TO: **MODIFIED BY EI 75-035**
EFFECTIVE 5/21/1975
MAIN OFFICE

REGIONAL OFFICES
SUPERSEDED BY EI 78-053
EFFECTIVE 9/1/1978

ENGINEERING INSTRUCTION

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

SUBJECT: BDD 73-57, Specification Item 1542.20 b

Subject Code: 7.35-2-57 & 7.35-4-1542.20

Distribution: [G] Main Office [G] Regions [ ] Special

APPROVED: R. N. Kamp
Deputy Chief Engineer (Structures)

Code: EI 73-52

Date: 7/19/73

Supersedes BDD 68-17, 68-18, 68-19

The attached subject sheets are to be used on reconstruction projects for minimum upgrading of existing bridge railing. Such upgrading is to be used only when replacement of the existing railing to the latest standards is not feasible.

Upgrading of the aluminum railing shall never be done. This type of railing shall always be replaced.

Filed in S.S.S. Book

ITEM 15642.20 - BOX BEAM BRIDGE RAILING

15642.20-1. Description. This work shall consist of furnishing and placing box beam bridge railing, as shown on the plans, and in accordance with the specifications.

15642.20-2. - Materials. Materials shall meet the requirements of Section 710-23, Steel Bridge Railing, with the following additions:

Piece	ASTM Designation
S 3 x 5.7 Post	A36
Post Plates	A36
Spacer Brackets	A36
Rail Connection Angles	A36
Rail Plates	A36
"U" Bolts, Nuts and Washers	A307
Anchor Bolts, Nuts and Washers	A325
Bolts, Nuts and Washers	A325

15642.20-3. - Construction Details. Box Beam Bridge Railing shall be erected in accordance with the requirements of Section 642-3.01, Erection of Bridge Railing.

The work of installing the box beam bridge railing on an existing Bridge Rail, Trusses, or when it is placed on the top flange of existing girders or on existing sidewalks, shall be coordinated and progressed to provide the least disturbance of pedestrian and vehicular traffic, if such traffic is maintained on the bridge.

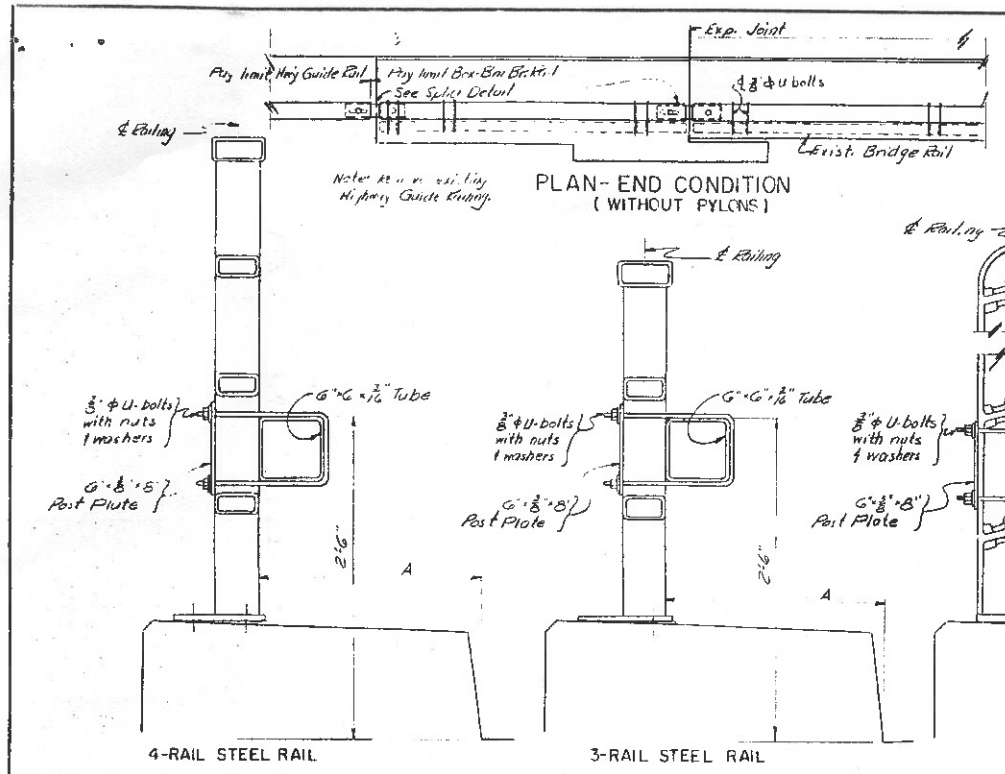
Posts, rails and other hardware shall be erected in the position and manner as indicated in the contract drawings and in a manner satisfactory to the Engineer.

