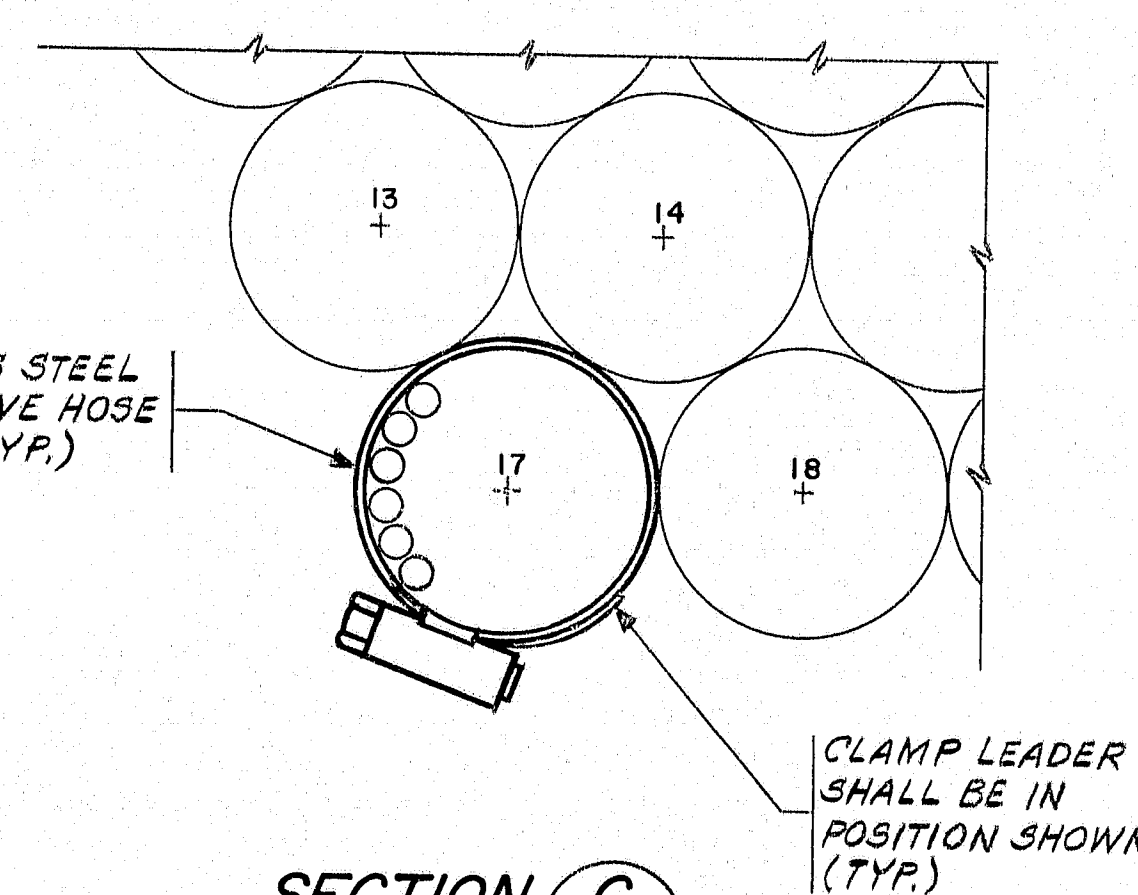


SECTION B EXIST. MAIN CABLE CROSS SECTION AT WIRE BREAK LOCATION (LOOKING NORTH)

