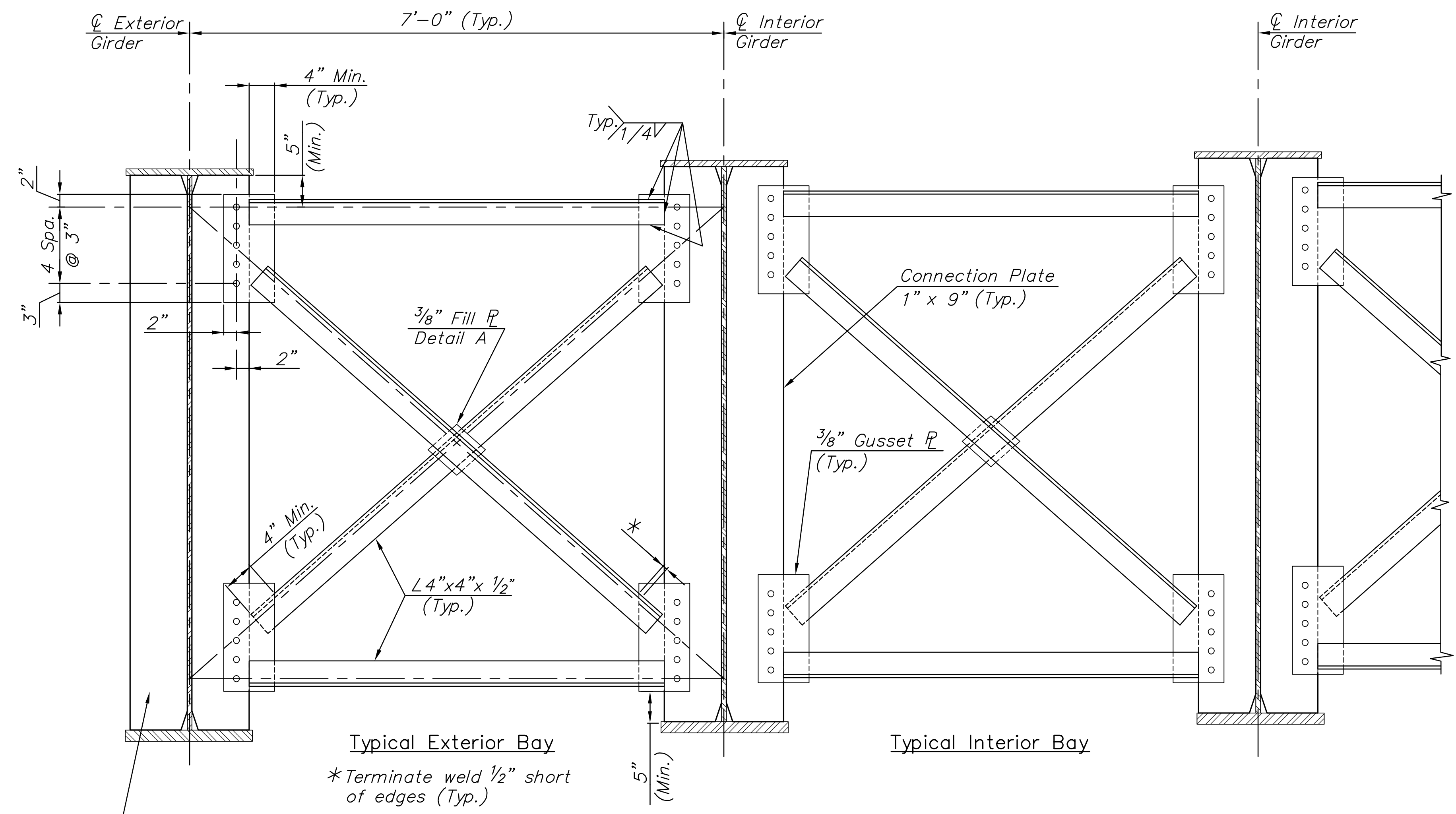


**BROADWAY BRIDGE  
AT 34TH STREET SOUTH**



**TYPICAL CROSS FRAME**  
 18 Frames at  $\phi$  Abutments  
 18 Frames at  $\phi$  Piers  
 207 Frames at Intermediate Points  
 (20 - 7/8" Dia. H.S. bolts per cross frame)