15642.20-4. - Method of Measurement. The quantity of Box Beam Bridge Railing to be paid for under this item shall be the number of linear feet measured along the axis of the railing between the pay limits indicated on the contract plans.

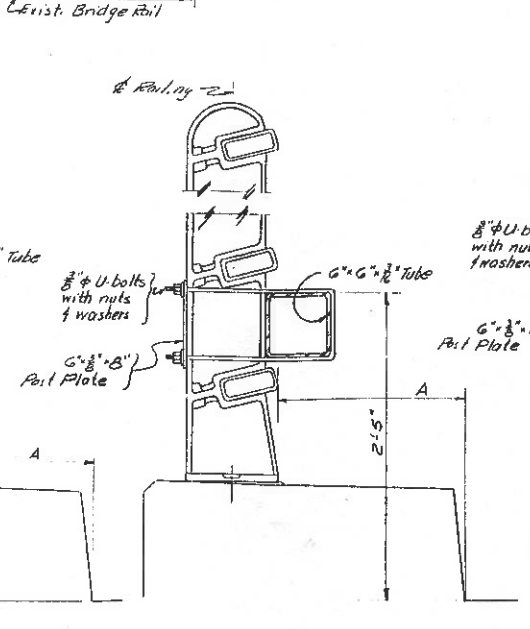
15642.20-5. - Basis of Payment. The unit price bid per linear foot shall include the cost of all labor, equipment and material necessary to complete the work.

Payment will be made under:

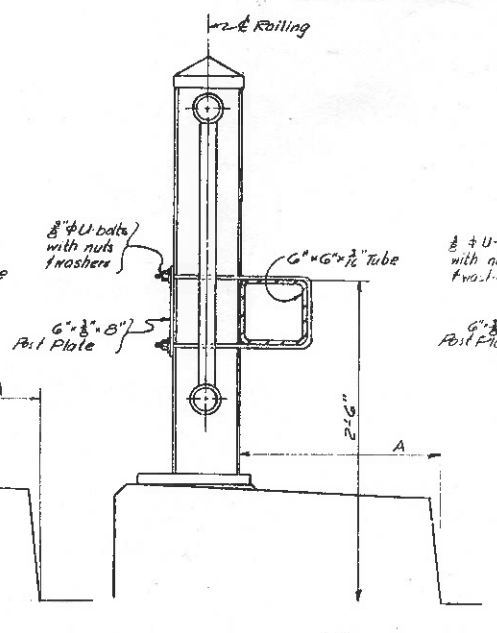
ITEM NO.	ITEM	UNIT
15642.20	Box Beam Bridge Railing	Linear Foot



