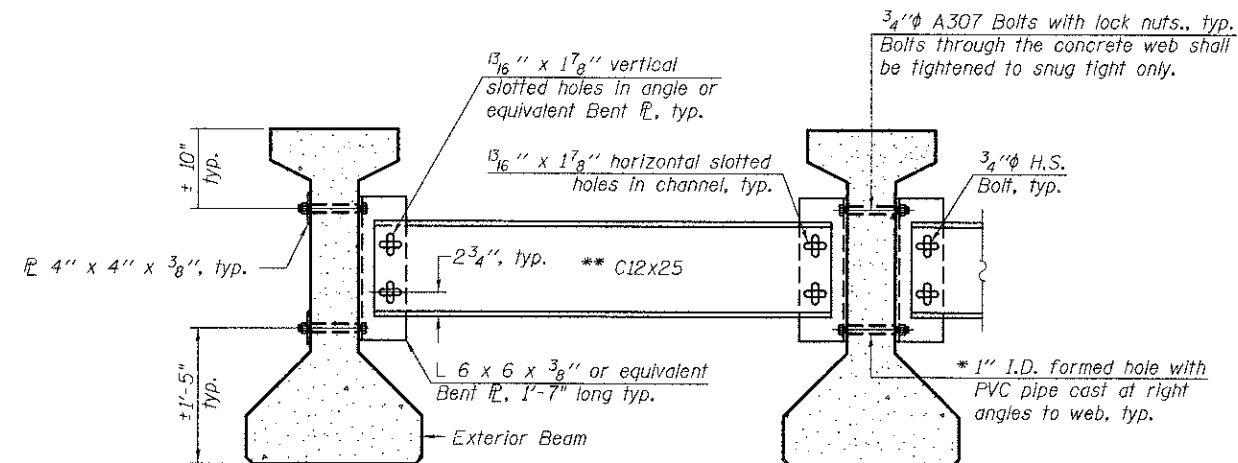


PLAN

- I: Non-composite moment of inertia of beam section (in<sup>4</sup>).
- I': Composite moment of inertia of beam section (in<sup>4</sup>).
- S<sub>b</sub>: Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>b</sub>': Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>t</sub>: Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>t</sub>': Composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M<sub>L + IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).



Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted. Two hardened washers are required for each set of oversized holes. All holes shall be 1/16" φ unless otherwise noted. 5/16" x 3" x 3" plate washers are required over all slotted holes. All bolts shall be galvanized according to AASHTO M232. Bracing shall be installed as beams are erected and tightened as soon as possible during erection. Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams. All structural steel shall be AASHTO M270 Grade 36.

- \* Fabricator shall locate to miss strands within permissible tolerances.
- \*\* Alternate C12x30 channels are permitted to facilitate material acquisition.

INTERIOR BEAM MOMENT TABLE	
	0.5 Span
I	(in <sup>4</sup> ) 90,956
I'	(in <sup>4</sup> ) 286,708
S <sub>b</sub>	(in <sup>3</sup> ) 5,153
S <sub>b</sub> '	(in <sup>3</sup> ) 8,872
S <sub>t</sub>	(in <sup>3</sup> ) 3,736
S <sub>t</sub> '	(in <sup>3</sup> ) 29,608
DC1	(k/ft) 1.252
M <sub>DC1</sub>	(k) 661.3
DC2	(k/ft) 0.125
M <sub>DC2</sub>	(k) 66.0
DW	(k/ft) 0.367
M <sub>DW</sub>	(k) 193.8
M <sub>L + IM</sub>	(k) 1,040.8

INTERIOR BEAM REACTION TABLE	
	Abut.
R <sub>DC1</sub>	(k) 40.7
R <sub>DC2</sub>	(k) 4.1
R <sub>DW</sub>	(k) 11.9
R <sub>L + IM</sub>	(k) 78.9
R <sub>Total</sub>	(k) 135.6

**DI PERMANENT BRACING DETAILS**  
**FOR 42" PPC I-BEAMS**  
 (No. Required = 14)

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 DATE - 10/22/12

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

FRAMING PLAN  
 KREUTZER ROAD OVER S. BR. KISHWAUKEE RIVER  
 STRUCTURE NO. 056-6010  
 SHEET NO. S11 OF S18 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4068	07-00031-00-PV	MCHENRY	167	99
CONTRACT NO. 63743			ILLINOIS FED. AID PROJECT	