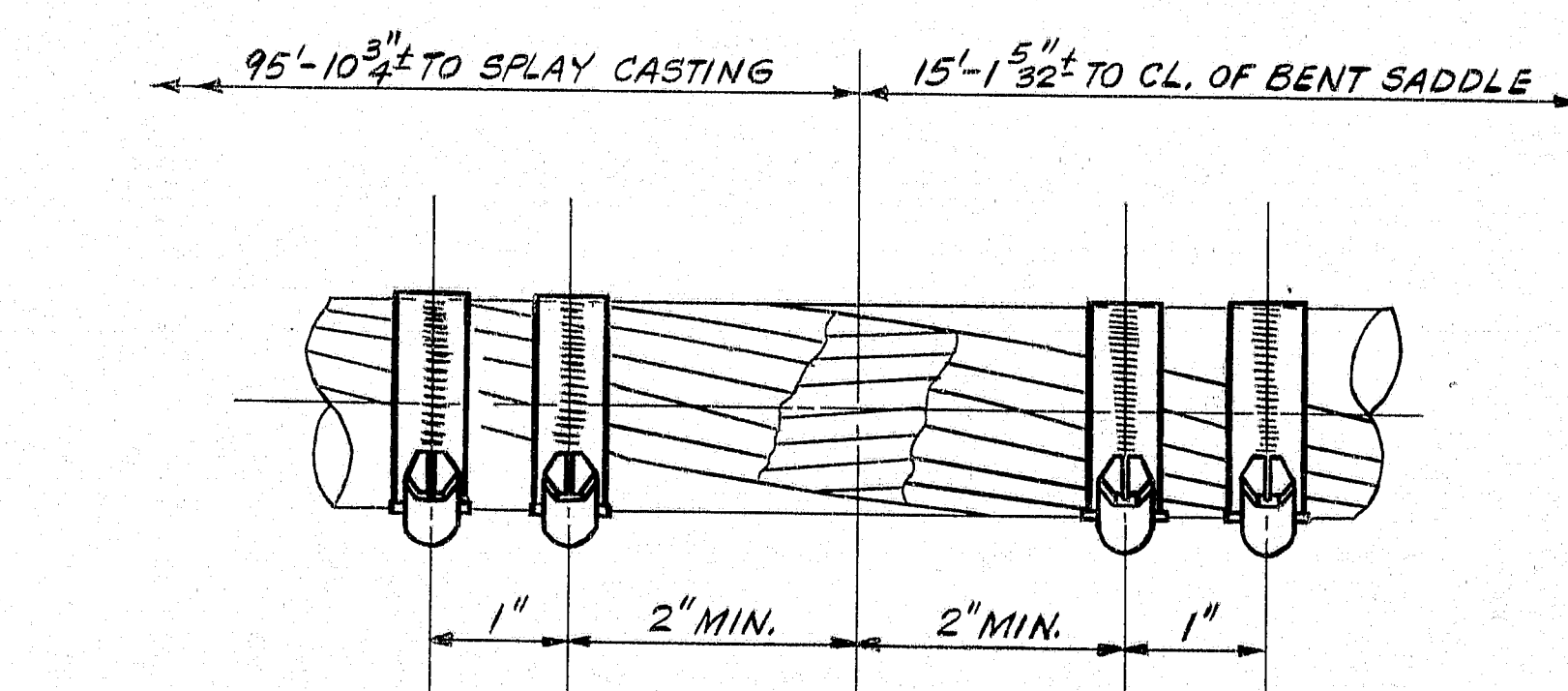


DETAIL 1 TYP. REPAIR OF MAIN CABLE STRAND NO. 17

REF: NOTE B STAINLESS STEEL WORM DRIVE HOSE CLAMP (TYP.)



SECTION C



DETAIL 2 REPAIR OF MAIN CABLE STRAND NO. 17 AT BREAK LOCATION

109-28²⁵

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DEER ISLE-SEDGWICK BRIDGE
OVER
EGGMOGIN REACH
FROM LITTLE DEER ISLE TO SEDGWICK

INSTALLATION OF FAIRINGS

BACKSTAY STRAND REPAIR

STEINMAN, BOYNTON, GRONQUIST & BIRDSALL
CONSULTING ENGINEERS
NEW YORK, N.Y.

SCALE: 1" = 1'-0"
DATE: JUNE, 1992
SHEET: 25 OF 28

Design C.A.C.ck'd F.J.M.
Drawn N.V.ck'd C.A.C.
F.J.M.
Engineer in Charge