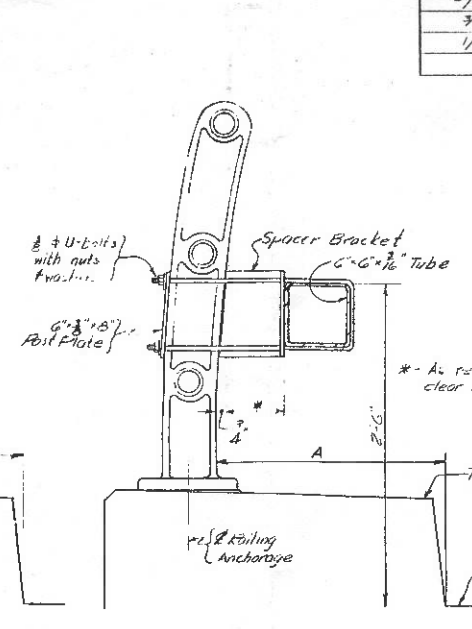
STANDARD BRIDGE DETAILS 61-106



TYPE B-3, B-4

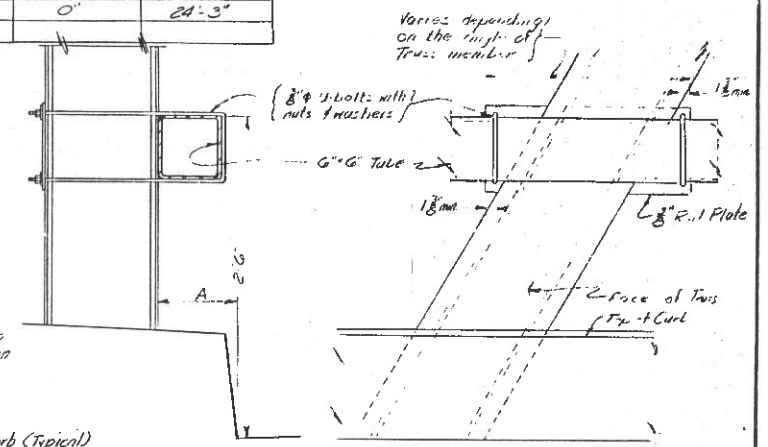


TYPE 43-32R

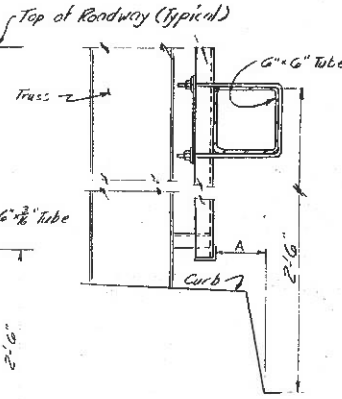


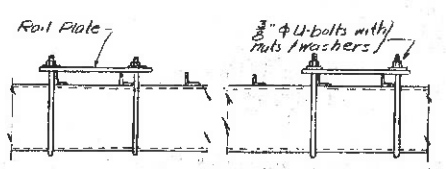
TYPE C-3

TRUSS DATA		
BOX BEAM WALL THKNESS	FILLER PLATE THICKNESS	MAX. CONN. SPACING
3/16"	1/2"	11'-8"
1/4"	3/8"	14'-11"
5/16"	1/4"	17'-8"
3/8"	1/8"	20'-3"
1/2"	0"	24'-3"

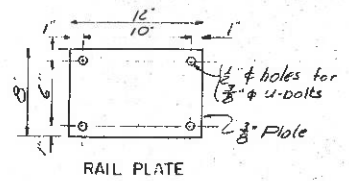


TRUSS CONNECTION

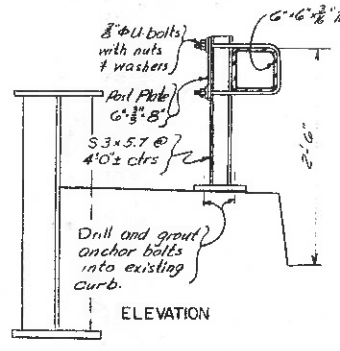




PLAN



RAIL PLATE



ELEVATION

CONNECTION TO BRIDGE RAIL ON TRUSS

NOTES

These details shall be used for reconstruction projects when the scope of the work on the bridge does not warrant replacement of the railing.

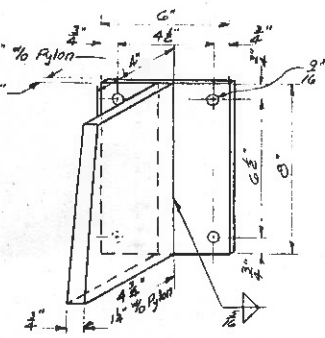
Always replace the old type aluminum bridge railing (Standard Sheet GO-54-3 and GO-54-4).

Payment for rail, hardware and fiber shall be under Item 15642.20.

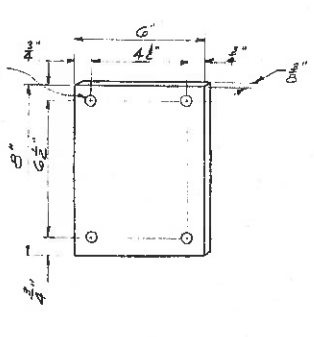
If dimension A exceeds 12", the vertical distance to the top of the Box Beam Bridge Railing shall be measured from the top of the curb.

At each expansion joint on the bridge there shall be an expansion joint in the rail.