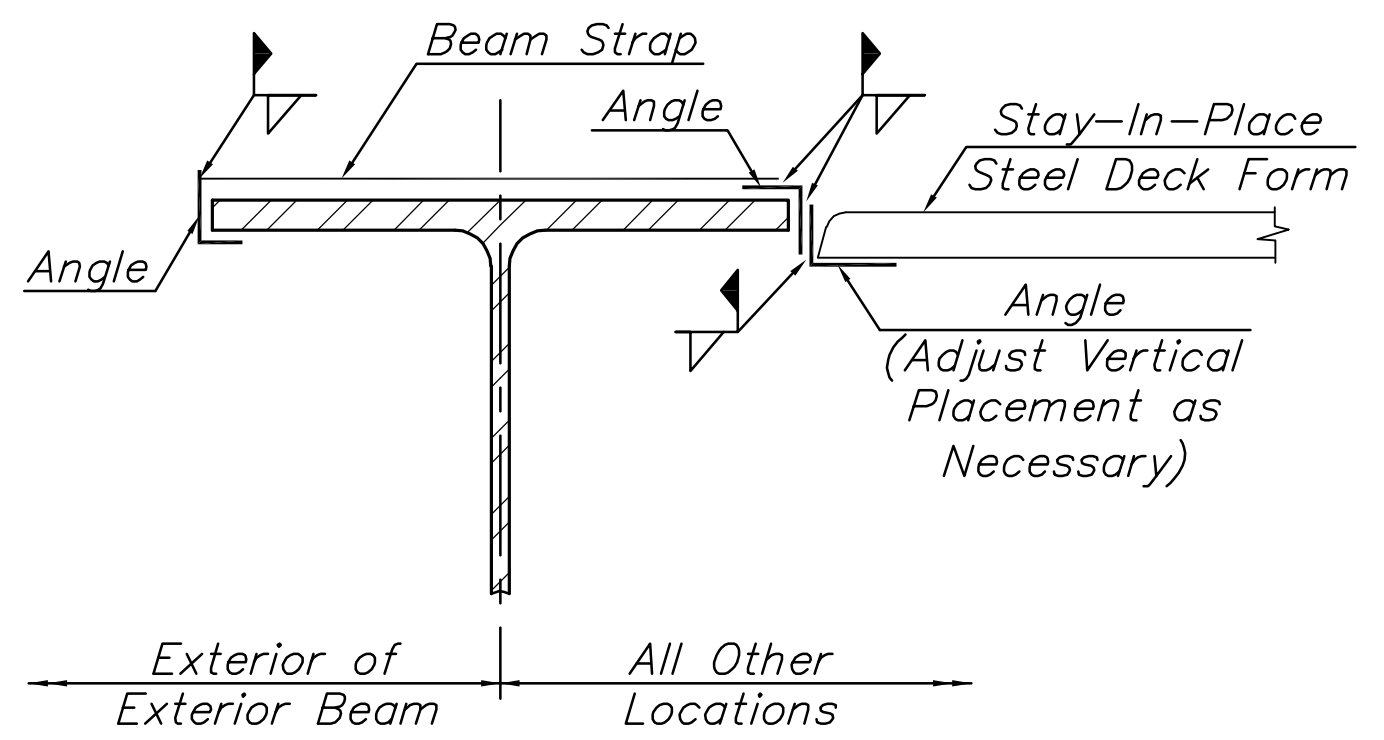
- NOTES:**
- Girder flange plates and flange splice plates shall meet AASHTO M270 Grade 50W T3 requirements except as noted. Girder web plates and web splice plates shall meet ASTM A709 Grade 50W T3 requirements except as noted. All other structural steel shall meet ASTM A709 Grade 50W, unless noted otherwise.
  - Provide 7/8"  $\phi$  bolts with a 15/16"  $\phi$  bolt hole for all field splice, cross frames and diaphragm connections. All bolts, nuts and washers for field splice connections, cross frames and diaphragm connections shall conform to the heavy hex structural requirements of ASTM A325 Type 3, unless otherwise noted.
  - For spacing of Intermediate Cross Frame Connection Plates, see Sheet No. 87.
  - Connection Plates and Bearing Stiffener Plates shall be placed vertical and perpendicular to the girder web unless noted otherwise.
  - For Field Splice Details See Sheet No. 89.

**STAY-IN-PLACE DECK FORM NOTES:**

The Contractor may use Stay-In-Place Deck Forms if the minimum Deck Slab thickness of 8 1/2" is obtained by measuring from the top of the deck slab to the top portion of the steel corrugation. Preferred corrugation filler, composed of polystyrene or other material, may be used if bonded to the deck forms. No additional concrete weight of the deck slab is permitted. The total additional weight of the deck form and filler shall not exceed 5 p.s.f. Costs of Stay-In-Place Steel Deck Forms to be included in the contract unit price of Concrete Grade 4.0 (AE)(SA). Galvanize stay-in-place form items in accordance with AASHTO M111.

The Contractor may substitute stay-in-place deck forms at no additional cost to the city, if the following condition is met:

The Engineer approves shop drawings and structural calculations for the forms, submitted by the Contractor, that are sealed by a Professional Engineer licensed in the State of Kansas.



**STAY-IN-PLACE STEEL DECK FORM  
FLANGE CONNECTION DETAIL**

**NOTE:**  
Do not weld to the top flange or studs. Report any arc strike, weld splatter or welding on top flange to Engineer immediately.

STRUCTURAL STEEL SUMMARY (Lbs.)			
Item	ASTM A709 Gr. 50W T3	AASHTO M270M Gr. 50W T3	ASTM A709 Gr. 50W
Abutment Bearing Stiffeners			6,012
Pier Bearing Stiffeners			8,907
Intermediate Conn. Plates			63,127
Abutment Cross Frame			6,853
Intermediate Cross Frame			71,957
Pier Cross Frame			6,853
Drip Plates			33
Girder Web Plates	1,223,939		
Girder Web Splice Plates	16,741		
Girder Web Splice Filler Plates	2,093		
Girder Flanges		946,313	
Girder Flange Splice Plates		23,024	
Girder Flange Splice Filler Plates		3,771	
Pier Bearing Device			11,069
<b>TOTAL</b>	<b>1,242,772</b>	<b>973,108</b>	<b>174,811</b>

**BRIDGE  
CROSS FRAME  
DETAILS**  
SHEET TITLE  
472-84830  
PROJECT NUMBER

DESIGN BY: **KJS**  
DRAWN BY: **DMU**  
CHECKED BY: **KJS**

ISSUED: **October 9, 2012**  
REVISED:

SHEET NO.  
**90 of 212**