

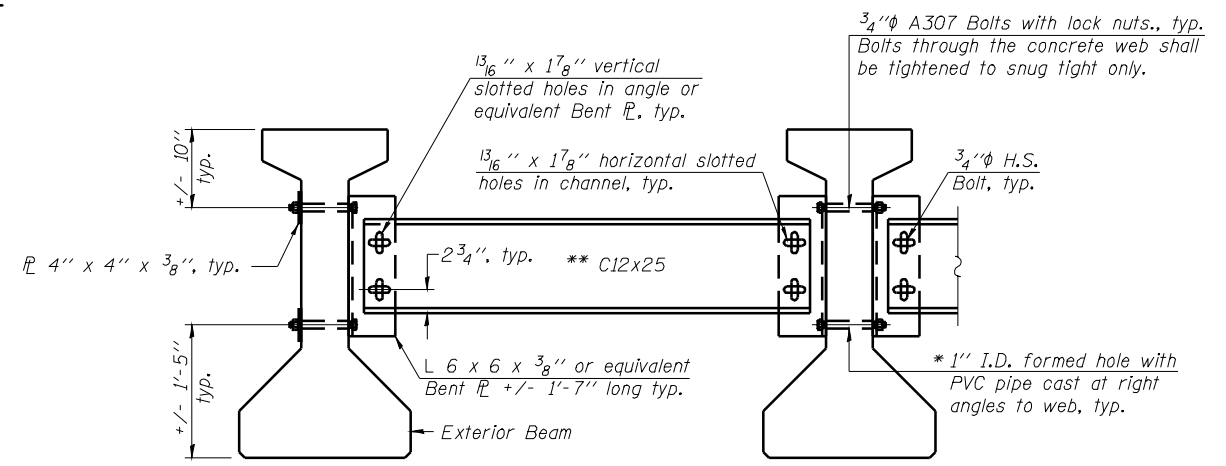
FRAMING PLAN

- I: Non-composite moment of inertia of beam section (in.⁴).
- I': Composite moment of inertia of beam section (in.⁴).
- S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
- S_b': Composite section modulus for the bottom fiber of the prestressed beam (in.³).
- S_t: Non-composite section modulus for the top fiber of the prestressed beam (in.³).
- S_t': Composite section modulus for the top fiber of the prestressed beam (in.³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M_{DC1}: 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_{DC2}: 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_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M_{L + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in. ⁴)	90,956	-	90,956
I'	(in. ⁴)	282,060	-	282,060
S _b	(in. ³)	5153	-	5153
S _b '	(in. ³)	8822	-	8822
S _t	(in. ³)	3736	-	3736
S _t '	(in. ³)	28,130	-	28,130
DC1	(k/')	1.16	-	1.16
M _{DC1}	('k)	330.8	-	670.5
DC2	(k/')	0.15	0.15	0.15
M _{DC2}	('k)	20.4	56.0	35.9
DW	(k/')	0.325	0.325	0.325
M _{DW}	('k)	44.2	121.3	77.8
M _{L + IM}	('k)	538.3	551.4	617.3

INTERIOR BEAM REACTION TABLE				
HL93 Loading		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
R _{DC1}	(k)	28.3	28.3	40.6
* R _{DC2}	(k)	2.5	5.3	5.3
* R _{DW}	(k)	5.4	11.4	11.4
* R _{L + IM}	(k)	64.6	50.2	50.2
R _{Total}	(k)	100.8	95.2	107.5

* The total R_{DC2}, R_{DW} and R_{L + IM} are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier is based on the maximum reactions of either span.



- 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 15/16" 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.

- * Fabricator shall locate to miss strands within permissible tolerances.
- ** Alternate C12x30 channels are permitted to facilitate material acquisition. The alternate, if utilized, shall be provided at no extra cost to the Department. Cost of permanent bracing is included with Furnishing and Erecting PPC I-Beams, 42"

PERMANENT BRACING DETAILS

**FRAMING PLAN
STRUCTURE NO. 054-0514**

USER NAME:	DESIGNED - RTM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE:	DRAWN - MSD	REVISED -					717	I09B-3	LOGAN	73	51
PLOT DATE:	CHECKED - KEB	REVISED -		SCALE: SHEET NO. 16 OF 27 SHEETS STA. TO STA.			CONTRACT NO. 72A88				
	DATE -	REVISED -					FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		