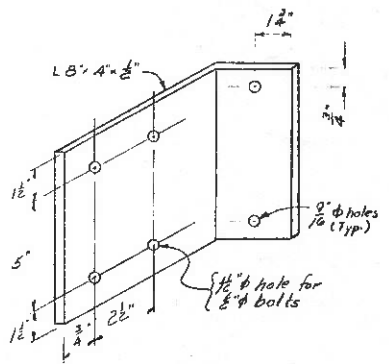
Rail height may be varied from 2'-4" to 2'-10" if such variation is necessary to avoid interference with existing rails.



SPACER BRACKET FOR TYPE C-3



POST PLATE

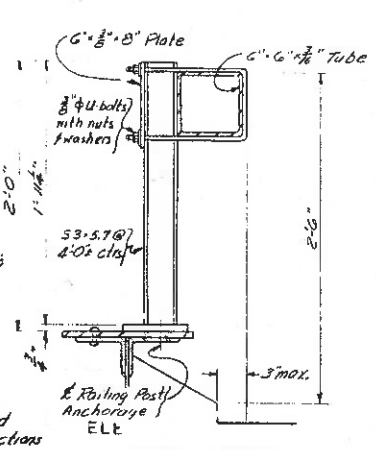


RAIL CONN L THRU PL GIRDER

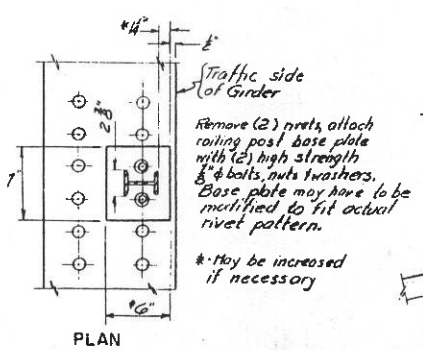
ELEVATION

PLAN

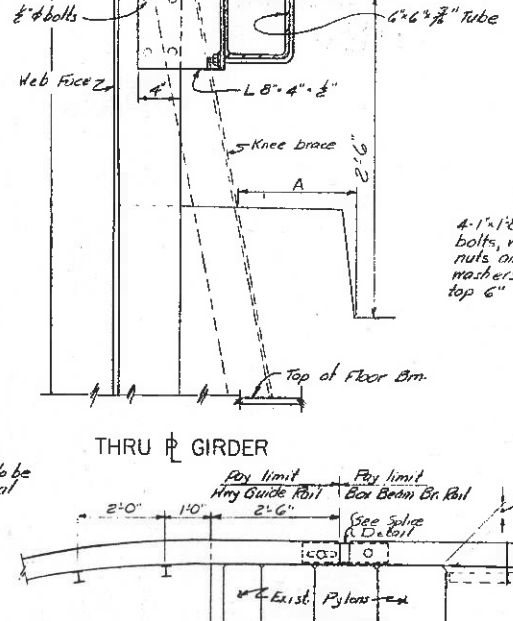
SPLICE DETAIL



THRU GIRDER WITH LOW FLANGE

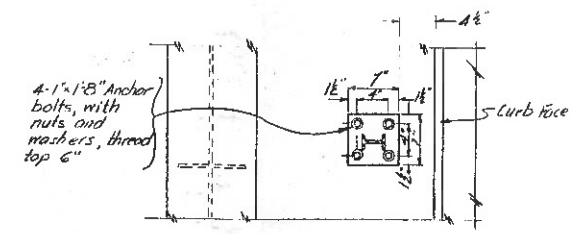


PLAN



THRU PL GIRDER

PLAN END CONDITION
(WITH PYLONS)



PLAN

THRU GIRDER WITH FLANGE LOWER THAN RAIL

PROJECT ENGINEER	
IN CHARGE OF	
DESIGNED BY	
DESIGN CHECKED BY	
DETAILED BY	Joe Campbell
DETAIL CHECKED BY	

Note: For Filler Pl. thickness see TRUSS DATA above, required for Truss Connections only.

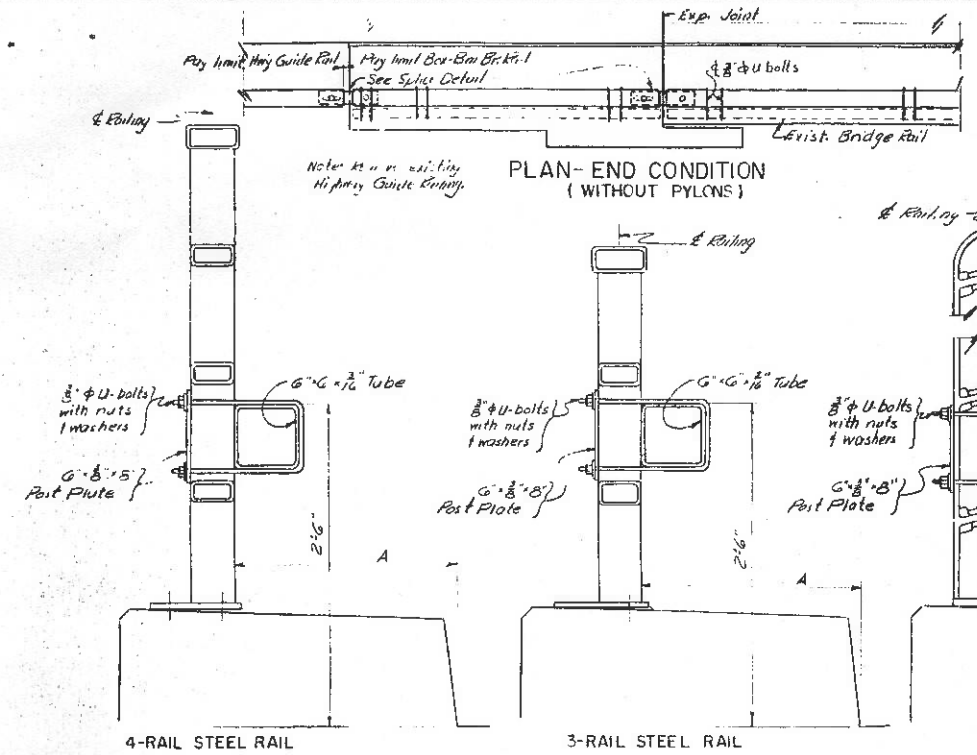
APPROVED
6/22/73
D. M. Kemp
Deputy Chief Engineer (Structures)

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF CONSTRUCTION

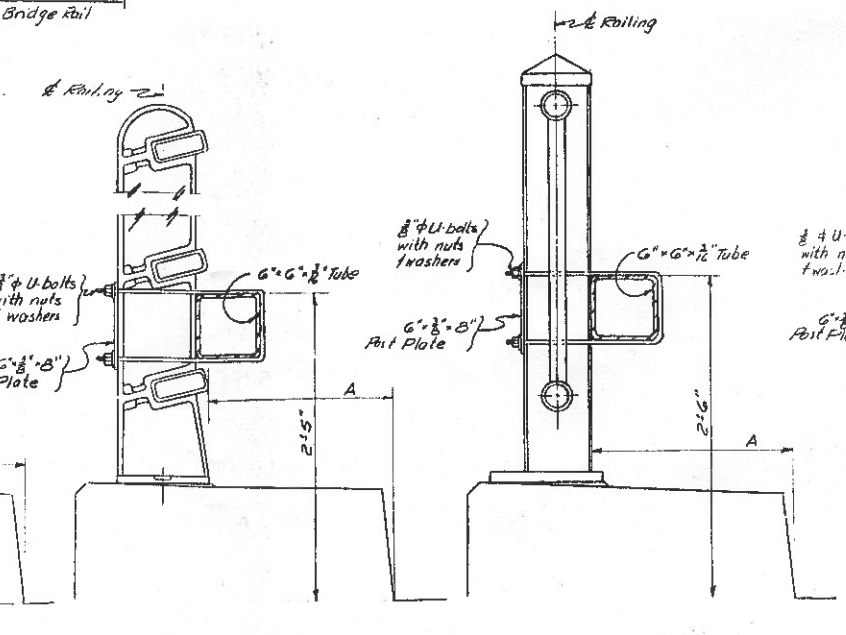
DETAILS FOR ATTACHING BOX BEAM GUIDE RAIL TO BRIDGE RAILING

B.D.D 73-57

BDD 73-57



STANDARD BRIDGE DETAILS 61-106



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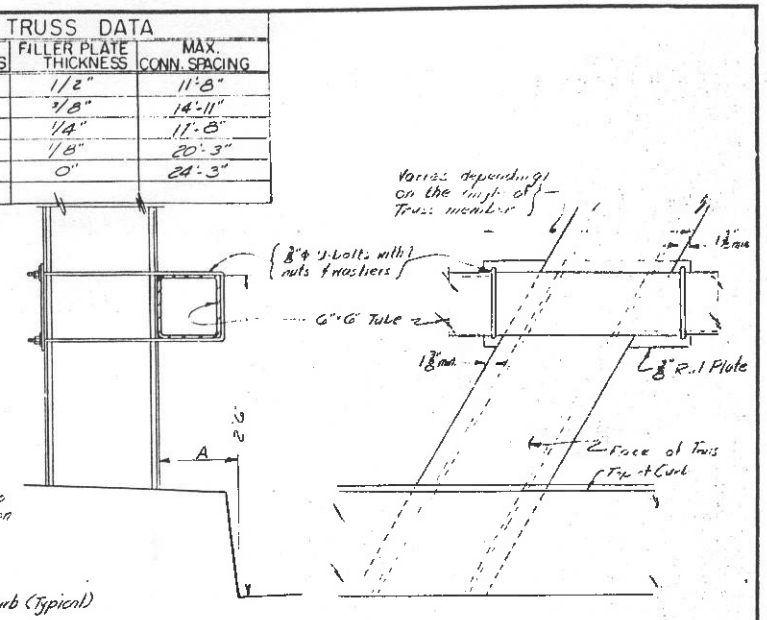
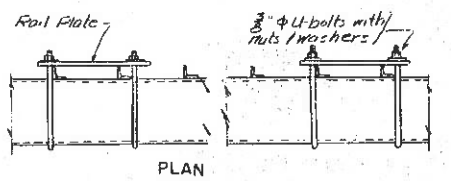
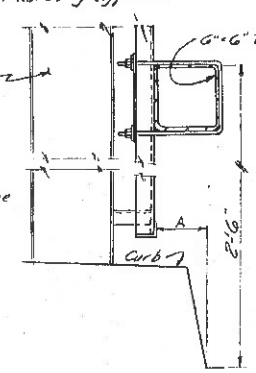
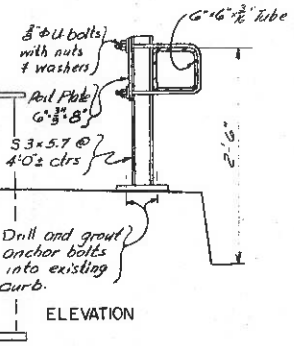


TRUSS CONNECTION

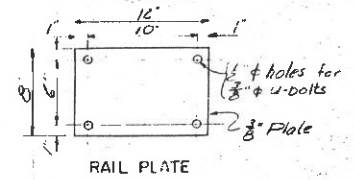


PLAN



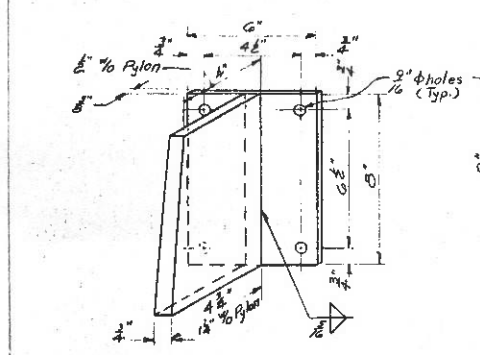


ELEVATION



RAIL PLATE

CONNECTION TO BRIDGE RAIL ON TRUSS



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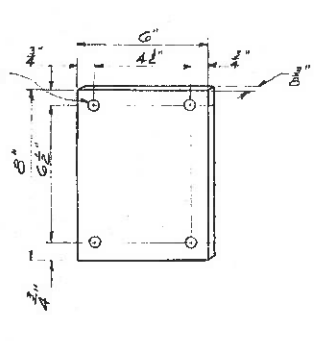
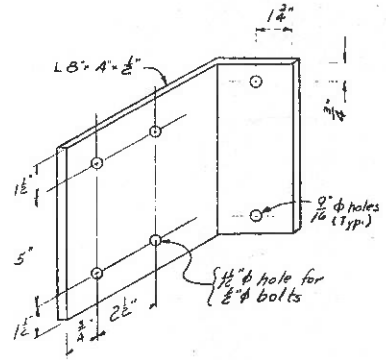
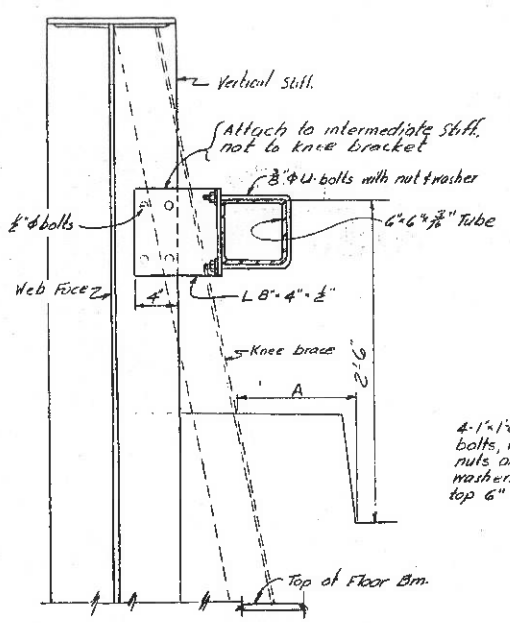


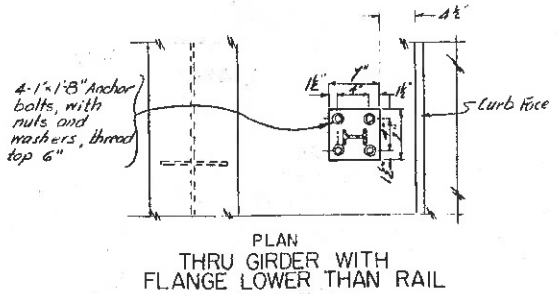
POST PLATE



RAIL CONN. L THRU ℄ GIRDER



THRU ℄ GIRDER



PLAN
THRU GIRDER WITH FLANGE LOWER THAN RAIL

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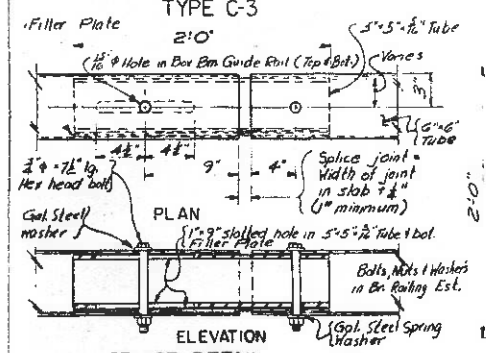
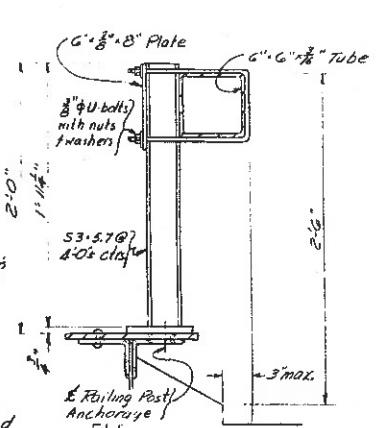
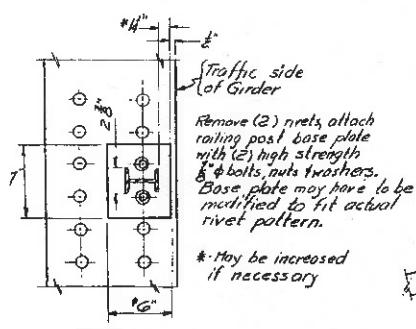
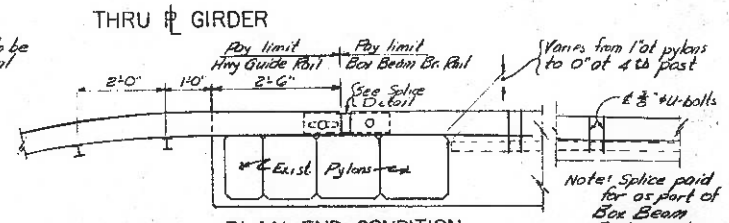


SPLICE DETAIL



THRU GIRDER WITH LOW FLANGE





PLAN END CONDITION
(WITH PYLONS)

PROJECT ENGINEER
IN CHARGE OF
DESIGNED BY
DESIGN CHECKED BY
DETAILED BY Joe Campbell
DETAIL CHECKED BY

APPROVED
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DEPARTMENT OF TRANSPORTATION
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DETAILS FOR ATTACHING BOX BEAM GUIDE RAIL TO BRIDGE RAILING

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